FOURTEENTH
EDITION

Radio's MASTER

OFFICIAL MANUAL
AND BUYING GUIDE
OF ELECTRONIC AND
RADIO EQUIPMENT

STOTTS-FRIEDMAN COMPANY
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RADIO'S MASTER

FOURTEENTH EDITION

OFFICIAL

PARTS and EQUIPMENT MANUAL

of the

RADIO, TELEVISION & ELECTRONIC INDUSTRY

What to Buy and Where to Buy It

- **ILLUSTRATIONS**
- **DESCRIPTIONS**
- **SPECIFICATIONS**
- **PRICES**

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RADIO'S MASTER

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H-17	Radio Corporation of America
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H-20	Boland & Boyce, Inc.

SECTION J

COMMUNICATION RECEIVERS—TRANSMITTERS—
AMATEUR EQUIPMENT AND ACCESSORIES—
VARIABLE CAPACITORS—COILS—INSULATORS—
METAL RACKS, CABINETS, PANELS, ETC.

J-1 to 4	The Hallicrafters Company
J-7, 8	Radio Mfg. Engineers, Inc.
J-9	Eckstein Radio & Television Co.
J-10	Gon-Set Company
J-10a to 24	National Company, Inc.
J-25 to 30	J. W. Miller Company
J-31	Decimeter, Inc.
J-32	Stanwyck Winding Co.
J-33 to 40	E. F. Johnson Company
J-41 to 43	Barker & Williamson, Inc.
J-44 to 50	James Millen Mfg. Co., Inc.
J-51 to 55	Allen D. Cardwell Mfg. Corp.
J-56 to 58	Hammarlund Mfg. Co., Inc.
J-59 to 61	Meissner Div. Maguire Industries

SECTION J (Con.)

Section & Page	*Name of Manufacturer*
J-69 to 81	Bud Radio, Inc.
J-85 to 90	Par-Metal Products Corp.
J-91, 92	Middletown Mfg. Co.
J-93 to 95	Insuline Corporation of America
J-96	Harvey-Wells Electronics, Inc.

SECTION K

RECEIVER KITS—TELEVISION KITS—
TELEVISION ACCESSORIES—CRYSTALS

K-1, 2	Transvision, Inc.
K-3, 4	Philmore Mfg. Co., Inc.
K-5, 6	Espey Mfg. Co., Inc.
K-7	Television Assembly Co.
K-8	Vision Research Labs., Inc.
K-9	Radio Merchandise Sales, Inc.
K-10	Radio Corporation of America
K-12	Insuline Corporation of America
K-13	Premier Crystal Labs., Inc.
K-14	Bliley Electric Company
K-15 to 17	Petersen Radio Co., Inc.
K-18	Crystal Research Laboratories
K-19, 20	Tech-Master Products Co.

SECTION L

SWITCHES—JACKS—PLUGS—RELAYS—
PHOTO ELECTRIC UNITS—
TELEGRAPH KEYS & PRACTICE SETS

L-1 to 7	P. R. Mallory & Co., Inc.
L-8	General Electric Company
L-9	General Control Company
L-10	Switchcraft, Inc.
L-11 to 14	Advance Electric & Relay Co.
L-15, 16	Guardian Electric Mfg. Co.
L-17, 18	Potter & Brumfield Sales Co.
L-19 to 22	Leach Relay Company
L-23, 24	Ward Leonard Electric Co.
L-25	Amperite Company, Inc.
L-26	Standard Electrical Products Co.
L-27, 28	E. F. Johnson Co.
L-29, 30	Vibroplex Co., Inc.
L-31, 32	Worner Electronic Devices

SECTION M

DRY BATTERIES—BATTERY ELIMINATORS, CHARGERS
POWER SUPPLIES—POWER CONVERSION EQUIPMENT—
GENERATORS, CONVERTERS—VIBRATORS, PACKS—
VARIABLE VOLTAGE TRANSFORMERS & CONTROLS

M-1 to 4	Burgess Battery Company
M-5, 6	Radio Corporation of America
M-7 to 10	National Carbon Co., Inc.
M-11, 12	General Dry Batteries, Inc.
M-13, 14	Ray-O-Vac Company
M-15 to 20	Olin Industries, Inc.
M-21, 22	Mueller Electric Co.
M-25 to 34	P. R. Mallory & Co., Inc.
M-35 to 38	American Television & Radio Co.
M-39, 40	Electro Products Labs., Inc.
M-41	General Transformer Corp.
M-42	Schauer Mfg. Corp.
M-43 to 48	Carter Motor Company
M-49, 50	Radiart Corporation
M-51	Gothard Manufacturing Co.
M-52, 53	Sola Electric Company
M-54	Cornell-Dubilier Electric Corp.
M-55, 56	Superior Electric Company

(For Detailed General Index of Specific Items and Their Page Numbers, Refer to Back of Book)

Numerical Index of Manufacturers' Display Pages (Concl.)

SECTION N

TRANSFORMERS, ALL TYPES—REACTORS—CHOKES

Section & Page	*Name of Manufacturer*
N-1	General Electric Company
N-3 to 16	Standard Transformer Corp.
N-17 to 22	Chicago Transformer Div. Essex Wire
N-23 to 26	Kenyon Transformer Co., Inc.
N-27 to 30	SNC Manufacturing Company
N-31 to 34	Thordarson Div., Maguire Industries
N-35, 36	Halldorson Company
N-37 to 53	United Transformer Corporation
N-54 to 60	Freed Transformer Co., Inc.
N-61 to 66	Thermador Electrical Mfg. Co., Inc.
N-67 to 74	Merit Coil & Transformer Corp.
N-75, 76	Crest Transformer Corp.
N-77 to 79	Standard Electrical Products Co.
N-80 to 84	Altec Lansing Corp., Peerless Div.

SECTION P

FIXED CAPACITORS, ALL TYPES—
NOISE & INTERFERENCE FILTERS—
CAPACITOR TEST INSTRUMENTS
(See Section J for Variable Capacitors)

P-1 to 24	Cornell-Dubilier Electric Corp.
P-25 to 41	P. R. Mallory & Co., Inc.
P-44 to 48	Illinois Condenser Corp.
P-49 to 64	Sprague Products Company
P-65 to 68	General Electric Company
P-69 to 78	Sangamo Electric Company
P-79	Condenser Products Company
P-83 to 87	Industrial Condenser Corp.
P-88, 89	Jennings Radio Mfg. Co.
P-90	Chicago Condenser Corp.
P-91 to 96	Arco Electronics, Inc.
P- 97 to 110	Aerovox Corporation

SECTION R

RESISTORS—VOLUME CONTROLS—BALLASTS—
DECADES, BRIDGES—NOISE FILTERS & SUPPRESSORS—
RHEOSTATS, POTENTIOMETERS, ATTENUATORS

R-1 to 8	Clarostat Mfg. Co., Inc.
R-9, 10	Lectrohm, Inc.
R-11 to 14	Continental Carbon, Inc.
R-15 to 18	Wirt Company
R-19 to 36	P. R. Mallory & Co., Inc.
R-37 to 40	Erie Resistor Corporation
R-41 to 50	International Resistance Co.
R-51 to 54	Ohmite Manufacturing Co.
R-55 to 58	Shallcross Manufacturing Co.
R-59 to 62	Ward Leonard Electric Co.
R-63, 64	Amperite Company, Inc.
R-65, 66	Resistors, Inc.
R-67 to 69	Hardwick, Hindle, Inc.

SECTION S

WIRE AND CABLE, ALL TYPES—
ANTENNAS FOR TELEVISION, FM, AM, AUTO—
ANTENNA SYSTEMS—ANTENNA ACCESSORIES

Section & Page	*Name of Manufacturer*
S-1 to 12	Alpha Wire Corporation
S-13 to 24a	Belden Manufacturing Co.
S-25, 26	Cornish Wire Co., Inc.
S-28 to 38	Birnbach Radio Co., Inc.
S-39	Radio Corporation of America
S-40	E. F. Johnson Company
S-41 to 44	Technical Appliance Corp.
S-45 to 48	Premax Products
S-49 to 54	Ward Products Corporation
S-55 to 58	Workshop Associates, Inc.
S-59, 60	Radiart Corporation
S-61 to 64	Insuline Corporation of America
S-65	Jerrold Electronics Corp.
S-67	Penn Boiler & Burner Mfg.Corp.
S-68	Spirling Products Co., Inc.
S-69, 70	Square Root Mfg. Co.
S-71, 72	Telrex, Inc.
S-73	LaPointe Plascomold Corp.
S-74	Oak Ridge Antenna Co.
S-75	Alliance Manufacturing Co.
S-76	Metalace Corporation
S-77	Radio Merchandise Sales, Inc.
S-78	Porcelain Products, Inc.
S-79, 80	Rad-El-Co Mfg. Co.

SECTION T

CABLE CONNECTORS, RECEPTACLES, FITTINGS—
MICROPHONE CONNECTORS, PLUGS—
SOCKETS AND PLUGS—TERMINAL STRIPS

T-1 to 10	American Phenolic Corporation
T-11 to 18	Cannon Electric Development Co.
T-19 to 28	Cinch-Jones Sales
T-29, 30	Eby Sales Company

SECTION U

TOOLS: SOLDERING IRONS, PLIERS, WRENCHES,
SCREWDRIVERS, NUTDRIVERS, PUNCHES, CUTTING
TOOLS, NEUTRALIZING & ALIGNMENT TOOLS—
CHEMICALS, OILS, PAINTS, ETC.—
HARDWARE, SERVICE AIDS OF EVERY DESCRIPTION

U-1	American Electrical Heater Co.
U-2	Electric Soldering Iron Co., Inc.
U-3, 4	Drake Electric Works, Inc.
U-5, 6	General Electric Company
U-7, 8	Hexacon Electric Company
U-9	Kwikheat Mfg. Co.
U-10	Ungar Electric Tools, Inc.
U-11	Weller Manufacturing Co.
U-12	Kester Solder Co.
U-13 to 16	Kraueter & Company, Inc.
U-17, 18	Utica Drop Forge and Tool Corp.
U-19 to 22	Park Metalware Co., Inc.
U-23 to 26	Stevens-Walden, Inc.
U-27	Vaco Products Company
U-28	Alpha Metals, Inc.
U-29	Greenlee Tool Co.
U-30	Harry Davies Molding Co.
U-31	Multicore Sales Corp.
U-32	Rogan Brothers
U-33 to 50d	Walter L. Schott Co.
U-51 to 64	Insuline Corporation of America
U-65 to 68	Telegraph Apparatus Co.
U-69 to 76b	Herman H. Smith, Inc.
U-77 to 81	J.F.D. Mfg. Co., Inc.
U-82 to 106	General Cement Mfg. Co.
U-107	Keystone Electronics Co.

(For Detailed General Index of Specific Items and Their Page Numbers, Refer to Back of Book)

CUNNINGHAM TUBES

RECEIVING • TELEVISION • SPECIAL

Type	Sugg'd List Price
OA2	$4.35
OA3/VR75	2.65
OA4G	2.65
OC3/VR105	2.65
OD3/VR150	2.65
OY4	4.80
OZ4	1.65
OZ4G	1.65
1A3	2.20
1A4P	3.90
1A5GT	1.80
1A6	3.20
1A7GT	2.00
1B3GT/8016	3.20
1B4P	3.90
1B5/25S	3.20
1C5GT	2.20
1C6	3.20
1C7G	3.20
1D5GP	3.90
1D7G	3.20
1D8GT	3.90
1E5GP	3.90
1E7GT	3.90
1F4	2.65
1F5G	2.65
1F6	3.90
1F7G	3.90
1G4GT	2.65
1G5G	2.65
1G6GT	2.65
1H4G	2.20
1H5GT	1.65
1H6G	3.20
1J6GT	3.20
1L4	2.00
1LA4	2.65
1LA6	2.65
1LB4	2.65
1LC5	2.65
1LC6	2.65
1LD5	2.65
1LE3	2.65
1LG5	2.65
1LH4	2.65
1LN5	2.65
1N5GT	2.00
1P5GT	2.65
1Q5GT	2.65
1R5	2.00
1S4	2.40
1S5	1.80
1T4	2.00
1T5GT	2.65
1U4	2.00
1U5	1.80
1V	2.20
2A3	3.20
2A4G	3.20
2A5	2.20
2A6	2.65
2A7	2.65
2B7	2.65
2E5	2.65
2X2A	4.35

Type	Sugg'd List Price
3A8GT	$4.80
3LF4	2.65
3Q4	2.20
3Q5GT	2.40
3S4	2.00
3V4	2.00
5AZ4	1.35
5T4	3.90
5U4G	1.50
5V4G	2.40
5W4	2.65
5X4G	1.80
5Y3G	1.05
5Y3GT	1.05
5Y4G	1.50
5Z3	1.80
5Z4	2.65
6A3	3.20
6A6	2.65
6A7	2.00
6A8	2.00
6A8G	2.00
6A8GT	2.00
6AB5/6N5	2.65
6AB7/1853	3.20
6AC5GT	2.90
6AC7/1852	2.90
6AD7G	3.20
6AF6G	2.65
6AG5	2.65
6AG7	3.20
6AK5	3.90
6AK6	2.40
6AL5	2.00
6AL7GT	2.65
6AQ5	2.00
6AQ6	1.80
6AQ7GT	2.40
6AR5	1.65
6AS5	2.00
6AT6	1.50
6AU6	2.00
6AV6	1.50
6B4G	3.20
6B5	3.20
6B6G	2.20
6B7	3.20
6B8	3.20
6B8G	3.20
6BA6	1.80
6BA7	2.40
6BE6	1.80
6BF6	1.65
6BG6G	4.80
6BH6	2.00
6BJ6	2.00
6C4	1.65
6C5	1.65
6C5GT	1.65
6C6	2.00
6C8G	3.20
6D6	1.65
6D8G	3.20
6E5	2.20
6F5	1.65

Type	Sugg'd List Price
6F5GT	$1.65
6F6	2.00
6F6G	1.65
6F6GT	1.65
6F7	3.20
6F8G	3.20
6G6G	2.65
6H6	1.65
6H6GT	1.65
6J5	1.50
6J5GT	1.50
6J6	2.90
6J7	2.00
6J7G	2.00
6J7GT	2.00
6J8G	3.20
6K5GT	2.40
6K6GT	1.50
6K7	1.65
6K7G	1.65
6K7GT	1.65
6K8	2.40
6K8G	2.90
6L5G	2.65
6L6	3.55
6L6G	2.90
6L7	2.40
6L7G	2.90
6N6G	3.90
6N7	2.40
6N7GT	2.40
6P5GT	2.40
6Q7	2.00
6Q7G	1.80
6Q7GT	1.80
6R7	2.65
6R7GT	2.65
6S7	2.65
6S7G	3.20
6S8GT	2.65
6SA7	1.65
6SA7GT	1.65
6SB7-Y	2.40
6SC7	2.00
6SF5	1.65
6SF5GT	1.80
6SF7	2.00
6SG7	2.00
6SH7	2.20
6SJ7	1.65
6SJ7GT	1.65
6SK7	1.65
6SK7GT	1.65
6SL7GT	2.40
6SN7GT	2.20
6SQ7	1.50
6SQ7GT	1.50
6SR7	1.80
6SS7	1.80
6ST7	2.65
6SZ7	2.20
6T7G	3.20
6T8	2.90
6U5/6G5	2.00
6U7G	1.80

Type	Sugg'd List Price
6V6	$3.20
6V6GT	2.00
6W4GT	1.80
6W7G	2.65
6X4	1.50
6X5	2.65
6X5GT	1.50
6Y6G	2.40
6Z7G	3.90
6ZY5G	2.20
7A4	1.80
7A5	1.80
7A6	1.80
7A7	1.80
7A8	1.80
7AD7	2.65
7AF7	1.80
7AG7	2.20
7AH7	2.20
7B4	1.80
7B5	1.80
7B6	1.80
7B7	1.80
7B8	1.80
7C5	1.80
7C6	1.80
7C7	1.80
7E6	1.80
7E7	2.20
7F7	2.20
7F8	2.65
7G7/1232	2.65
7H7	2.00
7J7	2.65
7K7	2.65
7L7	2.20
7N7	2.20
7Q7	1.80
7R7	2.20
7S7	2.65
7V7	2.65
7W7	2.65
7X7	2.65
7Y4	1.80
7Z4	1.80
10	3.90
12A6	2.40
12A7	3.20
12A8GT	2.00
12AH7GT	2.65
12AL5	2.00
12AT6	1.50
12AT7	2.90
12AU6	2.00
12AU7	2.40
12AV6	1.50
12AW6	2.65
12AX7	2.40
12BA6	1.80
12BA7	2.40
12BE6	1.80
12C8	3.20
12F5GT	1.80
12H6	1.80
12J5GT	1.50

Type	Sugg'd List Price
12J7GT	$2.00
12K7GT	1.65
12K8	2.40
12Q7GT	1.80
12SA7	1.65
12SA7GT	1.65
12SC7	2.20
12SF5	1.80
12SF7	2.00
12SG7	2.00
12SH7	2.20
12SJ7	1.65
12SJ7GT	1.65
12SK7	1.65
12SK7GT	1.65
12SL7GT	2.40
12SN7GT	2.20
12SQ7	1.50
12SQ7GT	1.50
12SR7	2.20
12Z3	2.65
14A4	2.65
14A5	3.90
14A7/12B7	2.20
14AF7	2.20
14B6	2.20
14B8	2.20
14C5	2.20
14C7	2.20
14E6	1.80
14E7	2.20
14F7	2.20
14F8	2.65
14H7	2.20
14J7	2.65
14N7	2.65
14Q7	2.20
14R7	2.20
19	3.20
19J6	3.20
19T8	2.90
24A	2.20
25A6	3.20
25AC5GT	2.90
25L6	3.20
25L6GT	1.65
25Z5	1.50
25Z6	2.20
25Z6GT	1.35
26	1.80
27	1.50
30	2.00
31	2.65
32	3.55
32L7GT	3.20
33	3.20
34	3.20
35	2.00
35A5	1.80
35B5	2.00
35C5	2.00
35L6GT	1.65
35W4	1.25
35Y4	1.80
35Z3	1.80

Type	Sugg'd List Price
35Z4GT	$1.50
35Z5GT	1.25
36	2.65
37	1.80
38	2.20
39/44	2.65
41	1.65
42	1.65
43	1.65
45	1.65
45Z3	1.80
45Z5GT	1.80
46	2.65
47	2.40
49	2.65
50	3.90
50A5	2.20
50B5	2.00
50C5	2.00
50L6GT	1.65
50X6	2.20
50Y6GT	1.80
53	2.65
55	2.20
56	1.80
57	2.00
58	2.00
59	3.55
70L7GT	3.90
71A	2.00
75	1.65
76	1.65
77	1.65
78	1.65
79	2.65
80	1.15
81	3.90
82	2.65
83	2.65
83V	3.20
84/6Z4	1.80
85	2.20
89	2.20
117L7/M7GT	3.90
117N7GT	3.90
117P7GT	3.90
117Z3	1.50
117Z4GT	2.90
117Z6GT	2.40
XXD	use 14AF7
XXFM	use 7X7
XXL	use 7A4

TELEVISION KINESCOPES

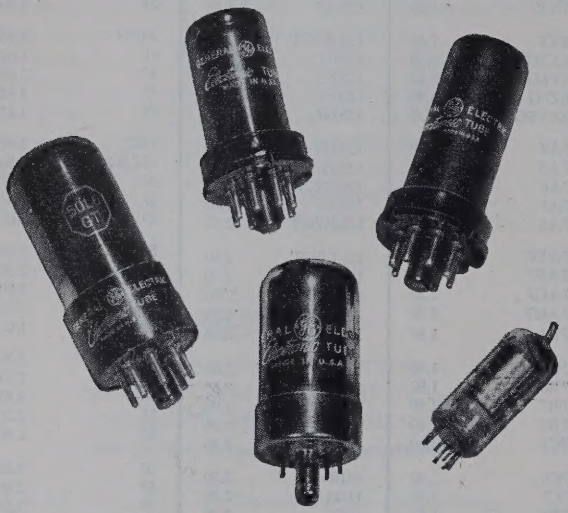
RCA Type	Sugg'd List Price
2V3G	$5.25
3KP4	18.00
5BP4	27.50
5TP4	74.25
6AS7G	6.75
7DP4	29.75
7JP4	27.60
9AP4	72.00
10BP4	44.50
12AP4	82.50

Prices in effect 10/4/48

For the latest Suggested List Prices on Cunningham Tubes,
ask your Cunningham Distributor for Form 2F217.

Electronic
TUBES

RECEIVING TYPES



metal
glass
miniature
television picture

A receiving tube for every radio equipment need! General Electric's complete line offers you a wide selection of metal, miniature and glass types. The G-E monogram means tops in quality and performance. A few receiving types are listed below—Ask for complete prices and ratings!

Type	Price
1B3GT	$3.20
1R5	2.00
1S5	1.80
1T4	2.00
1U4	2.00
3S4	2.00
3V4	2.00
5U4-G	1.50
5V4-G	2.40
5Y3-GT	1.05
6AG5	2.65
6AL5	2.00
6AQ5	2.00
6AU6	2.00
6AV6	1.50
6BA6	1.80
6BE6	1.80
6BG6G	4.80
6BJ6	2.00
6C4	1.65
6H6	1.65

Type	Price
6J5	$1.50
6K6-GT	1.50
6L6-G	2.90
6SA7	1.65
6SC7	2.00
6SG7	2.00
6SJ7	1.65
6SK7	1.65
6SL7-GT	2.40
6SN7-GT	2.20
6SQ7	1.50
6T8	2.90

Television Picture Tubes

Type	Price
5TP4	$74.25
7JP4	27.60
10BP4	44.50
10FP4	49.50
12KP4	78.25

Type	Price
6V6-GT	$2.00
6X4	1.50
6X5-GT	1.50
12AT7	2.90
12AU6	2.00
12AU7	2.40
12AV6	1.50
12AX7	2.40
12BA6	1.80
12BE6	1.80
12SA7	1.65
12SG7	2.00
12SK7	1.65
12SQ7	1.50
19T8	2.90
35B5	2.00
35L6-GT	1.65
35W4	1.25
35Z5-GT	1.25
50B5	2.00
50L6-GT	1.65

Type numbers of metal tubes are shown in bold-face type.
Type numbers of miniature tubes are shown in italics.

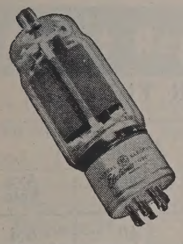
Prices and other data subject to change without notice.

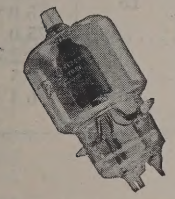
FOR BEST PERFORMANCE ALWAYS USE

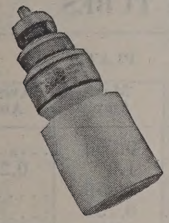
GENERAL ELECTRIC

TRANSMITTING AND INDUSTRIAL ELECTRONIC TUBES

PLIOTRONS—GRID-CONTROLLED HIGH-VACUUM TUBES FOR USE AS MODULATORS, AMPLIFIERS, OSCILLATORS


GL-813 Pliotron


GL-592 Pliotron


GL-7D21 Pliotron

Type No.	Price	No. of Elec-trodes	CATHODE Volts	CATHODE Amp.	PLATE Max. Volts	PLATE Max. Amp.	PLATE Max. Input, Watts	PLATE Max. Dissi-pation, Watts	MAX. FREQ. MC. @ Max. Plate Input	MAX. FREQ. MC. @ 50% Max. Plate Input
GL-2C39	$41.50	3	6.3	1.1	600	0.100	15.8	4.8	500	....
GL-2C43	11.00	3	6.3	0.9	500	0.040	16.7	6.7	3370	....
⊙GL-7D21	285.00	4	6.3	30.0	4000	1.0	3000	1200	110	....
◈GL-9C24	550.00	3	6.3	250	6500	2.0	12000	5000	220	....
GL-592	34.00	3	10	5.0	3500	0.250	600	200	110	....
GL-805	13.50	3	10	3.25	1500	0.210	315	125	30	80
GL-807	2.50	5	6.3*	0.90	600	0.100	60	25	60	125 @ 55%
					750	**0.100**	**75**	**30**		
GL-812-A	4.05	3	6.3	4.00	1250	0.125	155	40	60	100 @ 60%
					1500	**0.150**	**225**	**55**		
GL-813	16.00	5	10.0	5.00	2000	0.180	360	100	30	60 @ 75%
GL-814	14.25	5	10.0	3.25	1250	0.150	180	50	30	100
					1500	**0.150**	**225**	**65**		
⊙GL-833-A	49.50	3	10.0	10.0	4000	0.500	1800	400	30	75 @ 72%
					4000	**0.500**	**2000**	**450**		
◈GL-862-A**	1150.00	3	33	207.0	20000	10.00	20000	100000	1.6	....
◈GL-880	483.00	3	12.6	320.0	10500	6.0	60000	20000	25	100
◈GL-889-A	210.50	3	11	125	8500	2.00	16000	5000	50	150
⊙GL-889-R-A ★	308.00	3	11	125	8500	2.00	16000	5000	25	....
◈GL-893-A★	630.00	3	10§	61.0§	20000	4.00	70000	20000	5	40
⊙GL-893A-R★	1150.00	3	10§	61.0§	20000	4.00	70000	20000	5	25
GL-8000	14.50	3	10	4.5	2250	0.275	620	150	30	100
◈GL-8002	132.00	3	16	38	3500	1.00	3000	1200	150	300
⊙GL-8002-R	150.00	3	16	38	3500	1.00	3000	1200	120	200

Figures in bold type are ICAS ratings.

*Heater-type cathode.

★Lower prices apply when new tube is purchased and radiator in good condition is returned prepaid, to Schenectady.

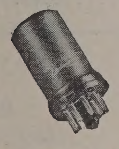
**Credit for return, prepaid, to Schenectady—carton $5.00; tube $10.00.

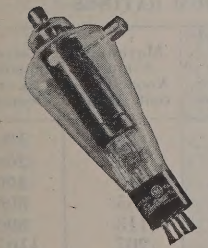
§Single-, three-, or six-phase filament. Voltage is per strand, current is per terminal.

⊙Forced-air cooled type.

◈Water-cooled type.

THYRATRONS— GRID-CONTROLLED GASEOUS-DISCHARGE-RECTIFIER TUBES


GL-502A Midget Thyratron


FG-95 Thyratron

Type No.	Price	No. of Elec-trodes	CATHODE Volts	CATHODE Amp	ANODE Peak Volts	ANODE Peak Amp	ANODE Avg Amp	Starting Grid Voltage
GL-3C23	$12.50	3	2.5	7.0	1250	6.0	1.5	Neg
FG-27-A	21.00	3	5.0	4.5	1000	10.0	2.5	Neg
FG-105	48.00	4	5.0	10.0	2500	40.0	6.4	Var
			‡5.5	11.0	750	77.0	2.5	Var
			‡5.5	10.0	10000	16.0	4.0	Var
FG-172	65.00	4	5.0	10.0	2000	40.0	6.4	Var
			‡5.5	11.0	750	77.0	2.5	Var
GL-502-A	1.85	4	6.3	0.6	1300	0.500	0.100	Neg
			6.3	0.15	500	0.100	0.020	Neg
GL-5557/FG-17	7.00	3	2.5	5.0	5000	2.0	0.5	Neg
GL-5560/FG-95	23.00	4	5.0	4.5	1000	15.0	2.5	Var
			†5.5	5.0	1000	40.0	0.5	Var

†These ratings apply only when the tube is used for ignitor firing.

‡These ratings apply only when the tube is used in thyratron welding-control service.

Prices and other data subject to change without notice.

There's a G-E Electronic Tube for Every Purpose:

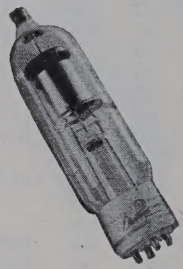
- Pliotrons
- Ignitrons
- Phasitron
- Glow Tubes
- Thyratrons
- Phototubes
- Ballast Tubes
- Vacuum Capacitors
- Phanotrons
- Lighthouse Tubes
- Cathode-Ray Tubes
- Vacuum Switches
- Kenotrons

TRANSMITTING AND INDUSTRIAL TUBES
FOR COMMUNICATIONS
FOR INDUSTRY
GENERAL ELECTRIC

Ask for—ETX-10
For complete Prices, Descriptions and Ratings.

TRANSMITTING AND INDUSTRIAL ELECTRONIC TUBES

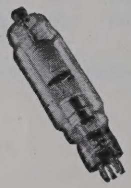
FG-32 Phanotron


GL-872A/872 Phanotron

PHANOTRONS— GASEOUS OR MERCURY-VAPOR RECTIFIER TUBES

Type No.	Price	No. of Electrodes	CATHODE		ANODE		
			Volts	Amp	Peak Volts	Peak Amp	Avg Amp
FG-280	$ 56.00	2	5.0	10	2000	40	6.4
GL-866-A	1.95	2	2.5	5	10000	1	0.25
GL-869-B	132.00	2	5	18	20000 15000*	15	2.5 5.0*
GL-870-A	1150.00	2	5	65	16000	....	75.0
GL-872-A/872	8.20	2	5	7.5	10000	5	1.25
GL-5558/FG-32	14.00	2	5.0	4.5	1000	15	2.5
GL-5561/FG-104	38.00	2	5.0	10	3000	40	6.4

*Quadrature operation.

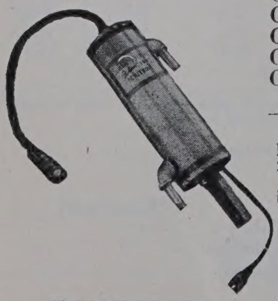

GL-8020 Kenotron

KENOTRONS—HIGH-VACUUM RECTIFIER TUBES

Type No.	Price	No. of Electrodes	CATHODE		PLATE		
			Volts	Amp	Max. Inv. Volts	Max. Amp.	Average Amp.
GL-411	$187.00	2	10	14.5	100000	0.750	....
GL-836	8.25	2	2.5*	5.0	5000	1.0	0.25
GL-1641	2.75	3	5.0	3.0	2120	0.250	....
S/B-5625/KC4	230.00	2	20	24.5	150000	0.750	....
GL-8013-A	10.30	2	2.5	5.0	40000	0.150	0.020
GL-8020	22.00	2	5.0 5.8△	6.0	40000 12500△	0.750	0.100 ....

*Heater-type cathode.
△Surge-limiting diode operation.

FG-235-A Ignitron


FG-271 Ignitron

IGNITRONS—HIGH-PEAK CURRENT, POOL-CATHODE TUBES

Type No.	Price	Supply Volts	MAXIMUM RATINGS			
			Kva Demand	Corresponding Average Anode Current, Amps.	Maximum Average Anode Current, Amps.	Corresponding Kva Demand
GL-5550/GL-415*	$ 44.00	250–600 rms	300	12.1	22.4	100
GL-5551/FG-271*	73.50	250–600 rms	600	30.2	56.0	200
GL-5552/FG-235-A*	110.00	250–600 rms	1200	75.6	140	400
GL-5553/FG-258-A*	241.00	250–600 rms	2400	192	355	800
GL-5554/FG-259-B†#	173.00	2400 rms	1200	75	113	600
GL-5555/FG-238-B†#	336.00	2400 rms	2400	135	207	1105

*Ratings are for voltages of 600 volts rms and below. Ignitor requirements for all welding-control types are 200 volts and 30 amperes.

†Typical ignitor requirements for power-rectifier ignitrons are 75-125 volts, 15-20 amperes. Maximum requirements are 150 volts, 40 amperes.

#In addition to ratings given above for welder-control service the FG-238-B and FG-259-B may be used as power-rectifiers in the 125 to 900 d-c voltage fields (ratings will be supplied upon request).

Prices and other data subject to change without notice.

RCA ELECTRON TUBES REPLACEMENT DIRECTORY

for INDUSTRY • COMMUNICATIONS • BROADCASTING

Direct Replacement Types

RCA types shown below are direct replacements under all circumstances for corresponding types to be replaced. Tube types covered include: Vacuum Power Tubes, Rectifier Tubes, Thyratrons, Ignitrons, Voltage Regulators, Phototubes, Cathode-Ray Tubes, and Special Types.

Type to be Replaced*	Replace by RCA Type
CE-1 (A-D)	868, 918
2AP1	2AP1-A
2B4	885
2X2/879	2X2-A
3AP1	3AP1-A
3BP1	3BP1-A
4D21	4-125A/4D21
4-250A	4-250A/5D22
5BP1	5BP1-A
5CP1	5CP1-A
5CP7	5CP7-A
5FP7	5FP7-A
5HP1-A	5BP1-A ♦
6Q5-G	884
7BP7	7BP7-A
7GP4	7JP4
12DP7	12DP7-A
PJ-8	5556
G-9	868
CE-11V (A-D)	917
RK-11	1623
FG-17	5557
RK-20A	804
CE-20	927
CE-21 (A-D)	920
CE-23 (A-D)	923
PJ-23	868
CE-25 (A-D)	927
RK-25	802
RK-25B	802
CE-28 (A-D)	928
RK-28	803
RK-28A	803
CE-29 (A-D)	929, 1P39
CE-30 (A-D)	930, 1P40
RK-30	800
FG-32	5558
RK-33	2C21/1642
RK-39	807
CE-41	921
CE-42	922
RK-44	837
RK-47	814
R51A	927
FG-57	5559
RK-57	805
RK-58	838
R59A	868, 918
R60A	920
HY-61/807	807

Type to be Replaced*	Replace by RCA Type
R61A	930
FG-67	1904
VR75-30	OA3/VR75
FG-95	5560
FG-104	5561
VR105-30	OC3/VR105
VR150-30	OD3/VR150
CE-226	4B26/2000
FG-235A	5552
FG-238B	5555
HK-257 (B)	4E27/8001
FG-258A	5553
FG-259B	5554
FG-271	5551
WT-272	5557
WE-289A	4B26/2000
WT-294	OD3/VR150
WE-295A	203-A
UE-303A	203-A
WE-304B	834
F-307A	207
CE-309	5557
CE-311	3C23
UE-311	211
UE-311C	835
UE-317C	217C
WE-322A	803
UE-342B	211
375A	575-A
WE-397A	2K56
FJ-401	1P29
GL-415	5550
GL-451	8020
WL-630	2050
WL-631	5559
WL-632A	5560
KU-634	677
WL-651/656	5552
WL-652/657	5551
WL-653B	5555
WL-655/658	5553
WL-679	5554
WL-681/686	5550
NL-715	5557
WL-735	868
672	672-A
801	801-A
812	812-A
829	829-B
829-A	829-B

Type to be Replaced*	Replace by RCA Type
832	832-A
833	833-A
C-833	833-A
857	857-B
862	862-A
866	866-A
866-A/866	866-A
869-A	869-B
872	872-A
872-A/872	872-A
F-872B	872-A
879	2X2-A
889	889-A
893	893-A
902	902-A
UE-905	805
905	905-A
906-P1	3AP1-A
908	908-A
914	914-A
931	931-A
UE-938	838
UE-949	849
UE-966A	866-A
UE-967	5557
UE-972-A	872-A
UE-975-A	575-A
1642	2C21/1642
1802-P1	5BP1-A
1803-P4	12AP4
1804-P4	9AP4
1811-P1	7CP1
1849	1850-A
1850	1850-A
2000	4B26/2000
2051	2050
2525A5	5BP1-A
5728	1904
8001	4E27/8001
8016	1B3-GT/8016
189049	4B26/2000
289416D	4B26/2000

See the reverse side of this page for a complete listing and suggested user's prices of more than 200 RCA Non-Receiving Tube Types.

For complete technical information on RCA Tubes for Industry and Communications see your RCA Distributor or write: Commercial Engineering, RCA Tube Department, Harrison, New Jersey.

♦ Except in high-altitude service.

* Where a "type to be replaced" carries a multiple designation incorporating a 5500-series number, that type can be directly replaced by the RCA type having the same 5500-series number. For example: the 5557/FG-17, as well as the FG-17, is directly replaceable by the RCA-5557. Likewise, the 5552/651/656, as well as the WL-651/656, is directly replaceable by the RCA-5552.

RCA ELECTRON TUBES

for INDUSTRY • COMMUNICATIONS • BROADCASTING

Type	Sugg'd User Price
OB2	$ 2.30
1C21	2.45
1P21	50.00
1P22	14.75
1P28	15.50
1P29	2.95
1P37	2.85
1P39	1.85
1P40	1.85
1P41	2.80
1P42	5.70
2AP1-A	10.55
2BP1	9.60
2BP11	11.00
2C21/1642(t)	1.40
2C22(t)	1.60
2C40(t)	14.50
2C43(t)	11.00
2D21	2.00
2E24	5.10
2E26	3.85
2F21	105.00
2K26(t)	192.00
2K56(t)	185.00
2P23	1200.00
3A4(t)	1.20
3A5	1.95
3AP1-A	14.25
3B25	6.40
3BP1-A	16.50
3C23	12.50
3C33	21.25
3D22	13.25
3DP1-A	18.00
3DP1-S2A	18.25
3E22	8.30
3E29	20.25
3FP7A	23.00
3JP1	16.50
3JP7	21.00
3KP1	14.50
4B26/2000	9.85
4C33	182.75
4-125A/4D21	27.50
4-250A/5D22	37.50
4E27/8001	24.50
4X150A	34.00
4X500A	97.50
5BP1-A	22.50
5CP1-A	23.25
5CP7-A	27.25
5CP11-A	27.50
5FP4-A	41.75
5FP7-A	30.25
5R4-GY(t)	1.50
5UP1	17.75
5UP7	20.25
5UP11	22.00
5WP11	70.00
5WP15	70.00
6AG7-Y(t)	1.75
6C24	54.25
6F4(t)	6.40
6J4(t)	8.05
6L4(t)	6.60

Type	Sugg'd User Price
6SJ7-Y(t)	$ .85
6SN7GTY(t)	1.40
7BP7-A	48.50
7C24	159.50
7CP1	30.75
7CP4	35.25
8D21	1775.00
9C21	866.00
9C22*	1275.00
9C25*	1158.25
10-Y(t)	1.95
12DP7A	77.00
12K8-Y(t)	1.30
12L8GT(t)	2.25
12SW7(t)	1.10
12SX7GT(t)	1.40
12SY7(t)	1.30
26A6(t)	2.20
26A7-GT(t)	5.95
26C6(t)	1.85
26D6(t)	2.00
89-Y	1.10
105	48.00
172	50.00
203-A	13.75
204-A	115.00
207	242.00
211	13.75
217-C	21.50
304TH	55.00
502-A	1.85
559	5.35
575-A	24.25
579-B	13.20
627	17.25
629	10.00
672-A	26.50
673	24.25
676	48.00
677	48.00
800	11.50
801-A	3.75
802	4.75
803	24.25
804	17.50
805	13.50
806	34.25
807	2.50
808	10.75
809	4.00
810	14.50
811	3.30
812-A	4.05
813	16.00
814	14.25
815	6.90
816	1.30
826	12.50
827-R	172.50
828	13.75
829-B	16.25
830-B	11.50
832-A	11.75
833-A	49.50
834	14.50

Type	Sugg'd User Price
835	$ 16.25
836	8.25
837	4.75
838	13.75
841(t)	4.35
842	4.05
843	2.30
845	13.75
846	250.00
849	138.00
850	43.25
851	253.00
857-B	209.00
858	500.00
860	34.50
861	178.25
862-A†	1150.00
864	1.75
865	11.50
866-A	1.95
868	2.50
869-B	132.00
872-A	8.20
874	2.75
876	5.50
878	12.75
880	483.00
884	1.85
885	2.00
886	4.60
889-A	210.50
889R-A*	308.00
891	223.00
891-R*	377.75
892	223.00
892-R*	377.75
893-A	630.00
893A-R*	1150.00
898-A†	1150.00
902-A	12.50
905-A	65.25
908-A	16.50
912	170.50
913	15.50
914-A	93.50
917	3.50
918	2.85
919	3.50
920	4.15
921	1.95
922	1.95
923	2.05
924	2.60
925	2.15
926	2.90
927	2.50
928	3.15
929	1.75
930	1.65
931-A	9.75
934	3.40
935	7.80
954(t)	5.65
955(t)	3.60
956(t)	6.30

Type	Sugg'd User Price
957(t)	$ 3.75
958-A(t)	6.25
959(t)	6.25
991	.75
1603(t)	7.40
1608	7.90
1609	8.60
1610(t)	2.50
1612(t)	3.00
1613(t)	2.65
1614(t)	2.05
1616	8.65
1619	2.50
1620(t)	6.60
1621(t)	2.15
1622(t)	2.30
1623	4.05
1624	4.00
1625	2.65
1626	1.85
1629	1.40
1631(t)	2.50
1632(t)	3.10
1633(t)	1.95
1634(t)	1.40
1635(t)	2.15
1644(t)	3.10
1654	4.55
1816-P4	85.00
1848	500.00
1850-A	540.00
1851(t)	2.90
1904	23.00
1945	109.25
1946	10.90
1947	8.40
1949	11.30
1950	7.80
2050	1.85
5527	47.50
5550	44.00
5551	73.50
5552	110.00
5553	241.00
5554	173.00

Type	Sugg'd User Price
5555	$ 336.00
5556	10.00
5557	7.00
5558	14.00
5559	19.50
5560	23.00
5561	38.00
5563	43.90
5581	2.25
5582	2.65
5583	3.05
5584	3.95
5588	110.00
5592*	1257.50
5618	3.60
5651	3.30
5652	6.55
5655	1300.00
5671*	1425.00
5691(t)	7.75
5692(t)	7.75
5693(t)	6.40
5696	1.90
5713	176.00
5734	18.00
5769	1200.00
5770	990.00
5771	510.00
5786	60.00
8000	14.50
8003	13.00
8005	7.40
8008	8.20
8012-A	15.50
8013-A	10.30
8020	22.00
8025-A	10.00
9001(t)	3.10
9002(t)	2.50
9003(t)	3.10
9004(t)	2.30
9005(t)	3.45
9006(t)	1.60

* The following credits currently apply when radiators or crates are returned prepaid, in acceptable condition, to the address shown on our return authorization.

Tube Type	Radiator Credit	Crate Credit
9C22	**110.00**	**40.00**
9C25	**130.00**	**40.00**
889R-A	**30.00**	—
891-R	**35.00**	**10.00**
892-R	**35.00**	**10.00**
893A-R	**110.00**	**40.00**
5592	**130.00**	**40.00**
5671	**110.00**	**40.00**

† $5.00 credit allowed for prepaid return of shipping container and $10.00 salvage credit allowed for prepaid return of 862-A and 898-A at time of new tube purchase, both to be in good condition.

Types marked with (t) are subject to Federal Excise Tax which is included, where applicable, in the prices shown above.

Prices in effect 12/15/48.

RCA RECEIVING TUBES

RECEIVING • TELEVISION • SPECIAL

Type	Sugg'd List Price
OA2	$4.35
OA3/VR75	2.65
OA4G	2.65
OC3/VR105	2.65
OD3/VR150	2.65
OY4	4.80
OZ4	1.65
OZ4G	1.65
1A3	2.20
1A4P	3.90
1A5GT	1.80
1A6	3.20
1A7GT	2.00
1B3GT/8016	3.20
1B4P	3.90
1B5/25S	3.20
1C5GT	2.20
1C6	3.20
1C7G	3.20
1D5GP	3.90
1D7G	3.20
1D8GT	3.90
1E5GP	3.90
1E7GT	3.90
1F4	2.65
1F5G	2.65
1F6	3.90
1F7G	3.90
1G4GT	2.65
1G5G	2.65
1G6GT	2.65
1H4G	2.20
1H5GT	1.65
1H6G	3.20
1J6GT	3.20
1L4	2.00
1LA4	2.65
1LA6	2.65
1LB4	2.65
1LC5	2.65
1LC6	2.65
1LD5	2.65
1LE3	2.65
1LG5	2.65
1LH4	2.65
1LN5	2.65
1N5GT	2.00
1P5GT	2.65
1Q5GT	2.65
1R5	2.00
1S4	2.40
1S5	1.80
1T4	2.00
1T5GT	2.65
1U4	2.00
1U5	1.80
1V	2.20
2A3	3.20
2A4G	3.20
2A5	2.20
2A6	2.65
2A7	2.65
2B7	2.65
2E5	2.65
2X2A	4.35

Type	Sugg'd List Price
3A8GT	$4.80
3LF4	2.65
3Q4	2.20
3Q5GT	2.40
3S4	2.00
3V4	2.00
5AZ4	1.35
5T4	3.90
5U4G	1.50
5V4G	2.40
5W4	2.65
5X4G	1.80
5Y3G	1.05
5Y3GT	1.05
5Y4G	1.50
5Z3	1.80
5Z4	2.65
6A3	3.20
6A6	2.65
6A7	2.00
6A8	2.00
6A8G	2.00
6A8GT	2.00
6AB5/6N5	2.65
6AB7/1853	3.20
6AC5GT	2.90
6AC7/1852	2.90
6AD7G	3.20
6AF6G	2.65
6AG5	2.65
6AG7	3.20
6AK5	3.90
6AK6	2.40
6AL5	2.00
6AL7GT	2.65
6AQ5	2.00
6AQ6	1.80
6AQ7GT	2.40
6AR5	1.65
6AS5	2.00
6AT6	1.50
6AU6	2.00
6AV6	1.50
6B4G	3.20
6B5	3.20
6B6G	2.20
6B7	3.20
6B8	3.20
6B8G	3.20
6BA6	1.80
6BA7	2.40
6BE6	1.80
6BF6	1.65
6BG6G	4.80
6BH6	2.00
6BJ6	2.00
6C4	1.65
6C5	1.65
6C5GT	1.65
6C6	2.00
6C8G	3.20
6D6	1.65
6D8G	3.20
6E5	2.20
6F5	1.65

Type	Sugg'd List Price
6F5GT	$1.65
6F6	2.00
6F6G	1.65
6F6GT	1.65
6F7	3.20
6F8G	3.20
6G6G	2.65
6H6	1.65
6H6GT	1.65
6J5	1.50
6J5GT	1.50
6J6	2.90
6J7	2.00
6J7G	2.00
6J7GT	2.00
6J8G	3.20
6K5GT	2.40
6K6GT	1.50
6K7	1.65
6K7G	1.65
6K7GT	1.65
6K8	2.40
6K8G	2.90
6L5G	2.65
6L6	3.55
6L6G	2.90
6L7	2.40
6L7G	2.90
6N6G	3.90
6N7	2.40
6N7GT	2.40
6P5GT	2.40
6Q7	2.00
6Q7G	1.80
6Q7GT	1.80
6R7	2.65
6R7GT	2.65
6S7	2.65
6S7G	3.20
6S8GT	2.65
6SA7	1.65
6SA7GT	1.65
6SB7-Y	2.40
6SC7	2.00
6SF5	1.65
6SF5GT	1.80
6SF7	2.00
6SG7	2.00
6SH7	2.20
6SJ7	1.65
6SJ7GT	1.65
6SK7	1.65
6SK7GT	1.65
6SL7GT	2.40
6SN7GT	2.20
6SQ7	1.50
6SQ7GT	1.50
6SR7	1.80
6SS7	1.80
6ST7	2.65
6SZ7	2.20
6T7G	3.20
6T8	2.90
6U5/6G5	2.00
6U7G	1.80

Type	Sugg'd List Price
6V6	$3.20
6V6GT	2.00
6W4GT	1.80
6W7G	2.65
6X4	1.50
6X5	2.65
6X5GT	1.50
6Y6G	2.40
6Z7G	3.90
6ZY5G	2.20
7A4	1.80
7A5	1.80
7A6	1.80
7A7	1.80
7A8	1.80
7AD7	2.65
7AF7	1.80
7AG7	2.20
7AH7	2.20
7B4	1.80
7B5	1.80
7B6	1.80
7B7	1.80
7B8	1.80
7C5	1.80
7C6	1.80
7C7	1.80
7E6	1.80
7E7	2.20
7F7	2.20
7F8	2.65
7G7/1232	2.65
7H7	2.00
7J7	2.65
7K7	2.65
7L7	2.20
7N7	2.20
7Q7	1.80
7R7	2.20
7S7	2.65
7V7	2.65
7W7	2.65
7X7	2.65
7Y4	1.80
7Z4	1.80
10	3.90
12A6	2.40
12A7	3.20
12A8GT	2.00
12AH7GT	2.65
12AL5	2.00
12AT6	1.50
12AT7	2.90
12AU6	2.00
12AU7	2.40
12AV6	1.50
12AW6	2.65
12AX7	2.40
12BA6	1.80
12BA7	2.40
12BE6	1.80
12C8	3.20
12F5GT	1.80
12H6	1.80
12J5GT	1.50

Type	Sugg'd List Price
12J7GT	$2.00
12K7GT	1.65
12K8	2.40
12Q7GT	1.80
12SA7	1.65
12SA7GT	1.65
12SC7	2.20
12SF5	1.80
12SF7	2.00
12SG7	2.00
12SH7	2.20
12SJ7	1.65
12SJ7GT	1.65
12SK7	1.65
12SK7GT	1.65
12SL7GT	2.40
12SN7GT	2.20
12SQ7	1.50
12SQ7GT	1.50
12SR7	2.20
12Z3	2.65
14A4	2.65
14A5	3.90
14A7/12B7	2.20
14AF7	2.20
14B6	2.20
14B8	2.20
14C5	2.20
14C7	2.20
14E6	1.80
14E7	2.20
14F7	2.20
14F8	2.65
14H7	2.20
14J7	2.65
14N7	2.65
14Q7	2.20
14R7	2.20
19	3.20
19J6	3.20
19T8	2.90
24A	2.20
25A6	3.20
25AC5GT	2.90
25L6	3.20
25L6GT	1.65
25Z5	1.50
25Z6	2.20
25Z6GT	1.35
26	1.80
27	1.50
30	2.00
31	2.65
32	3.55
32L7GT	3.20
33	3.20
34	3.20
35	2.00
35A5	1.80
35B5	2.00
35C5	2.00
35L6GT	1.65
35W4	1.25
35Y4	1.80
35Z3	1.80

Type	Sugg'd List Price
35Z4GT	$1.50
35Z5GT	1.25
36	2.65
37	1.80
38	2.20
39/44	2.65
41	1.65
42	1.65
43	1.65
45	1.65
45Z3	1.80
45Z5GT	1.80
46	2.65
47	2.40
49	2.65
50	3.90
50A5	2.20
50B5	2.00
50C5	2.00
50L6GT	1.65
50X6	2.20
50Y6GT	1.80
53	2.65
55	2.20
56	1.80
57	2.00
58	2.00
59	3.55
70L7GT	3.90
71A	2.00
75	1.65
76	1.65
77	1.65
78	1.65
79	2.65
80	1.15
81	3.90
82	2.65
83	2.65
83V	3.20
84/6Z4	1.80
85	2.20
89	2.20
117L7/M7GT	3.90
117N7GT	3.90
117P7GT	3.90
117Z3	1.50
117Z4GT	2.90
117Z6GT	2.40
XXD	use 14AF7
XXFM	use 7X7
XXL	use 7A4

TELEVISION KINESCOPES

RCA Type	Sugg'd List Price
2V3G	$5.25
3KP4	18.00
5BP4	27.50
5TP4	74.25
6AS7G	6.75
7DP4	29.75
7JP4	27.60
9AP4	72.00
10BP4	44.50
12AP4	82.50

Prices in effect 10/4/48

For the latest Suggested List Prices on RCA Receiving Tubes, ask your RCA Distributor for Form 2F215.

KEN-RAD
MADE IN U.S.A.
KEN-RAD
MADE IN U.S.A.

KEN-RAD
RADIO TUBES

metal - glass - miniature

ALL TYPES AND RATINGS

Ken-Rad's complete line of tubes is widely known and highly regarded by service men and owners of radio sets. Top quality means outstanding performance and long life. With Ken-Rad tubes your radio plays better! . . . Some of the many popular types in the Ken-Rad line are listed below: Ask for complete prices and ratings!

Type	**Price**	**Type**	**Price**	**Type**	**Price**
1B3GT	**$3.20**	*6BJ6*	**$2.00**	*12AT7*	**$2.90**
1R5	**2.00**	*6C4*	**1.65**	*12A U6*	**2.00**
1S5	**1.80**	**6H6**	**1.65**	*12A U7*	**2.40**
1T4	**2.00**	**6J5**	**1.50**	*12AV6*	**1.50**
1 U4	**2.00**	6K6-GT	**1.50**	*12A X7*	**2.40**
3S4	**2.00**	6L6-G	**2.90**	*12BA6*	**1.80**
3V4	**2.00**	**6SA7**	**1.65**	*12BE6*	**1.80**
5U4-G	**1.50**	**6SC7**	**2.00**	**12SA7**	**1.65**
5V4-G	**2.40**	**6SG7**	**2.00**	**12SG7**	**2.00**
5Y3-GT	**1.05**	**6SJ7**	**1.65**	**12SK7**	**1.65**
6AG5	**2.65**	**6SK7**	**1.65**	**12SQ7**	**1.50**
6AL5	**2.00**	6SL7-GT	**2.40**	*19T8*	**2.90**
6AQ5	**2.00**	6SN7-GT	**2.20**	*35B5*	**2.00**
6A U6	**2.00**	**6SQ7**	**1.50**	35L6-GT	**1.65**
6AV6	**1.50**	*6T8*	**2.90**	*35W4*	**1.25**
6BA6	**1.80**	6V6-GT	**2.00**	35Z5-GT	**1.25**
6BE6	**1.80**	*6 X4*	**1.50**	*50B5*	**2.00**
6BG6G	**4.80**	6X5-GT	**1.50**	50L6-GT	**1.65**

Prices and other data subject to change without notice.

Type numbers of metal tubes are shown in bold-face type.

Type numbers of miniature tubes are shown in italics.

THE SERVICEMAN'S TUBE

KEN-RAD
DEPENDABLE
RADIO TUBE
K
KEN-RAD
A product of
GENERAL ELECTRIC
MADE IN U.S.A.
KEN-RAD
K

THIS TUBE CARTON STANDS FOR QUALITY

KEN-RAD TUBES ARE A PRODUCT OF GENERAL ELECTRIC COMPANY

SYLVANIA RADIO RECEIVING TUBES

TYPE	RETAIL PRICE
0Y4	$4.80
0Z4	1.65
0Z4G	1.65
1A1	1.65
1A3	2.20
1A4P	3.90
1A5GT	1.80
1A6	3.20
1A7GT	2.00
1AB5	2.65
1AC5	2.20
1AD5	2.20
1B1	1.65
1B3GT	2.65
1B4P	3.90
1B5	3.20
1B7GT	3.20
1C3	2.65
1C5GT	2.20
1C6	3.20
1C7G	3.20
1C8	2.20
1D5GP	3.90
1D7G	3.20
1D8GT	3.90
1E1	1.65
1E5GP	3.90
1E7GT	3.90
1E8	2.20
1F1	1.65
1F4	2.65
1F5G	2.65
1G4GT	2.65
1G5G	2.65
1G6GT	2.65
1H4G	2.20
1H5GT	1.65
1H6GT	3.20
1J6GT	3.20
1K1	1.65
1L4	2.00
1L6	2.65
1LA4	2.65
1LA6	2.65
1LB4	2.65
1LC5	2.65
1LC6	2.65
1LD5	2.65
1LE3	2.65
1LG5	2.65
1LH4	2.65
1LN5	2.65
1N5GT	2.00
1P5GT	2.65
1Q5GT	2.65
1Q6	2.20
1R4	2.20
1R5	2.00
1S4	2.40
1S5	1.80
1S6	$2.20
1T4	2.00
1T5GT	2.65
1T6	2.20
1U4	2.00
1U5	1.80
1V	2.20
1V5	2.20
1W4	2.65
1W5	2.20
1X1	1.65
1X2	2.65
1Y1	1.65
1Z1	1,65
2A3	3.20
2A5	2.20
2A6	2.65
2A7	2.65
2B7	2.65
2E5	2.65
3A8GT	4.80
3B7	2.65
3C6/XXB	3.20
3D6	2.65
3E6	2.65
3LF4	2.65
3Q4	2.20
3Q5GT	2.40
3S4	2.00
3V4	2.00
5AZ4	1.35
5T4	3.90
5U4G	1.50
5V4G	2.40
5W4	2.65
5W4GT	1.65
5X4G	1.80
5Y3G	1.05
5Y3GT	1.05
5Y4G	1.50
5Z3	1.80
5Z4	2.65
6A3	3.20
6A4	3.20
6A5G	3.90
6A6	2.65
6A7	2.00
6A8	2.00
6A8G	2.00
6A8GT	2.00
6AB5	2.65
6AB7	3.20
6AC5GT	2.90
6AC7	2.90
6AD7G	3.20
6AF6G	2.65
6AG5	2.65
6AG7	3.20
6AH6	3.90
6AK5	3.90
6AK6	$2.40
6AL5	2.00
6AL7GT	2.65
6AQ5	2.00
6AQ6	1.80
6AQ7GT	2.40
6AR5	1.65
6AS5	2.00
6AT6	1.50
6AU6	2.00
6AV6	1.50
6B4G	3.20
6B5	3.20
6B6G	2.20
6B7	3.20
6B8	3.20
6B8G	3.20
6BA6	1.80
6BA7	2.40
6BC5	2.65
6BD5GT	3.20
6BD6	2.00
6BE6	1.80
6BF6	1.65
6BG6G	4.80
6BH6	2.00
6BJ6	2.00
6BK6	1.50
6BQ6GT	3.20
6BT6	1.50
6BU6	1.65
6C4	1.65
6C5	1.65
6C5GT	1.65
6C6	2.00
6C8G	3.20
6D6	1.65
6D8G	3.20
6E5	2.20
6F5	1.65
6F5GT	1.65
6F6	2.00
6F6G	1.65
6F6GT	1.65
6F7	3.20
6F8G	3.20
6G6G	2.65
6H6	1.65
6H6GT	1.65
6J5	1.50
6J5GT	1.50
6J6	2.90
6J7	2.00
6J7G	2.00
6J7GT	2.00
6J8G	3.20
6K5GT	2.40
6K6GT	1.50
6K7	1.65
6K7G	1.65
6K7GT	$1.65
6K8	2.40
6K8GT	2.40
6L5G	2.65
6L6	3.55
6L6G	2.90
6L6GA	2.90
6L7	2.40
6L7G	2.90
6N6G	3.90
6N7	2.40
6N7GT	2.40
6P5GT	2.40
6Q7	2.00
6Q7G	1.80
6Q7GT	1.80
6R7	2.65
6R7GT	2.65
6S7	2.65
6S7G	3.20
6S8GT	2.65
6SA7	1.65
6SA7GT	1.65
6SB7Y	2.40
6SC7	2.00
6SD7GT	2.90
6SF5	1.65
6SF5GT	1.80
6SF7	2.00
6SG7	2.00
6SH7	2.20
6SH7GT	2.20
6SJ7	1.65
6SJ7GT	1.65
6SK7	1.65
6SK7GT	1.65
6SL7GT	2.40
6SN7GT	2.20
6SQ7	1.50
6SQ7GT	1.50
6SR7	1.80
6SR7GT	1.80
6SS7	1.80
6ST7	2.65
6SV7	2.90
6T7G	3.20
6T8	2.90
6U5	2.00
6U6GT	2.00
6U7G	1.80
6V6	3.20
6V6GT	2.00
6W4GT	1.80
6W7G	2.65
6X4	1.50
6X5GT	1.50
6Y6G	2.40
6Z7G	3.90
6ZY5G	2.20
7A4	1.80

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(CONTINUED FROM PREVIOUS PAGE) •

SYLVANIA
RADIO RECEIVING TUBES

TYPE	RETAIL PRICE
7A4/XXL	$1.80
7A5	1.80
7A6	1.80
7A7	1.80
7A8	1.80
7AD7	2.65
7AF7	1.80
7AG7	2.20
7AH7	2.20
7AJ7	1.80
7B4	1.80
7B5	1.80
7B6	1.80
7B7	1.80
7B8	1.80
7C4	2.65
7C5	1.80
7C6	1.80
7C7	1.80
7E5	2.65
7E6	1.80
7E7	2.20
7F7	2.20
7F8	2.65
7G7	2.65
7H7	2.00
7J7	2.65
7K7	2.65
7L7	2.20
7N7	2.20
7Q7	1.80
7R7	2.20
7S7	2.65
7V7	2.65
7W7	2.65
7X6	2.20
7X7	2.65
7Y4	1.80
7Z4	1.80
10	3.90
12A6	2.90
12A6GT	2.90
12A7	3.20
12A8G	2.00
12A8GT	2.00
12AH7GT	2.65
12AL5	2.00
12AT6	1.50
12AT7	2.90
12AU6	2.00
12AU7	2.40
12AV6	1.50
12AW6	2.65
12AX7	2.40
12AY7	6.00
12BA6	1.80
12BA7	2.40
12BD6	2.00
12BE6	1.80
12BK6	1.50
12BT6	$1.50
12BU6	1.50
12C8	3.20
12F5GT	1.80
12H6	1.80
12J5GT	1.50
12J7GT	2.00
12K7G	2.00
12K7GT	1.65
12K8	2.40
12K8GT	2.40
12Q7GT	1.80
12S8GT	2.65
12SA7	1.65
12SA7GT	1.65
12SC7	2.20
12SF5	1.80
12SF5GT	2.00
12SF7	2.00
12SG7	2.00
12SH7	2.20
12SJ7	1.65
12SJ7GT	1.65
12SK7	1.65
12SK7GT	1.65
12SL7GT	2.40
12SN7GT	2.20
12SQ7	1.50
12SQ7GT	1.50
12SR7	2.20
12SR7GT	2.20
12Z3	2.65
14A4	2.65
14A5	3.90
14A7	2.20
14AF7	2.20
14B6	2.20
14B8	2.20
14C5	2.20
14C7	2.20
14E6	1.80
14E7	2.20
14F7	2.20
14F8	2.65
14H7	2.20
14J7	2.65
14N7	2.65
14Q7	2.20
14R7	2.20
14S7	2.65
14W7	2.65
14X7	2.65
14Y4	2.20
19	3.20
19BG6G	6.00
19J6	3.20
19T8	2.90
22	3.20
24A	2.20
25A6G	2.65
25A7GT	$5.50
25AC5GT	2.90
25C6G	2.90
25L6	3.20
25L6GT	1.65
25W4GT	2.00
25Y5	2.90
25Z5	1.50
25Z6	2.20
25Z6GT	1.35
26	1.80
26BK6	1.65
27	1.50
30	2.00
31	2.65
32	3.55
32L7GT	3.20
33	3.20
34	3.20
35/51	2.00
35A5	1.80
35B5	2.00
35C5	2.00
35L6GT	1.65
35W4	1.25
35Y4	1.80
35Z3	1.80
35Z4GT	1.50
35Z5GT	1.25
36	2.65
37	1.80
38	2.20
39/44	2.65
41	1.65
42	1.65
43	1.65
45	1.65
45Z5GT	1.80
46	2.65
47	2.40
49	2.65
50	3.90
50A5	2.20
50B5	2.00
50C5	2.00
50C6G	2.90
50L6GT	1.65
50X6	2.20
50Y6GT	1.80
50Y7GT	2.00
53	2.65
55	2.20
56	1.80
57	2.00
58	2.00
59	3.55
70L7GT	3.90
71A	2.00
75	1.65
76	1.65
77	$1.65
78	1.65
79	2.65
80	1.15
81	3.90
82	2.65
83	2.65
83V	3.20
84/6Z4	1.80
85	2.20
89	2.20
99	3.20
V99	3.20
100-70	2.00
100-77	2.00
100-79	2.00
117L7GT	3.90
117N7GT	3.90
117P7GT	3.90
117Z3	1.50
117Z4GT	2.90
117Z6GT	2.40
FM-1000	3.20
1273	2.40
1280	2.40
XXB (3C6/XXB)	3.20
XXD (14AF7)	2.20
XXFM (7X7)	2.65
XXL (7A4/XXL)	1.80

Sylvania products are guaranteed against defects in workmanship and materials.

RADIO TUBE DIVISION, EMPORIUM, PA.

SYLVANIA NON-RECEIVING TUBES

TELEVISION PICTURE TUBES

TYPE	SUGGESTED RESALE PRICE	TYPE	SUGGESTED RESALE PRICE
5BP4	$27.00	10HP4	$48.50
7GP4	22.08	12KP4	34.40
7JP4	16.88	12LP4	32.30
10BP4	26.00	16AP4	55.88
10FP4	28.15		

GENERAL PURPOSE CATHODE RAY TUBES

TYPE	SUGGESTED RESALE PRICE	TYPE	SUGGESTED RESALE PRICE
2AP1A	10.55	5CP1	23.25
3AP1	14.25	5CP1A	23.25
3BP1	16.50	5CP7A	27.25
3BP1A	16.50	5FP7	37.50
3JP12	30.00	5HP1	23.50
5AP1	23.50	5NP1	24.00
5BP1	22.50	7GP1	22.08
5BP1A	22.50	7JP1	22.08

TRANSMITTING TUBES

TYPE	SUGGESTED RESALE PRICE	TYPE	SUGGESTED RESALE PRICE
2E22	6.00	812A	4.85
2E24	5.10	813	16.00
2E26	3.85	815	6.90
2E30	2.45	816	1.30
3D24	12.50	829B	16.25
801A	3.75	837	4.75
804	17.50	841	4.35
805	13.50	866A	1.95
807	2.50	872A	8.20
808	10.75	1616	8.65
809	4.00	1625	2.65
810	14.50	1626	1.85
811A	4.05		

SPECIAL PURPOSE TUBES

TYPE	SUGGESTED RESALE PRICE	TYPE	SUGGESTED RESALE PRICE
OA2	2.20	7AK7	5.25
OA3	1.35	7G8	1.85
OA4G	1.35	26C6	1.85
OB2	2.30	26D6	2.00
OB3	1.35	28D7	1.80
OC3	1.35	28D7W	6.40
OD3	1.35	EF50	1.95
OZ4A	1.20	864	1.75
2A4G	1.60	884	1.85
2C4	2.85	1229	4.25
2D21	2.00	1247	3.00
2V3G	3.15	1629	1.40
2X2A	2.05	2050	1.85
3A4	1.20	2051	1.90
3A5	1.95	5634	7.70
5R4GY	1.50	5637	4.85
5U4WG	6.40	5638	4.85
6AD4	2.20	5646	7.70
6AJ5	3.50	5647	7.70
6AN6	3.50	5679	1.15
6AS7G	4.53	5691	7.75
6BA5	2.85	5692	7.75
6D4	2.85	5693	6.40
6J4	8.05	5722	6.40
6K4	2.85	5845	5.25
6K4A	4.85	9001	3.10
6L6GA/Y	3.10	9002	2.50
6L6WGA	6.40	9003	3.10
6SLWGT	2.85	X6030	3.50
6SN7WGT	2.85		

SYLVANIA ELECTRIC PRODUCTS INC.
RADIO TUBE DIVISION
EMPORIUM, PA.

SYLVANIA
ELECTRONICS DIVISION

ELECTRONIC PRODUCTS
500 FIFTH AVENUE, N. Y. 18, N. Y.

FLASH TUBES

TYPE	DESCRIPTION	SUGGESTED RESALE PRICE
R-4330	100 watt second Electroflash Tube	$15.00*
R-4340	500 watt second Electroflash Tube	45.00*

GAS PRESSURE MEASURING TUBES

TYPE	DESCRIPTION	SUGGESTED RESALE PRICE
R1111	Pirani Tube	5.00
R1111M	Matched Pairs R1111	11.85

GERMANIUM CRYSTAL DIODES

TYPE	DESCRIPTION	SUGGESTED RESALE PRICE
1N34	General Purpose Diode	.85
1N34A	General Purpose Diode (Sealed in Glass)	.85
1N35	Twin Matched Diode	2.05
1N38	100-V Back Voltage	2.05
1N39	200-V Back Voltage	11.25
1N40	Varistor—Plug In	10.60
1N41	Varistor—Lug type	11.25
1N42	Varistor—Matched 1N38's	18.75
1N54	High Resistance Diode	1.25
1N55	150-V Diode	6.25
1N56	High Conduction Diode	1.25
1N57	80-V Diode	1.25
1N58	100-V Diode	2.05
1N58A	100-V Diode (Sealed in Glass)	2.05
1N60	High Efficiency Diode	.65

GLOW MODULATOR TUBES

TYPE	DESCRIPTION	SUGGESTED RESALE PRICE
R1130B	.055″ Crater—(1B59)	$14.35
R1131A	.093″ Crater	14.35

HYDROGEN THYRATRONS

TYPE	DESCRIPTION	SUGGESTED RESALE PRICE
4C35	8 KV, 90 amp peak	25.00
5C22	15 KV, 325 amp peak	47.50

SELENIUM RECTIFIERS

TYPE	DESCRIPTION	SUGGESTED RESALE PRICE
NB-5	75 ma Rectifier	.78
NC-5	100 ma Rectifier	.96
ND-5	150 ma Rectifier	1.17
NE-5	200 ma Rectifier	1.35
NF-5	250 ma Rectifier	1.50
NH-5	400 ma Rectifier	2.13
NJ-5	500 ma Rectifier	2.28

SILICON CRYSTAL DIODES

TYPE	DESCRIPTION	SUGGESTED RESALE PRICE
1N21	3000 mc Converter	2.80
1N21A	3000 mc Converter	4.35
1N21B	3000 mc Converter	5.00
1N21C	3000 mc Converter	37.50
1N22	3000-10,000 mc—Instrument Rectifier	3.10
1N23	10,000 mc Converter	4.70
1N23A	10,000 mc Converter	5.60
1N23B	10,000 mc Converter	7.00
1N25	1000 mc High Burn-out Mixer	7.50
1N26	24,000 mc Converter	$8.10
1N27	Obsolete—Use 1N32	
1N29	Obsolete—Use 1N21B	
1N30	Obsolete—Use 1N31	
1N31	10,000 mc Video Detector	8.10
1N32	3000 mc Video Detector	25.00
1N53	34,000 mc Converter	37.50

STROBOTRONS

TYPE	DESCRIPTION	SUGGESTED RESALE PRICE
1D21/SN4	240 PPS V Neon Duo Grid	4.70
R-4350	Polychromatic Strobotron	12.00
SA-309	Small Polychromatic Strobotron	2.95

MISCELLANEOUS

TYPE	DESCRIPTION	SUGGESTED RESALE PRICE
OA5	Trigger Tube (Cold Cathode)	4.40
X-6090	Ionization Tube	2.00
SS501	1500-volt U-Discharge	13.10
1237	Full Wave Argon Rectifier	4.25
SD759A	Ramberg Accelerometer Tube	37.50

**Includes Federal Excise Tax*

SYLVANIA PANEL LAMPS—Radio Tube Division, Emporium, Pa.

Especially designed for radio dials, tuning meters, flash-tuning arrangements, flashlights, auto panels, pin ball machines.

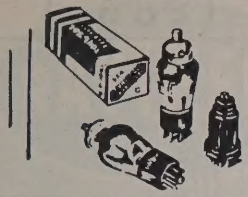
**Types S47 and S49 are interchangeable with Types S40A and S49A in any other brand.*

PRICE SCHEDULE

Net Price Per Carton of 10 Lamps Excluding Excise Tax

TYPE	VOLTS	AMPERE	BULB	BASE	BEAD	40% OFF LIST 10-40 Lamps	40-10% OFF LIST 50-190 Lamps	50% OFF LIST 200 Lamps or More
S40	6-8	0.15	T-3¼	Screw	Brown	$.60	$.540	$.50
S41	2.5	0.50	T-3¼	Screw	White	.60	.540	.50
S42	3.2	0.35	T-3¼	Screw	Green	.72	.648	.60
S43	2.5	0.50	T-3¼	Bayonet	White	.60	.540	.50
S44	6-8	0.25	T-3¼	Bayonet	Blue	.60	.540	.50
S45	3.2	0.35	T-3¼	Bayonet	White	.72	.648	.60
S46	6-8	0.25	T-3¼	Screw	Blue	.60	.540	.50
*S47	6-8	0.15	T-3¼	Bayonet	Brown	.60	.540	.50
S48	2.0	0.06	T-3¼	Screw	Pink	.90	.810	.75
*S49	2.0	0.06	T-3¼	Bayonet	Pink	.90	.810	.75
S50	6-8	0.20	G-3½	Screw	White	.60	.540	.50
S51	6-8	0.20	G-3½	Bayonet	White	.48	.432	.40
S55	6-8	0.40	G-4½	Bayonet	White	.48	.432	.40
S291	2.9	0.17	T-3¼	Bayonet	White	.78	.702	.65
S292	2.9	0.17	T-3¼	Screw	White	.78	.702	.65
S1455	18.0	0.25	G-5	Screw	Brown	.72	.648	.60
S1456	18.0	0.25	G-5	Bayonet	Brown	.72	.648	.60

SYLVANIA ELECTRIC



TUNG-SOL

RADIO TUBES

EFFECTIVE NOVEMBER 26, 1948

This Price List Is Supplied For Your Convenience By The Tung-Sol Lamp Works Inc.

All prices are subject to change without notice. The listing of price for any tubes does not necessarily indicate availability.

Type	Sugg'd Retail Price
0Y4	$4.80
0Z4 Met.	2.20
0Z4G	2.20
01A	1.25
1A3	2.20
1A4P	3.90
1A5GT	1.80
1A6	3.20
1A7GT	2.00
1AB5 Loc.	2.65
1B3GT	3.20
1B4P (1B4/951)	3.90
1B5/25S	3.20
1B7GT	3.20
1C5GT	2.20
1C6	3.20
1C7G	3.20
1C8	2.20
1D5GP	3.90
1D7G	3.20
1D8GT	3.90
1E5GP	3.90
1E7GT	3.90
1F4	2.65
1F5G	2.65
1F6	3.90
1F7G	3.90
1G4GT	2.65
1G5G	2.65
1G6GT	2.65
1H4G	2.20
1H5GT	1.65
1H6G	3.20
1J5G	2.65
1J6GT	3.20
1L4 Min.	2.00
1LA4 Loc.	2.65
1LA6 Loc.	2.65
1LB4 Loc.	2.65
1LC5 Loc.	2.65
1LC5 Loc.	2.65
1LD5 Loc.	2.65
1LE3 Loc.	2.65
1LG5 Loc.	2.65
1LH4 Loc.	2.65
1LN5 Loc.	2.65
1N5GT	2.00
1N6G	1.80
1P5GT	2.65
1Q5GT	2.65
1Q6	2.20
1R5 Min.	2.00
1S4 Min.	2.40
1S5 Min.	1.80
1T4 Min.	2.00
1T5GT	2.65
1U4 Min.	2.00
1U5 Min.	1.80
1V	2.20
1V5 Min.	2.20
1W5 Min.	2.20
2A3	3.20
2A4G	3.20
2A5	2.20
2A6	2.65

Type	Sugg'd Retail Price
2A7	$2.65
2B7	2.65
2E5	2.65
3A8GT	4.80
3B7/1291 Loc.	2.65
3C6/XXB Loc.	3.20
3D6/1299 Loc.	2.65
3E6 Loc.	2.65
3LF4 Loc.	2.65
3Q4 Min.	2.20
3Q5GT	2.40
3S4 Min.	2.00
3V4 Min.	2.00
5AZ4 Loc.	1.35
5T4	3.90
5U4G	1.50
5V4G	2.40
5W4 Met.	2.65
5W4GT	1.65
5X4G	1.80
5Y3G	1.05
5Y3GT	1.05
5Y4G	1.50
5Z3	1.80
5Z4 Met.	2.65
6A3	3.20
6A4 (LA)	3.20
6A5G	3.90
6A6	2.65
6A7	2.00
6A8 Met.	2.00
6A8G	2.00
6A8GT	2.00
6AB5/6N5	2.65
6AB6G	3.20
6AB7/1853 Met.	3.20
6AC5GT	2.90
6AC6GT	1.50
6AC7/1852	2.90
6AD6G	2.20
6AD7G	3.20
6AE6G	1.80
6AE7GT	1.80
6AF5G	1.80
6AF6G	2.65
6AG5 Min.	2.65
6AG7 Met.	3.20
6AH6 Min.	3.90
6AH7GT	2.20
6AK5 Min.	3.90
6AK6 Min.	2.40
6AL5 Min.	2.00
6AL7GT	2.65
6AQ5 Min.	2.00
6AQ6 Min.	1.80
6AQ7GT	2.20
6AR5	1.65
6AT6 Min.	1.50
6AU6 Min.	1.80
6AV6 Min.	1.50
6B4G	3.20
6B5	3.20
6B6G	2.20
6B7	3.20
6B8 Met.	3.20

Type	Sugg'd Retail Price
6B8G	$3.20
6BA6 Min.	1.80
6BA7 Min.	2.40
6BD6 Min.	2.00
6BE6 Min.	1.80
6BF6 Min.	1.65
6BG6G	4.80
6BH6 Min.	2.00
6BJ6 Min.	2.00
6C4 Min.	1.65
6C5 Met.	1.65
6C5GT	1.65
6C6	2.00
6C7	3.20
6C8G	3.20
6D5G	2.20
6D6	1.65
6D8G	3.20
6E5	2.20
6F5 Met.	1.65
6F5GT	1.65
6F6 Met.	2.00
6F6G	1.65
6F6GT	1.65
6F7	3.20
6F8G	3.20
6G6G	2.65
6H4GT	2.65
6H6 Met.	1.65
6H6GT	1.65
6J5 Met.	1.50
6J5GT	1.50
6J6 Min.	2.90
6J7 Met.	2.00
6J7GT	2.00
6J8G	3.20
6K5G	1.50
6K5GT	2.40
6K6G	1.50
6K6GT	1.50
6K7 Met.	1.65
6K7G	1.65
6K7GT	1.65
6K8G	2.90
6K8GT	2.40
6L5G	2.65
6L6 Met.	3.55
6L6G	2.90
6L6GA	2.90
6L7 Met.	2.40
6L7G	2.90
6N6G	3.90
6N7 Met.	2.40
6N7GT	2.40
6P5GT	2.40
6P7G	3.20
6Q7 Met.	2.00
6Q7GT	1.80
6R6G	3.90
6R7 Met.	2.65
6R7GT	2.65
6S7 Met.	2.65
6S8GT	2.65
6SA7 Met.	1.65
6SA7GT	1.65

Type	Sugg'd Retail Price
6SB7Y	$2.40
6SC7 Met.	2.00
6SC7GT	2.00
6SD7GT	2.90
6SF5 Met.	1.65
6SF5GT	1.65
6SF7 Met.	2.00
6SF7GT	1.80
6SG7 Met.	2.00
6SG7GT	2.20
6SH7 Met.	2.20
6SH7GT	2.20
6SJ7 Met.	1.65
6SJ7GT	1.65
6SK7 Met.	1.65
6SK7GT	1.65
6SL7GT	2.40
6SN7GT	2.20
6SQ7 Met.	1.50
6SQ7GT	1.50
6SR7 Met.	1.80
6SR7GT	1.80
6SS7 Met.	1.80
6ST7 Met.	2.65
6SV7 Met.	2.90
6SZ7 Met.	2.20
6T5	3.20
6T7G (6Q6G)	3.20
6T8 Min.	2.90
6U5/6G5	2.00
6U6GT	2.00
6U7G	1.80
6V6 Met.	3.20
6V6GT	2.00
6V7 Met.	3.20
6V7G	1.80
6W4GT	2.40
6W7G	2.65
6X4 Min.	1.50
6X5 Met.	2.65
6X5GT	1.50
6Y3G	3.90
6Y6G	2.40
6Y7G	2.20
6Z5/12Z5	3.20
6Z7G	3.90
6ZY5G	2.20
7A4XL Loc.	1.80
7A5 Loc.	1.80
7A6 Loc.	1.80
7A7 Loc.	1.80
7A8 Loc.	1.80
7AD7 Loc.	2.65
7AF7 Loc.	1.80
7AG7 Loc.	2.20
7AH7 Loc.	2.20
7B4 Loc.	1.80
7B5 Loc.	1.80
7B6 Loc.	1.80
7B7 Loc.	1.80
7B8 Loc.	1.80
7C4/1203 Loc.	2.65
7C5 Loc.	1.80
7C6 Loc.	1.80
7C7 Loc.	1.80

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Bold Face Type — represent 86.5% of Demand

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TUNG-SOL RADIO TUBES (con.)

Type	Sugg'd Retail Price
7E5/1201 Loc.	$2.65
7E6 Loc.	1.80
7E7 Loc.	2.20
7F7 Loc.	2.20
7F8 Loc.	2.65
7G7/1232 Loc.	2.65
7H6 Loc.	2.00
7J7 Loc.	2.65
7K7 Loc.	2.65
7L7 Loc.	2.20
7N7 Loc.	2.20
7Q7 Loc.	1.80
7R7 Loc.	2.20
7S7 Loc.	2.65
7V7 Loc.	2.65
7W7 Loc.	2.65
7X7 Loc. (XXFM)	2.65
7Y4 Loc.	1.80
7Z4 Loc.	1.80
10	3.90
12A5	3.20
12A6 Met.	2.65
12A6GT	2.65
12A7	3.20
12A8GT	2.00
12AH6GT	2.20
12AH7GT	2.65
12AL5 Min.	2.00
12AT6 Min.	1.50
12AT7 Min.	2.90
12AU6 Min.	2.00
12AU7 Min.	2.40
12AV6 Min.	1.50
12AX7 Min.	2.40
12AW6 Min.	2.65
12BA6 Min.	1.80
12BA7 Min.	2.40
12BD6 Min.	2.00
12BE6 Min.	1.80
12BF6 Min.	1.50
12C8 Met.	3.20
12E5GT	2.20
12F5GT	1.80
12H6 Met.	1.80
12J5GT	1.50
12J7GT	2.00
12K7GT	1.65
12K8 Met.	2.40
12K8GT	2.40
12Q7GT	1.80
12S8GT	2.65
12SA7 Met.	1.65
12SA7GT	1.65
12SC7 Met.	2.20
12SF5 Met.	1.80
12SF5GT	2.00
12SF7	2.00
12SF7GT	2.00
12SG7 Met.	2.00
12SH7 Met.	2.20

Type	Sugg'd Retail Price
12SH7GT	$2.20
12SJ7 Met.	1.65
12SJ7GT	1.65
12SK7 Met.	1.65
12SK7GT	1.65
12SL7GT	2.40
12SN7GT	2.20
12SQ7 Met.	1.50
12SQ7GT	1.50
12SR7 Met.	2.20
12SR7GT	2.20
12Z3	2.65
12Z5/6Z5	3.20
14A4 Loc.	2.65
14A5 Loc.	3.90
14A7/12B7 Loc.	2.20
14AF7 Loc. (XXD)	2.20
14B6 Loc.	2.20
14B8 Loc.	2.20
14C5 Loc.	2.20
14C7 Loc.	2.20
14E6 Loc.	1.80
14E7 Loc.	2.20
14F7 Loc.	2.20
14F8 Loc.	2.65
14H7 Loc.	2.20
14J7 Loc.	2.65
14N7 Loc.	2.65
14Q7 Loc.	2.20
14R7 Loc.	2.20
14S7 Loc.	2.65
14W7 Loc.	2.65
14Y4 Loc.	2.20
15	3.20
19	3.20
19T8 Min.	2.90
22	3.20
24A	2.20
25A6 Met.	3.20
25A6G	2.65
25A6GT	2.65
25AC5GT	2.90
25B5	3.20
25B6G	4.80
25C6G	2.90
25L6 Met.	3.20
25L6GT	1.65
25N6G	3.90
25Y5	2.90
25Z5	1.50
25Z6 Met.	2.20
25Z6GT	1.35
26	1.80
27	1.50
30	2.00
31	2.65
32	3.55
32L7GT	3.20
33	3.20
34	3.20

Type	Sugg'd Retail Price
35/51	$2.00
35A5 Loc.	1.80
35B5 Min.	2.00
35C5 Min.	2.00
35L6GT	1.65
35W4 Min.	1.25
35Y4 Loc.	1.80
35Z3 Loc.	1.80
35Z4GT	1.50
35Z5GT	1.25
35Z6G	1.80
35Z6GT	1.80
36	2.65
37	1.80
38	2.20
39/44	2.65
41	1.65
42	1.65
43	1.65
45	1.65
45Z3 Min.	1.80
45Z5GT (40Z5GT)	1.80
46	2.65
47	2.40
48	3.90
49	2.65
50	3.90
50A5 Loc.	2.20
50B5 Min.	2.00
50C5 Min.	2.00
50C6G	2.90
50L6GT	1.65
50X6 Loc.	2.20
50Y6GT	1.80
50Z7G	1.80
52	3.90
53	2.65
55	2.20
56	1.80
57	2.00
58	2.00
59	3.55
70A7GT	3.90
70L7GT	3.90
71A	2.00
75	1.65
76	1.65
77	1.65
78	1.65
79	2.65
80	1.15
81	3.90
82	2.65
83	2.65
83V	3.20
84/6Z4	1.80
85	2.20
89	2.20
99V	3.90
99X	3.90

Type	Sugg'd Retail Price
117L7/M7GT	$3.90
117N7GT	3.90
117P7GT	3.90
117Z3 Min.	1.50
117Z4GT	2.90
117Z6GT	2.40
483/183	2.65
485	2.65
FM1000	3.20
XXB/3C6	3.20
XXD/14AF7	2.20
XXFM/7X7	2.65
XXL/7A4	1.80

SPECIAL PURPOSE TUBES

Type	Sugg'd Retail Price
0B3	$1.35
0C3	1.35
0D3	1.35
2E22	6.00
2X2A	4.35
3A4	1.20
3A5	1.95
5R4GY	1.50
5X3	3.50
6AJ5	3.50
6AN6	3.50
6AR6	5.75
6SU7GTY	4.25
703A	20.00
708A	30.00
954	5.65
955	3.60
956	6.30
1603	7.40
1625	2.65
1626	1.85
1629	1.40
25A7GT	3.50
5687	7.25
9002	2.50
9003	3.10
9006	1.60

Ballast and Resistor Types

Type	Sugg'd Retail Price
1A1	$1.65
1B1	1.65
1D1	1.65
1E1	1.65
1F1	1.65
1K1	1.65
1R1G	1.50
1T1	1.50
1X1	1.65
1Y1	1.65
1Z1	1.65
46A1	1.80
46B1	1.80
100-70	2.00
100-77	2.00
100-79	2.00

Bold Face Type — represent 86.5% of Demand

TUNG-SOL RADIO DIAL LAMPS

Tung-Sol Lamp No.	Bulb Type	Base	Bead Color	Volts	Amperes	List Price
40	T-3¼	Miniature Screw	Brown	6-8	.15	$0.10
41	T-3¼	Miniature Screw	White	2.5	.50	.10
42	T-3¼	Miniature Screw	Green	3.2	.50	.12
43	T-3¼	Miniature Bayonet	White	2.5	.50	.10
44	T-3¼	Miniature Bayonet	Blue	6-8	.25	.10
45	T-3¼	Miniature Bayonet	Green	3.2	.50	.12
46	T-3¼	Miniature Screw	Blue	6-8	.25	.10
47	T-3¼	Miniature Bayonet	Brown	6-8	.15	.10
48	T-3¼	Miniature Screw	Pink	2.0	.06	.15
49	T-3¼	Miniature Bayonet	Pink	2.0	.06	.15
50	G-3½	Miniature Screw	White	6-8	.20	.10
51	G-3½	Miniature Bayonet	White	6-8	.20	.09
55	G-4½	Miniature Bayonet	White	6-8	.40	.09
291	T-3¼	Miniature Bayonet	White	2.9	.17	.13
292	T-3¼	Miniature Screw	White	2.9	.17	.13
416	G-4½	Miniature Bayonet	Black	3.3	.60	.37
1490	T-3¼	Miniature Bayonet	White	3.2	.16	.11

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

RAYTHEON

ELECTRONIC AND RADIO TUBES

RADIO RECEIVING TUBES

Price List

SUGGESTED LIST PRICES EFFECTIVE FEBRUARY 1, 1949

TYPE	PRICE
00A	$3.20
01A	1.50
0Y4	4.80
0Z4	1.65
0Z4G	1.65
1A3	2.20
1A4P	3.90
1A5GT	1.80
1A6	3.20
1A7GT	2.00
1B3GT/8016	3.20
1B4P	3.90
1B5/25S	3.20
1B7GT	3.20
1C5GT	2.20
1C6	3.20
1C7G	3.20
1D5GP	3.90
1D7G	3.20
1D8GT	3.90
1E5G	3.90
1E7G-1E7GT	3.90
1F4	2.65
1F5G	2.65
1F6	3.90
1F7G	3.90
1G4GT	2.65
1G5G	2.65
1G6GT	2.65
1H4G	2.20
1H5GT	1.65
1H6G	3.20
1J5G	2.65
1J6GT	3.20
1L4	2.00
1LA4	2.65
1LA6	2.65
1LB4	2.65
1LC5	2.65
1LC6	2.65
1LD5	2.65
1LE3	2.65
1LG5	2.65
1LH4	2.65
1LN5	2.65
1N5GT	2.00
1P5GT	2.65
1Q5GT	2.65
1R4/1294	2.65
1R5	2.00
1S4	2.40
1S5	1.80
1T4	2.00
1T5GT	2.65
1U4	2.00
1U5	1.80
1V	2.20
2A3	3.20
2A4G	3.20
2A5	2.20
2A6	2.65
2A7	2.65
2B7	2.65
2E5	2.65
2E31	2.65
2E32	2.65
2E35	$3.20
2E36	3.20
2E41	2.65
2E42	2.65
2G21	2.65
2G22	2.65
2Z2/G84	3.20
3A8GT	4.80
3B7/1291	2.65
3C6/XXB	3.20
3D6/1299	2.65
3E6	2.65
3LF4	2.65
3Q4	2.20
3Q5GT	2.40
3S4	2.00
3V4	2.00
5AZ4	1.35
5T4	3.90
5U4G	1.50
5V4G	2.40
5W4	2.65
5W4GT	1.65
5X4G	1.80
5Y3GT	1.05
5Y4GT	1.50
5Z3	1.80
5Z4	2.65
6A3	3.20
6A4/LA	3.20
6A5G	3.90
6A6	2.65
6A7	2.00
6A8	2.00
6A8G	2.00
6A8GT	2.00
6AB5/6N5	2.65
6AB7/1853	3.20
6AC5GT	2.90
6AC7/1852	2.90
6AD7G	3.20
6AE6G	1.80
6AF6G	2.65
6AG5	2.65
6AG7	3.20
6AH6	3.90
6AK5	3.90
6AK6	2.40
6AL5	2.00
6AL7GT	2.65
6AQ5	2.00
6AQ6	1.80
6AQ7GT	2.20
6AR5	1.80
6AS5	2.00
6AT6	1.50
6AU6	2.00
6AV6	1.50
6B4G	3.20
6B5	3.90
6B6G	2.20
6B7	3.20
6B8	3.20
6B8G	3.20
6BA6	1.80
6BA7	2.40
6BD6	$2.00
6BE6	1.80
6BF6	1.65
6BG6G	4.80
6BH6	2.00
6BJ6	2.00
6C4	1.65
6C5	1.65
6C5GT	1.65
6C6	2.00
6C8G	3.20
6D6	1.65
6D8G	3.20
6E5	2.20
6E6	2.65
6E7	3.90
6F5	1.65
6F5GT	1.65
6F6	2.00
6F6G	1.65
6F6GT	1.65
6F7	3.20
6F8G	3.20
6G6G	2.65
6H4GT	2.65
6H6	1.65
6H6GT	1.65
6J5	1.50
6J5GT	1.50
6J6	2.90
6J7	2.00
6J7G	2.00
6J7GT	2.00
6J8G	3.20
6K5GT	2.40
6K6GT	1.50
6K7	1.65
6K7G	1.65
6K7GT	1.65
6K8	2.40
6K8G	2.90
6K8GT	2.40
6L5G	2.65
6L6	3.55
6L6G	2.90
6L6GA	2.90
6L7	2.40
6L7G	2.90
6N6G	3.90
6N7	2.40
6N7G	2.40
6N7GT	2.40
6P5GT	2.40
6P7G	3.20
6Q7	2.00
6Q7G	1.80
6Q7GT	1.80
6R7	2.65
6R7GT	2.65
6S7	2.65
6S7G	3.20
6S8GT	2.65
6SA7	1.65
6SA7GT	1.65
6SB7Y	2.40
6SC7	2.00
6SD7GT	$2.90
6SF5	1.65
6SF5GT	1.80
6SF7	2.00
6SG7	2.00
6SH7	2.20
6SH7GT	2.20
6SJ7	1.65
6SJ7GT	1.65
6SK7	1.65
1SK7GT	1.65
6SL7GT	2.40
6SN7GT	2.20
6SQ7	1.50
6SQ7GT	1.50
6SR7	1.80
6SR7GT	1.80
6SS7	1.80
6ST7	2.65
6SV7	2.90
6SZ7	2.20
6T7G/6Q6G	3.20
6T8	2.65
6U5/6G5	2.00
6U6GT	2.00
6U7G	1.80
6V6	3.20
6V6GT	2.00
6V7G	1.80
6W5G	2.65
6W7G	2.65
6X4	1.50
6X5	2.65
6X5GT	1.50
6Y6G	2.40
6Y7G	3.20
6Z7G	3.90
6ZY5G	2.20
7A4/XXL	1.80
7A5	1.80
7A6	1.80
7A7	1.80
7A8	1.80
7AD7	2.65
7AF7	1.80
7AG7	2.20
7AH7	2.65
7B4	1.80
7B5	1.80
7B6	1.80
7B7	1.80
7B8	1.80
7C4	2.65
7C5	1.80
7C6	1.80
7C7	1.80
7E5	2.65
7E6	1.80
7E7	2.20
7F7	2.20
7F8	2.65
7G7/1232	2.65
7H7	2.00
7J7	2.65
7K7	2.65
7L7	2.20
7N7	$2.20
7Q7	1.80
7R7	2.20
7S7	2.65
7V7	2.65
7W7	2.65
7X7/XXFM	2.65
7Y4	1.80
7Z4	1.80
10	3.90
12A	1.35
12A5	3.20
12A6	2.65
12A6GT	2.65
12A7	3.20
12A8GT	2.00
12AH7GT	2.65
12AL5	2.00
12AT6	1.50
12AT7	2.65
12AU6	2.00
12AU7	2.40
12AV6	1.50
12AW6	2.65
12AX7	2.40
12B8GT	3.90
12BA6	1.80
12BA7	2.40
12BD6	2.00
12BE6	1.80
12C8	3.20
12F5GT	1.80
12H6	1.80
12J5GT	1.50
12J7GT	2.00
12K7G	2.00
12K7GT	1.65
12K8	2.40
12K8GT	2.40
12Q7GT	1.80
12S8GT	2.65
12SA7	1.65
12SA7GT	1.65
12SC7	2.20
12SF5	1.80
12SF5GT	2.00
12SF7	2.00
12SG7	2.00
12SH7	2.20
12SH7GT	2.20
12SJ7	1.65
12SJ7GT	1.65
12SK7	1.65
12SK7GT	1.65
12SL7GT	2.40
12SN7GT	2.20
12SQ7	1.50
12SQ7GT	1.50
12SR7	2.20
12SR7GT	2.20
12Z3	2.65
14A4	2.65
14A5	3.90
14A7/12B7	2.20
14AF7/XXD	2.20
14B6	2.20
14B8	$2.20
14C5	2.20
14C7	2.20
14E6	1.80
14E7	2.20
14F7	2.20
14F8	2.65
14H7	2.65
14J7	2.65
14N7	2.65
14Q7	2.20
14R7	2.20
14S7	2.65
14W7	2.65
14X7	2.65
14Y4	2.20
15	3.20
18	2.65
19	3.20
19T8	2.65
20	3.90
22	3.20
24A	2.20
25A6	3.20
25A6G	2.65
25A6GT	2.65
25A7G	4.80
25AC5G	3.90
25AC5GT	2.90
25B5	3.90
25B6G	2.65
25B8GT	3.90
25C6G	2.90
25D8	3.90
25L6	3.20
25L6GT	1.65
25N6G	3.90
25Y5	2.90
25Z5	1.50
25Z6	2.20
25Z6GT	1.50
26	1.80
27	1.50
30	2.00
31	2.65
32	3.20
32L7GT	3.20
33	3.20
34	3.20
35/51	2.00
35A5	1.80
35B5	2.00
35C5	2.00
35L6GT	1.65
35W4	1.25
35Y4	1.80
35Z3	1.80
35Z4GT	1.50
35Z5GT	1.25
35Z6G	1.80
36	2.65
37	1.80
38	2.20
39/44	2.65
40	2.20
41	1.65
42	$1.65
43	1.65
45	1.65
45Z3	1.80
45Z5GT	1.80
46	2.65
47	2.40
48	4.80
49	2.65
50	3.90
50A5	2.20
50B5	2.00
50C5	2.00
50L6GT	1.65
50X6	2.20
50Y6GT	1.80
50Z7G	1.80
52	3.90
53	2.65
55	2.20
56	1.80
57	2.00
58	2.00
59	3.55
70A7GT	3.90
70L7GT	3.90
71A	2.00
75	1.65
76	1.65
77	1.65
78	1.65
79	2.65
80	1.15
81	3.90
82	2.65
83	2.65
83V	3.20
84/6Z4	1.80
85	2.20
89	2.20
V99	3.90
X99	3.90
117L/M7GT	3.90
117N7GT	3.90
117P7GT	3.90
117Z3	1.50
117Z4GT	2.90
117Z6GT	2.40
485	2.65
950	2.65
FM1000	3.20
XXB	(See 3C6)
XXD	(See 14AF7)
XXFM	(See 7X7)
XXL	(See 7A4)

Tube prices listed above are for your convenience and do not necessarily indicate type availability.

PRICES SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE.

RAYTHEON

ELECTRONIC AND RADIO TUBES

TRANSMITTING, RECTIFIER AND KLYSTRÓN TUBES

RAYTHEON TRANSMITTING TUBES

Type No.	Construction	Special Applications	Filament			Maximum Voltages				Power-Watts		Suggested User Price
			Volts	Amps	Type	Plate	Grid	Screen	Sup-pressor	Dissi-pation	Out-put	
2C34/RK34	Dual Triode	H. F. Oscillator Amp.	6.3	0.8	Heater	300	−36			10*	16*	**$3.50**
2E24	Beam Tetrode	VHF Oscillator Amp.	6.3	0.65	Oxide	600	−175	200				**5.10**
2E26	Beam Tetrode	VHF Oscillator Amp.	6.3	0.8	Cathode	600	−175	200				**3.85**
RK-4D22	Beam Tetrode	R-F Oscillator Amp.	25.2 12.6	0.8 1.6	Cathode	750	−200	350		50	100	**9.75**
RK-4D32	Beam Tetrode	R-F Oscillator Amp.	6.3	3.75	Cathode	750	−200	350		50	100	**9.75**
5D23 RK65	R-F Tetrode	R-F Amplifier	5.0	14.0	Thor.	3000	−250	500			565	**37.50**
RK-6D22	Tetrode	R-F, A-F Amplifier	5.0	28.5	Thor.	3500	−250	500		450	1000	**55.00**
RK-38	Triode	R-F, A-F Amplifier	5.0	8.0	Thor.	3000	−200			100	225	**13.50**
RK-59	Dual Triode	Quick Heating	6.3	1.0	Oxide	500	−60			15*	32*	**4.50**
RK-75	Pentode	R-F Oscillator Amp.	5.5	1.0	Oxide	500	−100	250				**13.00**
RK-807	Beam Tetrode	R.F. Osc.-Amp.	6.3	0.9	Heater	600	−45	250		25	40	**2.50**
814/RK47	Beam Tetrode	R-F Oscillator Amp.	10.0	3.25	Thor.	1250	−70	300		50	120	**14.25**
RK-832A	Dual Beam Tet.	R-F Oscillator Amp.	6.3	0.8	Cathode	750	−100	250				**11.75**
RK-837	R.F. Pentode	Suppressor Mod.	12.6	0.7	Heater	500	− 75	200	+40	12	22	**4.75**
RK-1625	Beam Tetrode	R-F Oscillator Amp.	12.6	0.45	Cathode	600	−200	300				**2.65**
2050	Gas Tetrode	Thyratron	6.3	0.6	Cathode	650	−250	−100				**1.85**

*Indicates value for both sections combined.

RAYTHEON RECTIFIER TUBE

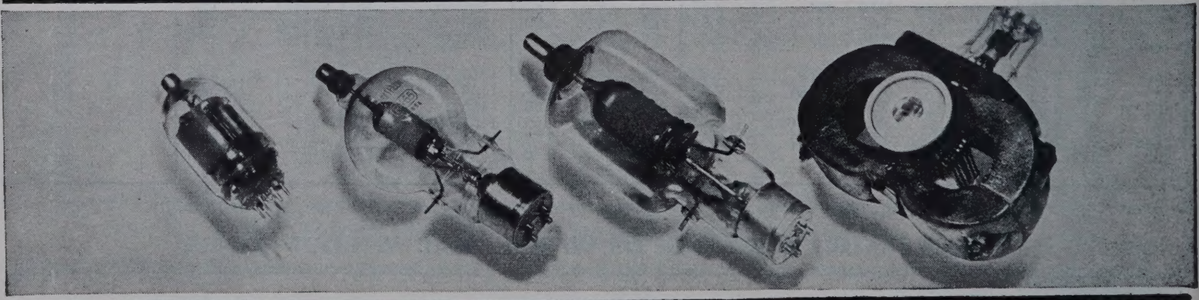
Type No.	Construction	Filament			Max. Peak Inverse Volts	Max. Peak Current	Average Current D.C.	Av. Tube Drop	Max. Height	Base	Suggested User Price
		Volts	Amps	Type							
BH	Full Wave—Gas			Cold Cathode	1,000	400 ma	125 ma	90	4⅝"	4-Pin	4.75
OZ4A/CK1003	Full Wave Gas			Cold Cathode	880	330 ma	100 ma	24	2⅝"	Octal	1.20
2X2A	Half-Wave—High Vacuum	2.5	1.75	Cathode	12,500	60 ma.	7.5 ma.		4 17/32"	4-Pin	2.10
RK-3B24	Half Wave—High Vacuum	2.5 5.0	3.0 3.0	Thoriated Thoriated	20,000 20,000	150 ma 300 ma	30 ma 60 ma		4 13/16"	4-Pin	11.75
RK-3B26	Clipper Diode—High Vacuum	2.5	4.75	Cathode	15,000	8 amp	20 ma	130	4⅜"	Octal	12.50
RK-3B29	Half Wave—High Vacuum	2.5	4.75	Cathode	16,000	250 ma	65 ma	130	5¼"	4-Pin	22.65
RK-4B31	Clipper Diode—High Vacuum	5.0	5.25	Cathode	16,000	16 amp	60 ma	150	7"	Jumbo 4-Pin	50.35
5R4GY	Full-Wave—High Vacuum	5	2	Thoriated	2,800	650 ma	250 ma.		5 3/16"	Octal	1.60
RK-72	Half Wave—High Vacuum	2.5	3.0	Thoriated	20,000	150 ma	30 ma	200	4 13/16"	4-Pin	11.75
RX-120	Half Wave—Mercury, Argon	2.5	30.0	Cathode	150	120 amp	20 amp	5	8 15/16"	Mogul	17.75
RX-120A	Half Wave—Mercury	2.5	30.0	Cathode	300 750	120 amp 120 amp	20 amp 10 amp	6 6	8 15/16"	Mogul	20.00
RX-212	Half Wave—Mercury	2.5	30.0	Cathode	1,000	120 amp	20 amp	10	12"	Mogul	27.15
RX-215	Full Wave—Mercury	2.5	30.0	Cathode	500	90 amp	15 amp	10	8"	8. Jumbo 4-Pin	24.30
1005/CK1005	Full Wave—Gas	6.3	0.1	Oxide	450	210 ma	70 ma	20	2⅝"	Octal	3.80
1006/CK1006	Full Wave—Gas	1.75	20.0	*Oxide	1,600	600 ma	200 ma	20	4 11/16"	4-Pin	3.25
CK-1007	Full Wave—Gas	1.0	1.2	*Oxide	980	330 ma	110 ma	24	2⅝"	Octal	1.25
1641/RK60	Full Wave—High Vacuum	5.0	3	Oxide	4,500 2,500	150 ma 330 ma	50 ma 250 ma	61	5⅜"	4-Pin	2.75
5517/CK1013	Half Wave—Gas			Cold Cathode	2,800	100 ma	12 ma	100	2¼"	Miniature	2.25
CK5785	Half-Wave—High Vacuum	1.25	0.15	Oxide	3,500	450 ma.	100 ma.	17	1½"	Flex. Leads	2.35

* May be used as ionic heated cathode rectifier under some conditions.

RAYTHEON REFLEX KLYSTRONS

Type No.	Heater		Class	Range Mc	Maximum Ratings			Typical Operation				Suggested User Price
	Volts	Amps			E_{g1} Volts	E_{g2}, E_{g3} Volts	Rep. Volts	E_{g1} Volts	E_{g2}, E_{g3} Volts	Rep. Volts	P.O. Mw	
(t) **RK-2K25/723A-B**	6.3	.44	Internal Cavity	8500–9660	Res. = 330v		0 to −400	Res. = 300v		−180: −185	33	**111.85**
(t) **RK-2K28**	6.3	.65	External Cavity Req.	1200–3750	300	300	0 to −300	300	300	−155: −290	140	**67.85**
(t) **RK-707B**	6.3	.65	External Cavity Req	1200–3750	300	300	0 to −300	300	300	−155: −290	140	**67.85**
(t) **RK2K33**	6.3	.65	Internal Cavity	22000–26000	−20 to −100	2300	−500	−20 to −100	1800	−80 to −220	40	**384.50**
(t) **QK159**	6.3	.65	Internal Cavity	2950–3275	300	300	0 to −300	300	300	−135 to −170	140	**67.85**
(t) **RK5721**	6.3	.6	External Cavity	4290–8340	+10 to +25	1000	0 to −600	+10 to +25	1000	−60 to −600	160	**198.70**

(t) Types subject to 10% Federal Excise Tax, which has been added.



SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE

RAYTHEON

ELECTRONIC AND RADIO TUBES

SUBMINIATURE TUBES

Here they are—and here's why more Raytheon Subminiature Tubes are on the job than *all other makes combined*—five million of them for commercial applications.

**1. REDUCED PRODUCT SIZE . . .
INCREASED PRODUCT SALABILITY.**
Raytheon filamentary Subminiatures are *flat.* Batteries can be little instead of big because of extremely low filament drain.

2. PLUG INTO STANDARD SOCKETS.
All Raytheon Subminiatures can either be soldered in or plugged into sockets available from a number of manufacturers.

3. AS RELIABLE AS A FINE WATCH.
The result of Raytheon's unique precision assembly methods backed by eight years' continuous production of long-life Subminiature Tubes.

4. READILY AVAILABLE FROM STOCK.
Over half a million of the Tubes described below are on tap at all times. They are standard throughout the world.

5. AT YOUR LOCAL DISTRIBUTOR.
Over three hundred Raytheon Special Purpose Tube Distributors stand ready to serve you quickly and intelligently.

RAYTHEON SUBMINIATURE TUBES

Type No.	Remarks	Bulb Size Inches	Heater Volts	Heater MA	Mutual Conductance Umhos	Power Output MW	Voltage Gain X	Typical Operating Conditions Plate Volts	Plate Current MA	Screen Volts	Screen Current MA	Grid Volts	Suggested User Price
HEATER CATHODE TYPES													
CK5702/ CK605CX	Characteristics of 6AK5	0.400	6.3	200	5000			120	7.5	120	2.5	—2.0	$8.00
CK5703/ CK608CX	Triode, UHF Oscillator, 3/4 watts at 500 Mc	0.400	6.3	200	5000			120	9.0			—2.0	2.50
CK5704/ CK606BX	Diode, equivalent to one-half 6AL5	0.315	6.3	150				150 ac	9.0				6.40
CK5744/ CK619CX	Triode, High mu.	0.400	6.3	200	4000			250	4.0			—2.0	7.00
CK5784	Characteristics of 6AS6	0.400	6.3	200	3200			120	5.2	120	3.5	—2.0	8.00
FILAMENT TYPES													
1AD4	RF Pentode for portable equipment	0.400	1.25	100	2000			45	3.0	45	0.8	0	5.35
2E31-32	RF Pentode for pocket radio	0.300	1.25	50	500			22.5	0.4	22.5	0.3	0	2.65
2E35-36	Output Pentode for pocket radio	0.290	1.25	30	385	1.2		22.5	0.27	22.5	0.07	0	3.20
2E41-42	Diode Pentode for pocket radio	0.290	1.25	30	375			22.5	0.35	22.5	0.12	0	2.65
2G21-22	Triode Heptode for pocket radio	0.300	1.25	50	75 conv. cond.			22.5	0.20	22.5	0.30		2.65
RK61	Gas Triode, Exp. Radio Control	0.550	1.4	50				45	1.5	special circuit			3.50
CK502AX	Output Pentode	0.285	1.25	30	550	6.0		45	0.6	45	0.15	—1.25	3.20
CK503AX	Output Pentode	0.285	1.25	30	550	9.5		45	0.8	45	0.25	—2.0	3.20
CK505AX	Voltage Amp. Pent.	0.285	0.625	30			38	22.5	0.125	22.5	0.04	—0.625	3.20
CK506AX	Output Pentode	0.285	1.25	50		25.0		45	1.25	45	0.40	—4.5	3.20
CK510AX	Double Space Charge Tetrode Amplifier	0.285	0.625	50			150 both units	45	0.06			0	5.35
CK512AX	Low microphonic voltage amplifier	0.285	0.625	20			37	22.5	0.125	22.5	0.04	—0.625	3.20
CK522AX	Output Pentode 20 ma. filament	0.285	1.25	20	450	1.2		22.5	0.30	22.5	0.08	0	3.20
CK523AX	Output Pentode	0.285	1.25	30	360	2.5		22.5	0.30	22.5	0.075	—1.2	3.20
CK524AX	Output Pentode	0.285	1.25	30	300	2.2		15.0	0.45	15.0	0.125	—1.75	5.35
CK525AX	Output Pentode	0.285	1.25	20	325	2.2		22.5	0.25	22.5	0.06	—1.2	4.05
CK526AX	Output Pentode	0.285	1.25	20	400	3.75		22.5	0.45	22.5	0.12	—1.5	5.35
CK527AX	Output Pentode 15 ma. filament	0.285	1.25	15	225	0.75		22.5	0.10	22.5	0.025	0	5.35
CK529AX	Shielded Output Pentode	0.290	1.25	20	275	1.2		15.0	0.20	15.0	0.05	—1.5	4.10
CK533AX	Output Pentode	0.285	1.25	15	425	2.0		22.5	0.4	22.5	0.1	0	5.35
CK535AX	Output Pentode	0.285	1.25	20	275	1.2		15.0	0.20	15.0	0.05	—1.5	4.45
CK551AXA	Diode Pentode	0.300	1.25	30	235			22.5	0.17	22.5	0.043	0	1.50
CK553AXA	RF Pentode	0.300	1.25	50	550			22.5	0.42	22.5	0.13	0	3.15
CK571AX	10 ma. Filament electrometer tube, Ig=2 x 10—^{13} amps.	0.285	1.25	10			1.6	10.5	0.20			—3.0	10.00
CK573AX	Triode, high frequency output	0.300	1.25	200	2000			135	14.0			—7.5	4.50
CK574AX	Shielded Pentode RF Amplifier	0.290	0.625	20			37	22.5	0.125	22.5	0.04	—0.625	3.20
CK5672	Output Pentode	0.285	1.25	50	625	60.0		67.5	2.75	67.5	1.1	—6.25	3.20
CK5676/ CK556AX	Triode, UHF Oscillator for radio use	0.300	1.25	120	1600			135	4.0			—5.0	3.90
CK5677/ CK568AX	Triode, UHF Oscillator for radio use	0.300	1.25	60	650			135	1.9			—6.0	3.90
CK5678/ CK569AX	RF Pentode	0.300	1.25	50	1100			67.5	1.8	67.5	0.48	0	2.60
CK5697/ CK570AX	Electrometer Triode Max. grid current 5 x 10—^{13} amps.	0.285	0.625	20			1.5	12	0.22			—3.0	10.00
CK5785	High Voltage rectifier	0.285	1.25	15					0.1	Inv. Peak 3500			2.35
VOLTAGE REGULATORS													
CK5783	Voltage reference tube—like 5651	0.400	Operating voltage 85. Operating current 1.5 to 3.5 ma.										7.60
CK5787	Voltage regulator	0.400	Operating voltage 100. Operating current 5 to 25 ma.										8.00

ARCTURUS
"KNOWN THE WORLD OVER"
STANDARD ARCTURUS CORPORATION

The Oldest Name in Electronic Tubes

EFFECTIVE JUNE 1, 1949

TYPE	USER'S PRICE
0Y4	$4.80
0Z4	1.65
0Z4G	1.65
1A1	1.65
1A3	2.20
1A4P	3.90
1A5GT	1.80
1A6	3.20
1A7GT	2.00
1AB5	2.65
1AC5	2.20
1AD5	2.20
1B1	1.65
1B3GT	3.20
1B4P	3.90
1B5	3.20
1B7GT	3.20
1C5GT	2.20
1C6	3.20
1C7G	3.20
1C8	2.20
1D5GP	3.90
1D7G	3.20
1D8GT	3.90
1E1	1.65
1E5GP	3.90
1E7GT	3.90
1E8	2.20
1F1	1.65
1F4	2.65
1F5G	2.65
1G4GT	2.65
1G5G	2.65
1G6GT	2.65
1H4G	2.20
1H5GT	1.65
1H6GT	3.20
1J6GT	3.20
1K1	1.65
1L4	2.00
1LA4	2.65
1LA6	2.65
1LB4	2.65
1LC5	2.65
1LC6	2.65
1LD5	2.65
1LE3	2.65
1LG5	2.65
1LH4	2.65
1LN5	2.65
1N5GT	2.00
1P5GT	2.65
1Q5GT	2.65
1Q6	2.20
1R4	2.20
1R5	2.00
1S4	2.40
1S5	1.80
1S6	2.20
1T4	2.00
1T5GT	2.65
1T6	2.20
1U4	2.00
1U5	1.80
1V	2.20
1V5	2.20
1W5	2.20
1X1	1.65
1Y1	1.65
1Z1	1.65
2A3	3.20
2A5	$2.20
2A6	2.65
2A7	2.65
2B7	2.65
2E5	2.65
3A8GT	4.80
3B7	2.65
3C6/XXB	3.20
3D6	2.65
3E6	2.65
3LF4	2.65
3Q4	2.20
3Q5GT	2.40
3S4	2.00
3V4	2.00
5AZ4	1.35
5T4	3.90
5U4G	1.50
5V4G	2.40
5W4	2.65
5W4GT	1.65
5X4G	1.80
5Y3G	1.05
5Y3GT	1.05
5Y4G	1.50
5Z3	1.80
5Z4	2.65
6A3	3.20
6A4	3.20
6A5G	3.90
6A6	2.65
6A7	2.00
6A8	2.00
6A8G	2.00
6A8GT	2.00
6AB5	2.65
6AB7	3.20
6AC5GT	2.90
6AC7	2.90
6AD7G	3.20
6AF6G	2.65
6AG5	2.65
6AG7	3.20
6AH6	3.90
6AK5	3.90
6AK6	2.40
6AL5	2.00
6AL7GT	2.65
6AQ5	2.00
6AQ6	1.80
6AQ7GT	2.20
6AR5	1.65
6AT6	1.50
6AU6	2.00
6AV6	1.50
6B4G	3.20
6B5	3.90
6B6G	2.20
6B7	3.20
6B8	3.20
6B8G	3.20
6BA6	1.80
6BA7	2.40
6BD6	2.00
6BE6	1.80
6BF6	1.65
6BG6G	4.80
6BH6	2.00
6BJ6	2.00
6C4	1.65
6C5	1.65
6C5GT	$1.65
6C6	2.00
6C8G	3.20
6D6	1.65
6D8G	3.20
6E5	2.20
6F5	1.65
6F5GT	1.65
6F6	2.00
6F6G	1.65
6F6GT	1.65
6F7	3.20
6F8G	3.20
6G6G	2.65
6H6	1.65
6H6GT	1.65
6J5	1.50
6J5GT	1.50
6J6	2.90
6J7	2.00
6J7G	2.00
6J7GT	2.00
6J8G	3.20
6K5GT	2.40
6K6GT	1.50
6K7	1.65
6K7G	1.65
6K7GT	1.65
6K8	2.40
6K8GT	2.40
6L5G	2.65
6L6	3.55
6L6G	2.90
6L6GA	2.90
6L7	2.40
6L7G	2.90
6N6G	3.90
6N7	2.40
6N7GT	2.40
6P5GT	2.40
6Q7	2.00
6Q7G	1.80
6Q7GT	1.80
6R7	2.65
6R7GT	2.65
6S7	2.65
6S7G	3.20
6S8GT	2.65
6SA7	1.65
6SA7GT	1.65
6SB7Y	2.40
6SC7	2.00
6SF5	1.65
6SF5GT	1.80
6SF7	2.00
6SG7	2.00
6SH7	2.20
6SH7GT	2.20
6SJ7	1.65
6SJ7GT	1.65
6SK7	1.65
6SK7GT	1.65
6SL7GT	2.40
6SN7GT	2.20
6SQ7	1.50
6SQ7GT	1.50
6SR7	1.80
6SR7GT	1.80
6SS7	1.80
6ST7	2.65
6SV7	2.90
6T7G	$3.20
6T8	2.90
6U5	2.00
6U6GT	2.00
6U7G	1.80
6V6	3.20
6V6GT	2.00
6W4GT	1.80
6W7G	2.65
6X4	1.50
6X5GT	1.50
6Y6G	2.40
6Z7G	3.90
6ZY5G	2.20
7A4	1.80
7A4/XXL	1.80
7A5	1.80
7A6	1.80
7A7	1.80
7A8	1.80
7AD7	2.65
7AF7	1.80
7AG7	2.20
7AH7	2.20
7AJ7	1.80
7B4	1.80
7B5	1.80
7B6	1.80
7B7	1.80
7B8	1.80
7C4	2.65
7C5	1.80
7C6	1.80
7C7	1.80
7E5	2.65
7E6	1.80
7E7	2.20
7F7	2.20
7F8	2.65
7G7	2.65
7H7	2.00
7J7	2.65
7K7	2.65
7L7	2.20
7N7	2.20
7Q7	1.80
7R7	2.20
7S7	2.65
7V7	2.65
7W7	2.65
7X7	2.65
7Y4	1.80
7Z4	1.80
10	3.90
12A6	2.90
12A6GT	2.90
12A7	3.20
12A8G	2.00
12A8GT	2.00
12AH7GT	2.65
12AL5	2.00
12AT6	1.50
12AT7	2.90
12AU6	2.00
12AU7	2.40
12AV6	1.50
12AW6	2.65
12AX7	2.40
12BA6	1.80
12BA7	2.40
12BD6	2.00
12BE6	$1.80
12C8	3.20
12F5GT	1.80
12H6	1.80
12J5GT	1.50
12J7GT	2.00
12K7G	2.00
12K7GT	1.65
12K8	2.40
12K8GT	2.40
12Q7GT	1.80
12S8GT	2.65
12SA7	1.65
12SA7GT	1.65
12SC7	2.20
12SF5	1.80
12SF5GT	2.00
12SF7	2.00
12SG7	2.00
12SH7	2.20
12SJ7	1.65
12SJ7GT	1.65
12SK7	1.65
12SK7GT	1.65
12SL7GT	2.40
12SN7GT	2.20
12SQ7	1.50
12SQ7GT	1.50
12SR7	2.20
12SR7GT	2.20
12Z3	2.65
14A4	2.65
14A5	3.90
14A7	2.20
14AF7	2.20
14B6	2.20
14B8	2.20
14C5	2.20
14C7	2.20
14E6	1.80
14E7	2.20
14F7	2.20
14F8	2.65
14H7	2.20
14J7	2.65
14N7	2.65
14Q7	2.20
14R7	2.20
14S7	2.65
14W7	2.65
14X7	2.65
14Y4	2.20
19	3.20
19J6	3.20
19T8	2.90
24A	2.20
25A6G	2.65
25AC5GT	2.90
25C6G	2.90
25L6	3.20
25L6GT	1.65
25Y5	2.90
25Z5	1.50
25Z6	2.20
25Z6GT	1.35
26	1.80
27	1.50
30	2.00
31	2.65
32	3.55
32L7GT	3.20
33	$3.20
34	3.20
35/51	2.00
35A5	1.80
35B5	2.00
35C5	2.00
35L6GT	1.65
35W4	1.25
35Y4	1.80
35Z3	1.80
35Z4GT	1.50
35Z5GT	1.25
36	2.65
37	1.80
38	2.20
39/44	2.65
41	1.65
42	1.65
43	1.65
45	1.65
45Z5GT	1.80
46	2.65
47	2.40
49	2.65
50	3.90
50A5	2.20
50B5	2.00
50C5	2.00
50C6G	2.90
50L6GT	1.65
50X6	2.20
50Y6GT	1.80
50Y7GT	2.00
53	2.65
55	2.20
56	1.80
57	2.00
58	2.00
59	3.55
70L7GT	3.90
71A	2.00
75	1.65
76	1.65
77	1.65
78	1.65
79	2.65
80	1.15
81	3.90
82	2.65
83	2.65
83V	3.20
84/6Z4	1.80
85	2.20
89	2.20
99	3.20
V99	3.20
100-70	2.00
100-77	2.00
100-79	2.00
117L7GT	3.90
117N7GT	3.90
117P7GT	3.90
117Z3	1.50
117Z4GT	2.90
117Z6GT	2.40
FM-1000	3.20
1273	2.40
1280	2.40
XXB (3C6/XXB)	3.20
XXD (14AF7)	2.20
XXFM (7X7)	2.65
XXL (7A4/XXL)	1.80

Cathode-Ray, Industrial, Special Purpose, Transmission, Photo-Electric, X-Ray, Low-wattage Rectifier, Welding, Grid-controlled Rectifier Tube prices and discounts on request.

ALL PRICES ARE SUBJECT TO CHANGE OR WITHDRAWAL WITHOUT NOTICE.

NATIONAL UNION

RECEIVING TUBES

PRICE LIST *Effective March 1, 1949**

TYPE	USER'S PRICE
0Y4	$4.80
0Z4	1.65
0Z4G	1.65
1A3	2.20
1A4P	3.90
1A5GT	1.80
1A6	3.20
1A7GT	2.00
1AB5	2.65
1B3GT	3.20
1B4P	3.90
1B5/25S	3.20
1B7GT	3.20
1C5GT	2.20
1C6	3.20
1C7G	3.20
1C8	2.20
1D5GP	3.90
1D7G	3.20
1D8GT	3.90
1E5GP	3.90
1E5GT	3.90
1E7GT	3.90
1F4	2.65
1F5G	2.65
1F6	3.90
1F7G	3.90
1G4GT	2.65
1G5G	2.65
1G6GT	2.65
1H4G	2.20
1H5GT	1.65
1H6G	3.20
1H6GT	3.20
1J5G	2.65
1J6GT	3.20
1L4	2.00
1LA4	2.65
1LA6	2.65
1LB4	2.65
1LC5	2.65
1LC6	2.65
1LD5	2.65
1LE3	2.65
1LG5	2.65
1LH4	2.65
1LN5	2.65
1N5GT	2.00
1P5GT	2.65
1Q5GT	2.65
1Q6	2.20
1R4	2.20
1R5	2.00
1S4	2.40
1S5	1.80
1T4	2.00
1T5GT	2.65
1U4	2.00
1U5	1.80
1V	2.20
1V5	2.20
1W5	2.20
2A3	3.20
2A5	2.20
2A6	2.65
2A7	2.65
2B7	2.65
2E5	2.65
2Z2/G84	3.90
3A8GT	4.80
3B7	2.65
3C6/XXB	3.20
3D6	2.65
3E6	2.65
3LF4	$2.65
3Q4	2.20
3Q5GT	2.40
3S4	2.00
3V4	2.00
5AZ4	1.35
5T4	3.90
5U4G	1.50
5V4G	2.40
5W4	2.65
5W4GT	1.65
5X3	2.20
5X4G	1.80
5Y3G	1.05
5Y3GT	1.05
5Y4G	1.50
5Z3	1.80
5Z4	2.65
6A3	3.20
6A4	3.20
6A6	2.65
6A7	2.00
6A8	2.00
6A8G	2.00
6A8GT	2.00
6AB5/6N5	2.65
6AB7/1853	3.20
6AC5GT	2.90
6AC7/1852	2.90
6AD7G	3.20
6AF6G	2.65
6AG5	2.65
6AG7	3.20
6AH6	3.90
6AK5	3.90
6AK6	2.40
6AL5	2.00
6AL7GT	2.65
6AQ5	2.00
6AQ6	1.80
6AQ7GT	2.20
6AR5	1.65
6AS5	2.00
6AS7G	6.75
6AT6	1.50
6AU6	2.00
6AV6	1.50
6B4G	3.20
6B5	3.90
6B6G	2.20
6B7	3.20
6B8	3.20
6B8G	3.20
6BA6	1.80
6BA7	2.40
6BD6	2.00
6BE6	1.80
6BF6	1.65
6BG6G	4.80
6BH6	2.00
6BJ6	2.00
6C4	1.65
6C5	1.65
6C5GT	1.50
6C6	2.00
6C8G	3.20
6D6	1.65
6D8G	3.20
6E5	2.20
6F5	1.65
6F5GT	1.65
6F6	2.00
6F6G	1.65
6F6GT	1.65
6F7	$3.20
6F8G	3.20
6G6G	2.65
6H6	1.65
6H6GT	1.65
6J5	1.50
6J5GT	1.50
6J6	2.90
6J7	2.00
6J7G	2.00
6J7GT	2.00
6J8G	3.20
6K5GT	2.40
6K6GT	1.50
6K7	1.65
6K7G	1.65
6K7GT	1.65
6K8	2.40
6K8G	2.90
6K8GT	2.40
6L5G	2.65
6L6	3.55
6L6G	2.90
6L6GA	2.90
6L7	2.40
6L7G	2.90
6N6G	3.90
6N7	2.40
6N7GT	2.40
6P5GT	2.40
6Q6G/6T7G	3.20
6Q7	2.00
6Q7G	1.80
6Q7GT	1.80
6R7	2.65
6R7GT	2.65
6S7	2.65
6S7G	3.20
6S8GT	2.65
6SA7	1.65
6SA7GT	1.65
6SB7Y	2.40
6SC7	2.00
6SD7GT	2.65
6SF5	1.65
6SF5GT	1.80
6SF7	2.00
6SG7	2.00
6SH7	2.20
6SH7GT	2.20
6SJ7	1.65
6SJ7GT	1.65
6SK7	1.65
6SK7GT	1.65
6SL7GT	2.40
6SN7GT	2.20
6SQ7	1.50
6SQ7GT	1.50
6SR7	1.80
6SR7GT	1.80
6SS7,GT	1.80
6ST7	2.65
6SZ7	2.20
6T7G/6Q6G	3.20
6T8	3.55
6U5/6G5	2.00
6U6GT	2.00
6U7G	1.80
6V5G	3.90
6V5GT	3.90
6V6	3.20
6V6GT	2.00
6W4GT	1.80
6W7G	2.65
6X4	$1.50
6X5	2.65
6X5GT	1.50
6Y3G	3.90
6Y6G	2.40
6Z7G	3.90
6ZY5G	2.20
7A4/XXL	1.80
7A5	1.80
7A6	1.80
7A7	1.80
7A8	1.80
7AD7	2.65
7AF7	1.80
7AG7	2.20
7AH7	2.20
7B4	1.80
7B5	1.80
7B6	1.80
7B7	1.80
7B8	1.80
7C4/1203A	2.65
7C5	1.80
7C6	1.80
7C7	1.80
7C8	2.65
7E5/1201	2.65
7E6	1.80
7E7	2.20
7F7	2.20
7F8	2.65
7G7/1232	2.65
7H7	2.00
7J7	2.65
7K7	2.65
7L7	2.20
7N7	2.20
7Q7	1.80
7R7	2.20
7S7	2.65
7V7	2.65
7W7	2.65
7X7/XXFM	2.65
7Y4	1.80
7Z4	1.80
10	3.90
12A6	2.90
12A6GT	2.90
12A7	3.20
12A8GT	2.00
12AH7GT	2.65
12AL5	2.00
12AT6	1.50
12AT7	2.90
12AU6	2.00
12AU7	2.40
12AV6	1.50
12AW6	2.65
12AX7	2.40
12BA6	1.80
12BA7	2.40
12BD6	1.80
12BE6	1.80
12C8	3.20
12F5GT	1.80
12H6	1.80
12J5GT	1.50
12J7G	2.00
12J7GT	2.00
12K7G	2.00
12K7GT	1.65
12K8	2.40
12K8GT	2.40
12Q7GT	1.80
12S8GT	$2.65
12SA7	1.65
12SA7GT	1.65
12SC7	2.20
12SF5	1.80
12SF5GT	2.00
12SF7	2.00
12SG7	2.00
12SH7	2.20
12SH7GT	2.20
12SJ7	1.65
12SJ7GT	1.65
12SK7	1.65
12SK7GT	1.65
12SL7GT	2.40
12SN7GT	2.20
12SQ7	1.50
12SQ7GT	1.50
12SR7	2.20
12SR7GT	2.20
12Z3	2.65
14A4	2.65
14A5	3.90
14A7/12B7	2.20
14AF7/XXD	2.20
14B6	2.20
14B8	2.20
14C5	2.20
14C7	2.20
14E6	1.80
14E7	2.20
14F7	2.20
14F8	2.65
14H7	2.20
14J7	2.65
14N7	2.65
14Q7	2.20
14R7	2.20
14S7	2.65
14W7	2.65
14X7	2.65
14Y4	2.20
15	3.20
19	3.20
19T8	3.55
20	3.90
22	3.20
24A	2.20
25A6	3.20
25A6G	2.65
25A6GT	3.20
25AC5GT	2.90
25B8GT	4.95
25C6G	3.20
25L6	3.20
25L6GT	1.65
25Y5	2.90
25Z5	1.50
25Z6	2.20
25Z6GT	1.35
26	1.80
27	1.50
30	2.00
31	2.65
32	3.55
32L7GT	3.20
33	3.20
34	3.20
35/51	2.00
35A5	1.80
35B5	2.00
35C5	2.00
35L6GT	1.65
35W4	1.25
35Y4	$1.80
35Z3	1.80
35Z4GT	1.50
35Z5GT	1.25
35Z6G	2.65
36	2.65
37	1.80
38	2.20
39/44	2.65
41	1.65
42	1.65
43	1.65
45	1.65
45Z3	1.80
45Z5GT	1.80
46	2.65
47	2.40
49	2.65
50	3.90
50A5	2.20
50B5	2.00
50C5	2.00
50C6G	2.90
50L6GT	1.65
50X6	2.20
50Y6GT	1.80
53	2.65
55	2.20
56	1.80
57	2.00
58	2.00
59	3.55
70L7GT	3.90
71A	2.00
75	1.65
76	1.65
77	1.65
78	1.65
79	2.65
80	1.15
81	3.90
82	2.65
83	2.65
83V	3.20
84/6Z4	1.80
85	2.20
89	2.20
99V	3.20
99X	3.20
117L7GT/117M7GT	3.90
117N7GT	3.90
117P7GT	3.90
117Z3	1.50
117Z4GT	2.90
117Z6GT	2.40
FM-1000	3.20
1201/7E5	2.65
1203A/7C4	2.65
1273	2.40
1280	2.40
XXB/3C6	3.20
XXD/14AF7	2.20
XXFM/7X7	2.65
XXL/7A4	1.80

Prices subject to
change or
withdrawal
without notice

**Prices on types not appearing on this list, gladly furnished on request.*

NATIONAL UNION RADIO CORPORATION

NATIONAL UNION

ELECTRON TUBES

PANEL LAMPS

EFFECTIVE APRIL 11, 1949

"VIDEOTRONS" TV PICTURE TUBES

TYPE	DESCRIPTION	SUGGESTED USER'S PRICE
"Videotron" NU-TP400A	4" PROJECTION (Magnetic Focus) (Magnetic Deflection)	$63.00
"Videotron" NU-7JP4	7" DIRECT VIEW (Electrostatic Focus) (Electrostatic Deflection)	27.60
"Videotron" NU-10BP4	10" DIRECT VIEW (Magnetic Focus) (Magnetic Deflection)	44.50
"Videotron" NU-12LP4	12½" DIRECT VIEW (Magnetic Focus) (Magnetic Deflection)	66.50
"Videotron" NU-16AP4	16" DIRECT VIEW (Magnetic Focus) Glass Metal (Magnetic Deflection)	79.50

TRANSMITTING TYPES

TRANSMITTING TUBES

TYPE	DESCRIPTION	SUGGESTED USER'S PRICE
2C34/RK34	Twin Triode Power Amp.	$3.50
T55	Triode Amplifier	7.50
UE100	Triode Amplifier Osc.	15.00
100TH	High Mu Triode	16.65
200	Power Amp. Triode	25.00
203A	Power Amp. Osc. Triode	13.75
211	Power Amp. Osc. Triode	13.75
217C	H. W.-H. V. Rectifier	21.50
Z225/866A	H. W.-H. V. Rectifier	1.95
300	Power Amp. Triode	29.50
801A	Power Amp. Triode	3.75
802	Power Amp. Pentode	4.75
803	Power Amp. Pentode	24.50
804	Power Amp. Pentode	17.50
805	Power Amp. Osc. Triode	13.50
806	Power Amp. Triode	34.25
807	Beam Power Amp.	2.50
808	Power Amp. Osc. Triode	10.75
809	Power Amp. Mod. Triode	4.00
810	Power Amp. Mod. Triode	14.50
811	High Mu Triode	3.30
812	Low Mu Triode	4.05
812H	R. F. Amp. Osc. Mod. Triode	7.50
813	Beam Power Amp.	$16.00
814	Beam Power Amp.	14.25
815	U. H. F. Beam Power Amp.	6.90
816	H. W. Mercury Vapor Rectifier	1.30
826	U. H. F. Med. Mu Triode	12.50
828	Beam Power Amp.	13.75
834	U. H. F. Power Amp. Triode	14.50
836	H. W.-H. V. Rectifier	8.25
837	Power Amp. Pentode	4.75
838	Power Amp. Triode	13.75
843	Power Amp. Triode	2.30
845	A. F. Power Amp. Triode	13.75
852	Power Amp. Triode	32.00
865	Tetrode Amp.	11.50
866A	H. W.-M. V. Rectifier	1.95
866JR	H. W.-M. V. Rectifier	1.30
872A	H. W.-M. V. Rectifier	8.20
873	H. W.-M. V. Rectifier	17.25
1616	H. W.-H. V. Rectifier	8.65
1624	Beam Power Amp.	4.00
1625	Beam Power Amp.	2.65
1626	Low Mu Amp.	1.85

SPECIAL PURPOSE TYPES

SPECIAL PURPOSE TUBES

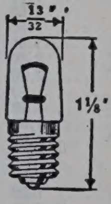
0A2	Cold Cathode Voltage Regulator (Min.)	$4.35
0A3/VR75	Diode Voltage Regulator	2.65
0A4G	Cold Cathode Gas Triode	2.65
0B2	Voltage Regulator (Min.)	4.35
0B3/VR90	Diode Voltage Regulator	2.65
0C3/VR105	Diode Voltage Regulator	2.65
0D3/VR150	Diode Voltage Regulator	2.65
2A4G	Thyratron	4.80
2C53	High Mu Triode Amp.	15.00
2D21	Thyratron Gas (Min.)	2.00
2V3G	Half Wave Rectifier	3.15
2X2A	High Voltage H. W. Rectifier	4.35
3A4	Power Amp. Pentode (Min.)	1.20
3D22	Grid Cont. Gas Rectifier	13.25
5R4GY	F. W. High Vacuum Rectifier	1.50
6AJ5	U. H. F. Pentode	3.50
6D4	Thyratron (Min.)	$2.85
12L8GT	Twin Pentode Power Amp.	2.25
FG17	Thyratron Triode	6.50
25A7GT	Power Pentode and H. W. Rectifier	3.50
28D7	Twin Beam Power Amp.	1.80
878	H. W. High Vacuum Rectifier	12.75
884	Thyratron Triode	1.85
885	Grid Controlled Gas Rectifier	2.00
R1038	Ionization Gauge	29.50
1620	Pentode Det. Amp.	6.60
1621	Power Amp. Pentode	2.15
1622	Beam Power Amp.	2.30
1654	H. W.-H. V. Rectifier	4.55
2050	Grid Controlled Gas Rectifier	1.85
2051	Grid Controlled Gas Rectifier	1.90

Tubes here listed represent the faster moving types and are maintained for prompt delivery. This list is continually being supplemented and inquiries are therefore invited on any types not shown.

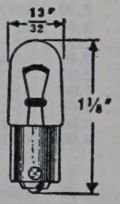
PANEL LAMPS • Shock Tested • Torque Tested • Life Tested • Brighter Service—Longer

TYPE No.	Rated Volts	Amps.	Base	Bead Color	Bulb Style	LIST PRICE‡
N-13	3.8	.30	Screw	Green	G3½	$.10
N-14	2.5	.30	Screw	Blue	G3½	.10
N-40*	6-8	.15	Screw	Brown	T3¼	.10
N-40A	6-8	.15	Bayonet	Brown	T3¼	.10
N-41*	2.5	.50	Screw	White	T3¼	.10
N-42	3.2	.35	Screw	Green	T3¼	.12
N-43	2.5	.50	Bayonet	White	T3¼	.10
N-44*	6-8	.25	Bayonet	Blue	T3¼	.10
N-45	3.2	.35	Bayonet	Green	T3¼	.12
N-46*	6-8	.25	Screw	Blue	T3¼	.10
N-47*	6-8	.15	Bayonet	Brown	T3¼	.10
N-48	2.0	.06	Screw	Pink	T3¼	.15
N-49	2.0	.06	Bayonet	Pink	T3¼	.15
N-50*	6-8	.20	Screw	White	G3½	.10
N-51*	6-8	.20	Bayonet	White	G3½	.09
N-55*	6-8	.40	Bayonet	White	G4½	.09
N-292	2.9	.17	Screw	White	T3¼	.13
N-291	2.9	.17	Bayonet	White	T3¼	.13
N-292A	2.9	.17	Bayonet	White	T3¼	.13
N-1455	18.0	.25	Screw	Brown	G5	.12
N-1455A†	18.0	.25	Bayonet	Brown	G5	.12
N-1456†	18.0	.25	Bayonet	Brown	G5	.12
N-1490	3.2	.16	Bayonet	White	T3¼	.11

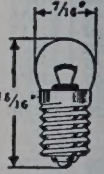
*Used also in Coin Operated Machines. †Used also in Toy Trains.



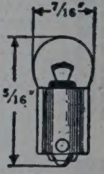
T3¼



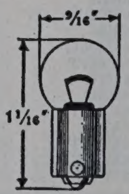
T3¼



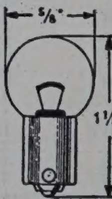
G3½



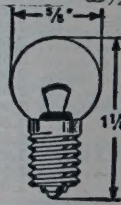
G3½



G4½



G-5



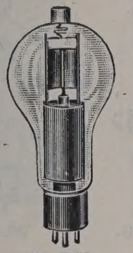
G-5

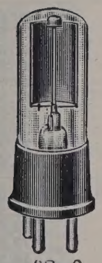
PACKING: 10 Lamps to the Unit Carton. 20 Unit Cartons (200 lamps) to the Standard Package.

All prices and types on this page subject to change and/or withdrawal without notice.

WESTINGHOUSE ELECTRONIC TUBES

PHOTOTUBES


WL-767
WL-773
WL-775

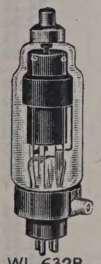

SR-50
SR-53

Type Number	Spectral Ranges Au.	Vacuum or Gas	Cathode Surface	Luminous Sensitivity Microamperes per lumen (o cycles)	Anode Volts Max.	List Price
WL-1P29	3300–9000	Gas	S3	40	100	**$ 2.95**
SR-50		REPLACEMENT ONLY				**7.35**
SR-53		REPLACEMENT ONLY				**10.50**
SK-60		REPLACEMENT ONLY				**7.35**
SK-63		REPLACEMENT ONLY				**10.50**
WL-734	4000–12000	Vac.	S1	15	500	**2.75**
WL-767	2000–3150	Vac.	Zirconium	—	500	**82.50**
WL-773	2000–3675	Vac.	Thorium	—	500	**82.50**
WL-775	2000–3000	Vac.	Tantalum	—	500	**82.50**
WL-789	Below 2100	Vac.	Platinum	—	500	**137.50**
WL-868	4000–12000	Gas	S1	90	90	**2.50**
WL-917	4000–12000	Vac.	S1	20	500	**3.50**
WL-918	4000–12000	Gas	S1	150	90	**2.85**
WL-919	4000–12000	Vac.	S1	20	500	**3.50**
WL-920	4000–12000	Gas	S1	75	90	**4.15**
WL-921	4000–12000	Gas	S1	135	90	**1.95**
WL-922	4000–12000	Vac.	S1	20	500	**1.95**
WL-923	4000–12000	Gas	S1	135	90	**2.05**
WL-924	4000–12000	Gas	S1	55	90	**2.60**
WL-925	4000–12000	Vac.	S1	15	250	**2.15**
WL-926	3300–9000	Vac.	S3	6.5	500	**2.90**
WL-927	4000–12000	Gas	S1	125	90	**2.50**
WL-928	4000–12000	Gas	S1	65	90	**3.15**
WL-929	3000–6700	Vac.	S4	45	250	**1.75**
WL-930	4000–12000	Gas	S1	135	90	**1.65**
WL-931A ‡	3000–6700	Vac.	S4	*	1250	**9.75**

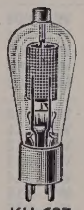
*Sensitivity 10 amps. per lumen at 100 volts per stage.
‡ Multiplier.

THYRATRONS

GRID CONTROLLED GAS OR MERCURY VAPOR RECTIFIERS


WL-632B

KU-676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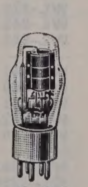
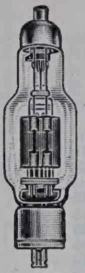

WL-629

Type Number	Filament		Volts Peak Inverse	Amps. Peak	Amps. Ave.	Gas	Number of Electrodes	List Prices
	Volts	Amps.						
WL-2D21	6.3	0.6	1300	0.5	0.1	Inert	4	**$ 2.00**
WL-3C23	2.5	7.0	1250	6.0	1.0	Hg.	3	**12.50**
WL-33	5.0	4.5	1000	15.0	2.5	Hg.	3	**21.00**
WL-41	5.0	20.0	10000	75.0	12.5	Hg.	3	**182.00**
WL-81A	2.5	5.0	500	2.0	0.5	Inert	3	**16.00**
WL-105	5.0	10.0	2500	40.0	6.4	Hg.	4	**48.00**
WL-172	5.0	10.0	2000	40.0	6.4	Hg.	4	**50.00**
WL-414	5.0	20.0	2000	100.0	12.5	Hg.	4	**120.00**
WL-502A	6.3	0.6	1300	0.5	0.1	Inert	4	**1.85**
KU-610	2.5	6.5	500	0.4	0.1	Inert	3	**22.00**
KU-618		REPLACEMENT ONLY						**15.75**
WL-624	5.0	10.0	2500	77.0	6.4	Hg.	3	**44.00**
KU-627	2.5	6.0	5000	2.5	0.64	Hg.	3	**17.25**
KU-628	5.0	11.5	2500	8.0	2.0	Hg.	3	**30.50**
WL-629	2.5	2.6	350	0.2	0.04	Inert	3	**10.00**
WL-632B	5.0	5.0	1500	30.0	2.5	Hg.	4	**23.00**
KU-636	2.5	7.5	350	0.4	0.1	Inert	3	**22.00**
WL-672A	5.0	5.0	2500	40.0	3.2	Hg.	4	**26.50**
KU-676	5.0	10.0	2500	40.0	6.4	Hg.	3	**48.00**
WL-677	5.0	10.0	10000	15.0	4.0	Hg.	3	**48.00**
WL-678	5.0	7.5	15000	6.0	1.6	Hg.	3	**40.00**
WL-759		REPLACEMENT ONLY						**18.00**
WL-884	6.3	0.6	350	0.3	0.075	Inert	3	**1.85**
WL-885	2.5	1.5	350	0.3	0.075	Inert	3	**2.00**
WL-2050	6.3	0.6	1300	1.0	0.1	Inert	4	**1.85**
WL-5557/17	2.5	5.0	5000	2.0	0.5	Hg.	3	**7.00**
WL-5559/57	5.0	4.5	1000	15.0	2.5	Hg.	3	**19.50**
WL-5664	2.5	6.3	1250	8.0	1.0	Inert	3	**8.90**
WL-5683	2.5	6.3	1250	8.0	1.0	Inert	3	**8.90**
WL-5684	2.5	9.0	1250	30.0	2.5	Inert	3	**14.20**
WL-5685	2.5	21.0	1250	77.0	6.4	Inert	3	**30.40**

Prices subject to change without notice.

WESTINGHOUSE ELECTRONIC TUBES

PLIOTRONS — Modulators, Amplifiers, Oscillators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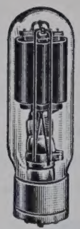
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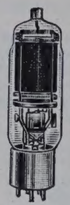
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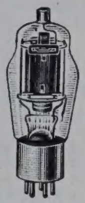
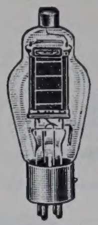

WL-807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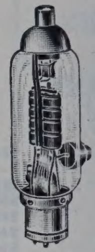
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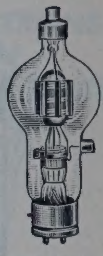

WL-806

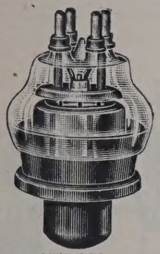
Type Number	Filament Volts	Filament Amps.	Max. Plate D-C** Volts	Max. Plate D-C** Ma.	Max. Plate Diss** Watts	Plate Output Watts Class C	Ampl. Factor	Max. MC For 100% Input	List Prices
WL-3X2500A3#	7.5	48	5000	2000	2500	7500	20	50	**$ 180.00**
WL-4D21 4-125A	5.0	6.5	3000	225	125	375	Tetrode	120	**27.50**
WL-4X150A#	6.0	2.8	1000	250	150	74	Tetrode	500	**34.00**
WL-4X500A#	5.0	13.5	4000	350	500	1320	Tetrode	120	**97.50**
WL-4-1000A	7.5	21.0	5000	700	1000	2200	Tetrode	110	**120.00**
WL-5D22/4-250A	5.0	14.5	4000	350	250	1000	Tetrode	75	**37.50**
WL-195	10.0	3.25	3000	150	125	325	12	15	**30.50**
WL-196	10.0	3.25	3000	150	125	325	35	15	**30.50**
WL-203A	10.0	3.25	1250	175	100	120	25	15	**13.75**
WL-204A	11.0	3.85	2500	275	250	450	23	3	**115.00**
WL-207	22.0	50.00	15000	2000	10000	20000	20	1.6	**242.00**
WL-211	10.0	3.25	1250	175	100	130	12	15	**12.50**
WL-285	10.0	3.25	1350	200	100	170	12	20	**20.00**
WL-450TH	7.5	12.0	6000	600	450	1800	38	40	**70.00**
WL-460	10.0	3.85	3000	200	150	400	18	30	**30.50**
WL-463	11.0	5.00	2500	275	200	550	22	30	**43.00**
WL-468	10.0	3.85	2500	200	150	400	18	6	**28.50**
WL-473#	6.0	60.00	5000	1400	2500	3900	22	60	**144.00**
RH-507	2.0	0.06	9	0.6	.....	.....	0.8	.....	**33.50**
RJ-550			REPLACEMENT ONLY						**17.25**
RJ-563			REPLACEMENT ONLY						**29.00**
RJ-571			REPLACEMENT ONLY						**15.75**
▲WL-787	6.0	1.60	650	.....	.....	.....	2	.....	**44.00**
WL-801A	7.5	1.25	600	70	20	25	8	60	**3.75**
WL-802	6.3	0.90	600	60	10	15	.....	30	**4.75**
WL-803	10.0	5.00	2000	175	125	225	.....	20	**24.25**
WL-805	10.0	3.25	1500	210	125	215	50	30	**13.50**
WL-806	5.0	9.50	3000	200	150	450	12.6	30	**34.25**
WL-807	6.3	0.90	600	100	25	40	.....	60	**2.50**
WL-808	7.5	4.00	1500	150	50	150	47	30	**10.75**
WL-809	6.3	2.50	750	100	25	55	50	60	**4.00**
WL-810	10.0	4.50	2000	250	125	375	36	30	**14.50**
WL-811	6.3	4.00	1250	125	40	115	160	60	**3.30**
WL-812	6.3	4.00	1250	125	40	115	29	60	**3.00**
WL-813	10.0	5.00	2000	180	100	260	.....	30	**16.00**
WL-814	10.0	3.25	1250	150	50	130	.....	30	**14.25**
WL-815	6.3	1.60	400	150	20	44	.....	150	**6.90**
WL-826	7.5	4.00	1000	65	60	25	31	250	**12.50**
WL-828	10.0	3.25	1250	160	70	150	.....	30	**13.75**
WL-829B	°6.3	°1.125	750	240	40**	87**	.....	200	**16.25**
WL-832A	°6.3	°0.80	750	90	15	26	.....	200	**11.75**
WL-833A	10.0	10.00	4000	500	400	1440	35	20	**49.50**
WL-837	12.6	0.70	500	80	12	20	.....	20	**4.75**
WL-838	10.0	3.25	1250	175	100	130	54	30	**13.75**
WL-845	10.0	3.25	1250	120	100	57	5.3	.....	**13.75**
WL-849	11.0	5.00	2500	350	400	560	19	3	**138.00**
WL-851	11.0	15.50	2500	1000	750	1750	20.5	3	**253.00**
WL-860	10.0	3.25	3000	150	100	200	.....	30	**34.50**
WL-861	11.0	10.00	3500	350	400	800	.....	20	**178.25**
WL-862A	33.0	207.0	20000	10000	100000	100000	45	1.6	**1,150.00**
WL-880	12.6	315.00	10500	6000	20000	45000	20	25	**483.00**
WL-889A	11.0	120.00	8500	2000	5000	10000	21	50	**210.50**
WL-889RA	11.0	120.00	8500	2000	5000	10000	21	40	**308.00**
★WL-891	22.0	60.00	12000	2000	6000	12000	8	1.6	**223.00**
★WL-891R	22.0	60.00	10000	2000	4000	11000	8	1.6	**377.75**
★WL-892	22.0	60.00	15000	2000	10000	20000	50	1.6	**223.00**

See notes at end of this table on next page.

(PLIOTRONS continued on next page)

Prices subject to change without notice.

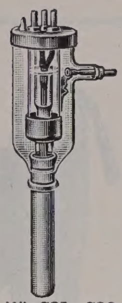
WESTINGHOUSE ELECTRONIC TUBES

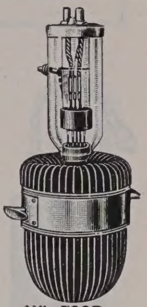

WL-880

WL-889A

PLIOTRONS— Cont'd

MODULATORS
AMPLIFIERS
OSCILLATORS


WL-891, 892


WL-892R

Type Number	Filament Volts	Filament Amps.	Max. Plate D-C** Volts	Max. Plate D-C** Ma.	Max. Plate Diss** Watts	Plate Output Watts Class C	Ampl. Factor	Max. MC For 100% Input	**List Prices**
★**WL-892R**	22.0	60.00	12500	2000	4000	14000	50	1.6	**$ 377.75**
‡**WL-893A**	20.0	183.00	20000	4000	20000	50000	36	5	**630.00**
‡**WL-893AR**	20.0	183.00	20000	4000	20000	50000	36	5	**1,150.00**
†**WL-895**	19.0	138.00	17000	9000	40000	100000	37	6	**866.00**
‖**WL-895R**	19.0	138.00	17000	9000	20000	90000	37	6	**1,180.00**
WL-1000T	7.5	17.0	7500	750	1000	3000	35	50	**125.00**
WL-1623	6.3	2.50	750	100	25	55	20	60	**4.05**
WL-5604#	11.0	176.00	12500	3000	10000	22500	19.5	22.5	**540.00**
WL-5619	11.0	176.0	12500	3000	20000	22500	19.5	22.5	**390.00**
WL-5671#	11.0	285.0	15000	8000	25000	75000	39	10	**1,425.00**
★**WL-5705**	22.0	60.0	15000	2000	10000	20000	50	1.6	**223.00**
°**WL-5706**#	22.0	60.0	12500	2000	4000	14000	50	1.6	**377.75**
WL-5736#	6.0	60.0	5000	1400	2500	3900	22	60	**144.00**
WL-8000	10.0	4.50	2000	250	125	375	16.5	30	**14.50**
WL-8003	10.0	3.25	1350	250	100	256	12	30	**13.00**
WL-8005	10.0	3.25	1250	200	75	170	20	60	**7.40**
WL-8025A	6.3	1.92	1000	80	40	35	18	500	**10.00**

▲ Demonstration Triode.

** Max. C.C.S. ratings in Class C oscillator service.

★ Two filament strands in series with large post at neutral junction; operate in series at 22 volts or two phase with 11 volts per strand.

★★ This rating applies only with forced air cooling.

° Per unit, heater can be arranged to operate from either a 6.3 or 12.6 volt supply.

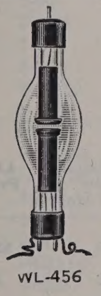
‡ Six filament strands connected from each post to floating neutral. See individual data sheets for connections.

† Three filament terminals Y-connected in 3 phase.

‖ Three filament terminals Y-connected in 3 phase with neutral center terminal.

or R Indicates forced air-cooled radiator.

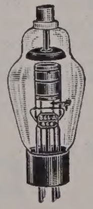
KENOTRONS — Vacuum Rectifiers

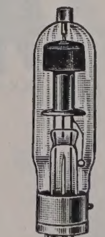

WL-456

Type Number	Filament Volts	Filament Amperes	Anode Volts Peak Inverse	Anode Amp. Peak	Amp. Average	Type of Cooling	**List Price**
WL-456	11.0	20	140000	0.50	0.06	Air	**$100.00**
WL-481	2.5	5	25000	0.015	0.005	Air	**4.50**
WL-579B	2.5	6	20000	0.27	0.025	Air	**13.20**
WL-585	5.0	1.1	1500	0.011	0.003	Air	**17.25**
WL-608		REPLACEMENT ONLY					**168.00**
WL-612		REPLACEMENT ONLY					**299.00**
WL-613		REPLACEMENT ONLY					**210.00**
WL-616	20.0	24.5	150000	0.75	0.25	Air	**230.00**
WL-660	10.0	10	230000	0.10	0.03	Air	**273.00**
WL-836	2.5	5	5000	1.0	0.25	Air	**8.25**
WL-8020	5.0	6	40000	0.75	0.1	Air	**22.00**

PHANOTRONS — Gas and Mercury Vapor Rectifiers

Type Number	Filament Volts	Filament Amperes	Anode Volts Peak Inverse	Anode Amp. Peak	Amp. Average	Type of Cooling	**List Price**
WL-5558/32	5.0	4.5	1000	15	2.5	Convection	**$14.00**
WL-5561/104	5.0	10.0	3000	40	6.4	Convection	**38.00**
WL-575A	5.0	10.0	15000	6	1.5	Convection	**25.25**
WL-670A	2.5	24	1000	9.5	6.0	Air	**15.75**
WL-816	2.5	2	5000	.5	.125	Air	**1.30**
WL-857B	5.0	30	22000	40	10.0	Forced Air	**209.00**
WL-866A	2.5	5	10000	1	0.25	Air	**1.95**
WL-869B	5.0	18	20000	10	2.5	Forced Air	**132.00**
WL-872A/872	5.0	7.5	10000	5	1.25	Air	**8.20**
WL-8008			Same as WL-872A/872 except for Base				**8.20**

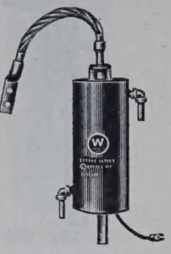

WL-866A


WL-872A/872

Prices subject to change without notice.

WESTINGHOUSE ELECTRONIC TUBES

WL-5550/681



WL-5552/651

IGNITRONS

WELDER CONTROL SERVICE

Type Number	Size	RMS Volts Range	Max. KVA Demand and Corresponding Average Current		Max. Aver. Current and Corresponding KVA Demand		Type Cooling	List Price
			KVA	Amps	KVA	Amps		
WL-5550/681	A	200–600	300	12.1	100	22.4	Clamp	**$ 44.00**
WL-5551/652	B	200–600	600	30.2	200	56	Water	**73.50**
WL-5552/651	C	200–600	1200	75.6	400	140	Water	**110.00**
WL-5553/655	D	200–600	2400	192.0	800	355	Water	**241.00**
WL-5554/679		2400	1200	75.0	300	113	Water	**173.00**
WL-5555/653B		2400	2400	135.0	1105	207	Water	**336.00**
WL-654/659	Replacement only							**100.00**

WL-5555/653B

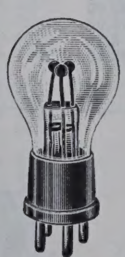
IGNITRONS

POWER RECTIFICATION SERVICE

Type Number	D-C Output Voltage	Max. Average Amps Per Tube			Type Cooling	List Price
		Continuous	2-Hour Overload	1 Min. Overload		
WL-5554/679	300 600	100 75	150 112.5	200 150	Water Water	**$173.00**
WL-5555/653B	300 600	200 150	300 225	400 300	Water Water	**336.00**

MISCELLANEOUS

Type Number	Use	Cathode	D-C Anode Volts Min	D-C Operating Current Ma	D-C Operating Volts	Regulation Volts (5–40 Ma)	List Price
OA3/VR75	Voltage Regulator	Cold	105	5–40	75	5	**$1.35**
OC3/VR105	Voltage Regulator	Cold	133	5–40	105	2	**1.35**
OD3/VR150	Voltage Regulator	Cold	185	5–40	150	4	**1.30**

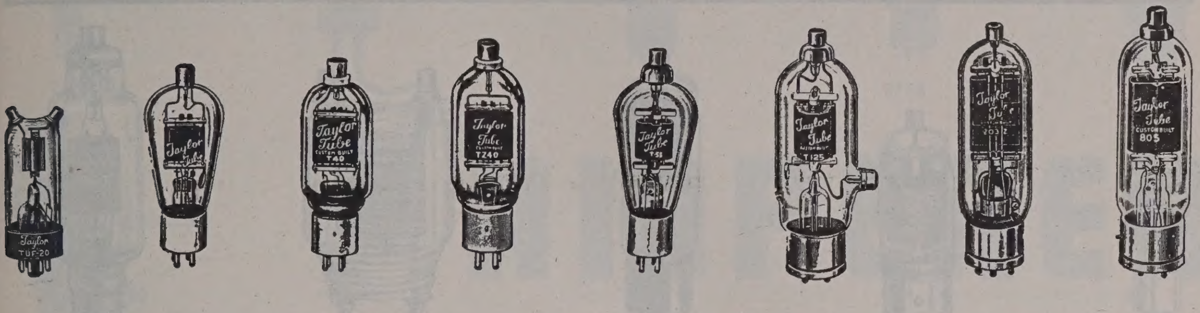


KX-642

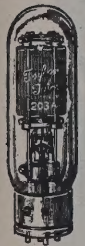
Type Number	Use	Volts, RMS		Current		List Price
		Breakdown	Maximum Operating	Maximum 2 Sec.	Maximum 10 Min.	
KX-642	Protector	300–500	230	50 Amps.	7 Amps.	**$12.60**

Prices subject to change without notice.

Taylor CUSTOM BUILT Tubes



Taylor TUF-20
Taylor Tube
Taylor Tube T40
Taylor Tube TZ40
Taylor Tube
Taylor Tube T125
Taylor Tube 203Z
Taylor Tube Custom Built 805



Taylor Tube 203A

Taylor Tube 838

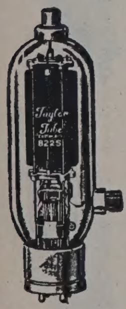
TAYLOR TUBE DISTRIBUTORS ARE AUTHORIZED TO REPRESENT THE FACTORY AS SALES AGENTS IN SOLICITING AND HANDLING BUSINESS WITH ELECTRONIC EQUIPMENT MANUFACTURERS.

TRIODES

Taylor Tube 211

Taylor Tube 845

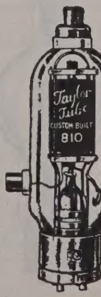
	Filament		Max. Plate			Max.			Size		Max. Mg.	
Type	Volts	Amps	Dissipation Watts	D.C. Volts	D.C. M.A.	Grid Drive Watts	Amp. Factor	Base	L.	D.	For 100% Input	Price
TUF-20	6.3	2.75	20	750	100	6.0	10	OCTAL	3.75	1.5	250	$5.50
T-20	7.5	1.75	20	750	85	3.5	20	4 P.MED.	6.0	2.37	60	2.75
TZ-20	7.5	1.75	20	750	85	3.5	62	4 P.MED	6.0	2.37	60	2.75
T-40	7.5	3.0	40	1500	150	9.0	25	4 P.MED.	6.25	2.5	60	3.95
TZ-40	7.5	3.0	40	1500	150	9.0	62	4 P.MED.	6.25	2.5	60	3.95
T-55	7.5	3.0	55	1500	165	7.0	20	4 P.MED.	7.0	2.62	125	6.50
T-60	10.0	3.0	60	1500	150	9.0	15	4 P.MED.	6.75	2.5	60	7.00
TW-75	7.5	4.15	75	2000	175	13.0	20	4 P.MED.	6.25	3.25	125	9.00
T-100	10.0	3.0	75	1500	150	9.0	23	4 P.MED.	7.62	2.67	60	12.50
T-125	10.0	4.5	125	2500	250	12.5	25	4 P.JUM.	8.25	3.0	60	13.50
TW-150	10.0	4.1	150	3000	200	17.0	35	4 P.JUM.	8.75	3.87	60	16.00
T-200	10.0	5.75	200	2500	350	20.0	17	4 P.JUM.	9.5	3.75	30	21.50
203A	10.0	3.25	100	1250	175	10.0	25	4 P.JUM.	7.5	2.32	20	12.00
HD203A	10.0	4.0	150	1750	250	15.0	25	4 P.JUM.	9.5	2.5	20	14.50
HD203C	10.0	4.0	150	1750	250	15.0	25	4 P.JUM.	9.5	2.5	20	14.50
203Z	10.0	3.25	75	1250	175	10.0	85	4 P.JUM.	8.25	2.32	20	9.00
211	10.0	3.25	100	1250	175	10.0	12	4 P.JUM.	7.5	2.32	20	12.00
211C	10.0	3.25	100	1250	175	10.0	12	4 P.JUM.	7.5	2.32	20	12.50
HD211C	10.0	4.0	150	1750	175	15.0	12	4 P.JUM.	9.5	2.5	20	14.50
T-300	10-11	6.0	300	3000	300	18.0	23	4 P.JUM.	12.0	4.87	30	30.00
805	10.0	3.25	125	1750	210	10.0	45	4 P.JUM.	8.5	2.32	30	10.00
810	10.0	4.5	125	2250	275	15.0	36	4 P.JUM.	8.75	3.0	30	12.50
814	10.0	4.0	200	2500	300	17.0	12	4 P.JUM.	9.0	2.62	30	18.50
822	10.0	4.0	200	2500	300	17.0	30	4 P.JUM.	9.0	2.62	30	18.50
822-S	10.0	4.0	200	2500	300	17.0	30	4 P.JUM.	9.0	3.0	30	21.50
833A	10.0	10.0	400	4000	500	40.0	35	SPEC.	8.62	4.62	75	50.00
838	10.0	3.25	100	1250	175	10.0	45	4 P.JUM.	7.87	2.32	20	12.00
845	10.0	3.25	100	1230	175	10.0	5	4 P.JUM.	7.5	2.32	20	12.00



Taylor Tube 822S

Taylor Tube 822

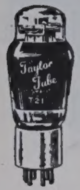
Taylor Tube T200



Taylor Tube Custom Built 810

"More Watts per Dollar"

Taylor CUSTOM BUILT Tubes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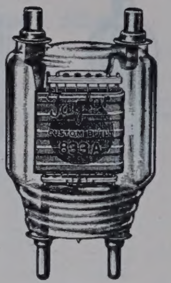
T21

Taylor Tube
813

Taylor Tube
803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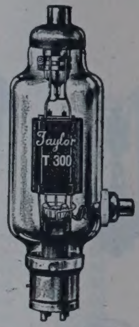
CUSTOM BUILT
833A

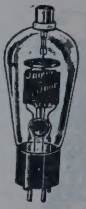

Taylor
T 300

Taylor Tube
TT-17

TETRODES AND PENTODES

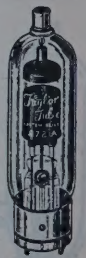
Type	—Filament— Volts	Amps	——Max. Plate—— Dissipation Watts	D.C. Volts	D.C. M.A.	Max. Grid Drive Watts	Amp. Factor	Base	—Size— L.	D.	Max. Mg. For 100% Input	Price
T-21	6.3	0.9	21	400	95	0.4	138	6 PIN	5.37	2.06	60	$2.50
282-A	10.0	3.0	75	1000	100	8.0	100	4 P.MED.	6.75	2.25	50	22.50
803	10.0	5.0	125	2000	160	4.0		5 P.JUM.	9.37	2.56	20	21.00
813	10.0	5.0	100	2000	180	1.5		7 P.JUM.	7.5	2.56	30	14.50

Taylor Tube
873



HALF WAVE RECTIFIERS AND *CONTROL TUBES

Type	——Filament—— Volts	Amps	———Anode——— Volts Peak Inverse	Amps. Peak	Amps. Average	Base	Price
866 JR	2.5	2.5	5000	.5	.125	4 P.Med.	$1.25
866A	2.5	5.0	10000	1.0	.250	4 P.MED.	1.75
249B	2.5	7.5	10000	1.5	.375	4 P.MED.	5.00
872A	5.0	6.75	10000	5.0	1.25	4 P.JUM.	7.50
8008	5.0	6.75	10000	5.0	1.25	SPEC.	7.50
875A	5.0	10.0	15000	6.0	1.5	4 P.JUM.	30.00
*TT-17	2.5	5.0	2500	2.0	0.5	4 P.MED.	6.50
*873	5.0	6.75	3000	10.0	2.5	4 P.JUM.	17.25


Taylor Tube
872A

TRIODES — CLASS B AUDIO

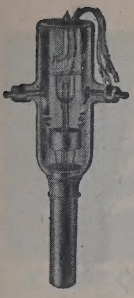
(Ratings for 2 Tubes)

Type	Max. Plate Volts	Max. Plate Curr.	Zero Sig. Plate Curr.	Max. Sig. Drive Power Watts	Bias Volts	Plate To Plate Load Ohms	Power Output Watts
TZ-20	800	136	20	1.8	0	12,000	70
	1000	280	35	5.5	0	7,350	175
TZ-40	1250	280	32	6.0	—4.5	10,000	225
	1500	250	28	6.0	—9	12,000	250
838	1000	320	70	7.0	0	6,900	200
	1250	320	100	7.5	0	9,000	260
203Z	1000	350	36	6.5	0	6,200	230
	1250	350	30	6.75	—4.5	8,000	300
805	1250	400	102	6.0	0	6,700	300
	1500	400	48	7.0	—16	8,200	370
810	1500	500	52	12.	—30	6,600	510
822	2000	500	50	7.2	—45	9,500	720
	2500	500	50	7.4	—57.5	12,000	900
	3000	450	50	8.0	—67.5	16,000	1000

Taylor Tube
CUSTOM BUILT
TR40M

Taylor Tube
875A

Ask for the Taylor Tubes Manual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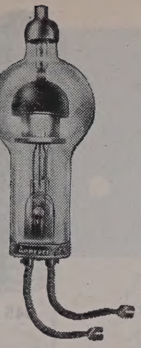
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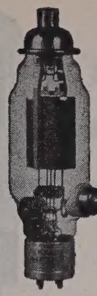
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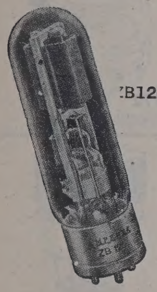
575A

805

HF200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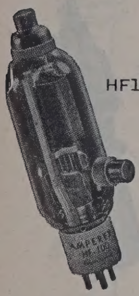
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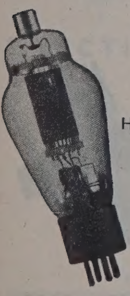

HF60

VC25
VC50
VC100

3C22

AMPEREX

RADIATION COOLED TYPES

TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.
AB-150	$20.00	10.0	3.25
HF- 60	7.00	10.0	2.50
HF-100	13.50	10.0	2.50
HF-120	15.00	10.0	3.25
HF-125	20.00	10.0	3.25
HF-130	17.50	10.0	3.25
HF-140	15.00	10.0	3.25
HF-150	17.50	10.0	3.25
HF-175	20.00	10.0	4.00
HF-200	24.50	10.5	4.00
HF-201A	24.50	10.0	4.00
HF-250	27.50	10.5	4.00
HF-300	35.00	11.0	4.00
ZB- 60	7.00	6.3	4.00
ZB-120	12.50	10.0	2.50
111H	15.00	10.0	2.50
203A	13.75	10.0	3.25
203H	20.00	10.0	3.25
204A	115.00	11.0	3.85
211	13.75	10.0	3.25
211C	17.50	10.0	3.25
211D	15.00	10.0	3.25
211H	17.50	10.0	3.25
212E, F	90.00	14.0	6.00
241B	90.00	14.0	6.00
242C	13.50	10.0	3.25
251A	234.00	10.0	16.00

TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.
261A	$17.50	10.0	3.25
270A	194.70	10.0	9.75
276A	15.00	10.0	3.25
279A	374.00	10.0	21.00
304B	14.50	7.5	3.25
308B	90.00	14.0	6.00
5331	8.50	10.0	2.5
5332	8.00	10.0	2.5
801A	3.75	7.5	1.25
803	24.25	10.0	5.0
805	13.50	10.0	3.25
807	2.50	6.3	0.9
810	14.50	10.0	4.50
811	3.30	6.3	4.0
812	4.05	6.3	4.0
813	16.00	10.0	5.0
830B	11.50	10.0	2.50
833A	49.50	10.0	10.00
834	14.50	7.5	3.25
838	13.75	10.0	3.25
841	4.35	7.5	1.25
845	13.75	10.0	3.25
849	138.00	11.0	5.00
849A	135.00	11.0	7.70
849H	135.00	10.0	11.50
851	253.00	11.0	15.50
8005	7.40	10.0	3.25

FULLY INTERCHANGEABLE: Type 203H with Amperex HF125, Type 211 C with Amperex HF130, Type 211H with Amperex HF150.

FORCED-AIR COOLED TYPES

TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.
889RA*	$308.00	11.0	125.0
891R*	377.75	11.0▼	60.0
892R*	377.75	11.0▼	60.0
893AR*	1150.00	10.0‡	61.0

TYPE NO.	PRICE	FILAMENT	
		Volts	Amps.
8002R	$158.00	16.0	38.0
HF3000§	300.00	21.5	40.5
ZB3200§	300.00	21.5	40.5

* Credits will be allowed for return of radiator and crate in good condition prepaid to factory in Brooklyn, N. Y, in accordance with this schedule.

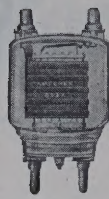
$30.00	for Type No.	889-RA
45.00	" "	Nos. 891-R, 892-R
50.00	" "	Nos. 220-R, 228-R
150.00	" "	No. 893-AR

▼Single or two-phase filament (two units); voltage is per unit.
‡Single-, three- or six-phase filament (three sections). Voltage is per section.
§All glass radiation and air-cooled transmitting tubes.

HELPFUL CHARTS AND LITERATURE FREE: Write for set of INTERCHANGEABILITY CHARTS, information at a glance, RAPID TUBE DATA REFERENCE TABLES, 8 pages of condensed information arranged for quick reference. Address your distributor of Amperex direct.

(See next page for more AMPEREX tubes)

813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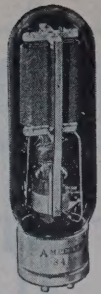
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866A/866

ELECTRONIC TUBES

COMMUNICATION - RECTIFICATION - INDUSTRIAL ELECTRO-MEDICAL - SPECIAL PURPOSE

WATER COOLED TYPES

TYPE NO.	PRICE	FILAMENT Volts	FILAMENT Amps.
207	$242.00	22.0	52.0
220C	350.00	21.5	41.0
228A	290.00	21.5	41.0
232C	450.00	20.0	72.0
233	500.00	24.0	70.0
342A	450.00	20.0	67.0
343A	350.00	21.5	57.5
846	250.00	11.0	51.0
858	500.00	22.0	52.0
859	400.00	11.0▼	71.0
889A	210.50	11.0	125.0
891	223.00	11.0▼	60.0
892	223.00	11.0▼	60.0
893A	630.00	10.0‡	61.0

▼Single or two-phase filament (two units); voltage is per unit.

‡ Single-, three- or six-phase filament (three sections). Voltage is per section.

RADIATION COOLED HIGH VACUUM RECTIFIERS

TYPE NO.	PRICE	FILAMENT Volts	FILAMENT Amps.
217C	$21.50	10	3.25
221A	20.00	5	10
404	190.00	20	35
836	8.25	2.5	5
1616	8.65	2.5	5.0
8020	22.00	5	6

HIGH VACUUM CONDENSERS

TYPE NO.	CAPACITY	RATING	PRICE
VC25	25 uuf	32,000 Volts Peak	$19.00
VC50	50 uuf	32,000 Volts Peak	22.50
VC100	100 uuf	32,000 Volts Peak	27.50

MERCURY VAPOR RECTIFIERS

TYPE NO.	PRICE	FILAMENT Volts	FILAMENT Amps.
249B, C	$7.00	2.5	7.50
258B	9.85	2.5	7.50
266B, C	190.00	5.0	42.0
267B	23.00	5.0	6.75
315A	35.00	5.0	10.00
575A	24.25	5.0	10.00
673	24.25	5.0	10.00
816	1.30	2.5	2.00
857B	209.00	5.0	30.00
866A/866	1.95	2.5	5.00
869B	132.00	5.0	20.00
872A/872	8.25	5.0	6.75
8008	8.25	5.0	6.75

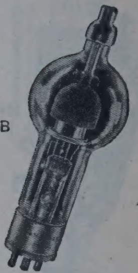
WATER COOLED— HIGH VACUUM RECTIFIERS

TYPE NO.	PRICE	FILAMENT Volts	FILAMENT Amps.
222A	$235.00	21.5	41.0
237A	435.00	20.0	61.0
562	300.00	22.0	52.0

WATER JACKETS

TYPE NO.	Suitable for these Amperex types:
DW-1580	207, 494, 495, 496, 497, 891, 892.
DW-2000	220C, 222A, 232C, 233, 237A, 342A, 343A.
DW-2100	889A.
DW-2200	501, 502, 8002.
DW-2500	858, 859, 562A.
DW-2600	846.

NOTE: Amperex Water Jackets fit interchangeable tube types of other makers.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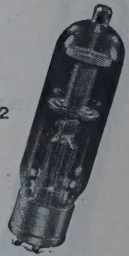
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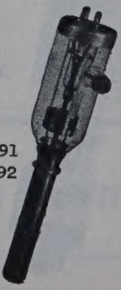
889A

889R-A

AMPEREX

ELECTRONIC CORPORATION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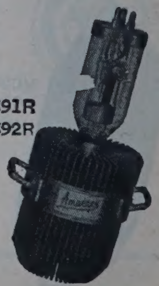
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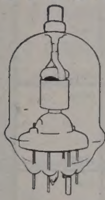
Eimac REG. U. S. PAT. OFF. **TUBES**

PROVEN IN SERVICE

ASSURED DEPENDABILITY

DESIGNED FOR APPLICATION

TETRODES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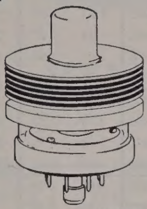
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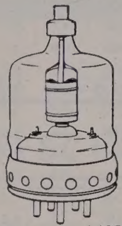
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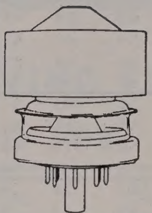
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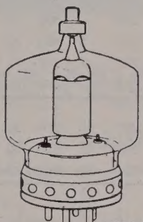
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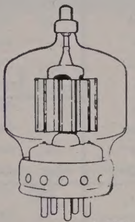
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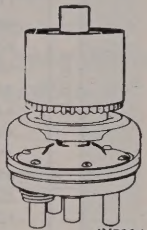
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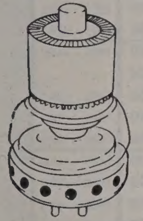
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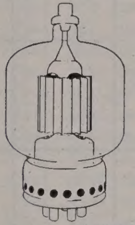
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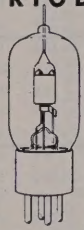
TRIODES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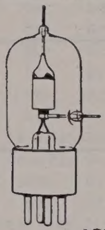
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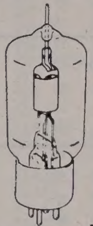
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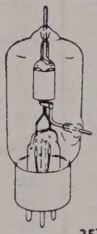
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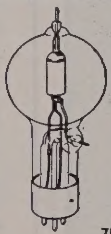
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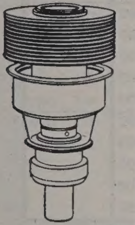
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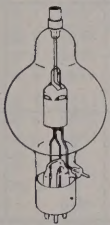
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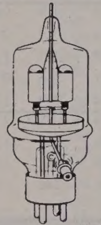
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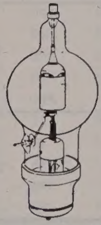
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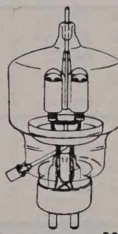
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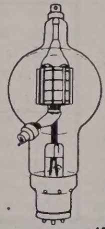
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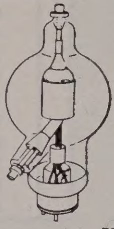
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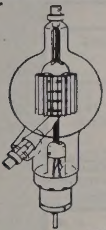
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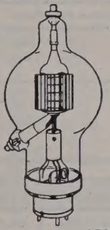
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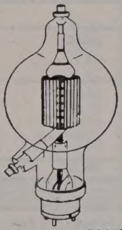
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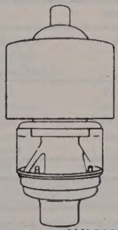
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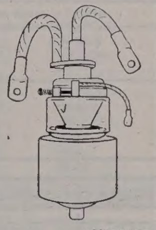
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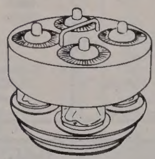
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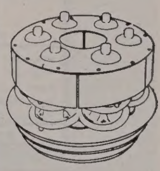
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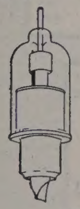
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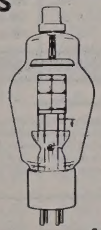
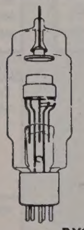
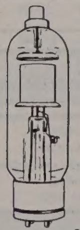
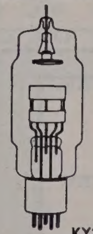
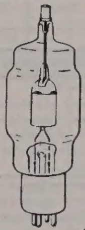
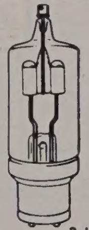

866A

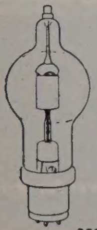

RX21A


872A

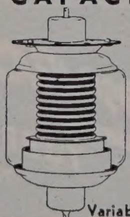

KY21A

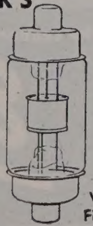

100R


2-150D

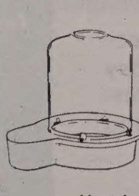

250R

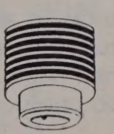
CAPACITORS

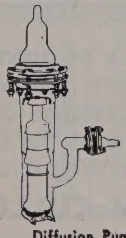

Variable Vacuum Capacitor

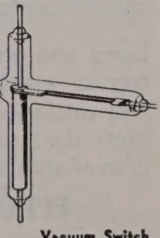

VC, Fixed, Vacuum Capacitor

MISCELLANEOUS


Air-system Sockets


HR, Heat Dissipating Connectors


Diffusion Pump


Vacuum Switch

EIMAC TRANSMITTING TUBES

	EIMAC TUBE TYPES	MAXIMUM RATINGS						ELECTRICAL CHARACTERISTICS							DIMENSIONS		TUBE PRICE	RECOMMENDED HR. HEAT DISSIPATING CONNECTORS	
		PLATE DISSIPATION, WATTS	PLATE VOLTAGE	PLATE CURRENT MILLIAMPERES	GRID DISSIPATION, WATTS	SCREEN VOLTAGE	SCREEN DISSIPATION, WATTS	FILAMENT, VOLTS	FILAMENT, AMPERES	AMPLIFICATION FACTOR	GRID-PLATE, MMF	INPUT, MMF	OUTPUT, MMF	TRANSCONDUCTANCE, UMHOS	LENGTH, INCHES	DIAMETER, INCHES		PLATE	GRID
TETRODES	4-65A	65	3000	150	5	400	10	6.0	3.5	5	0.08	8.0	2.1	4000	4.25	2.31	$ 14.50	HR6	......
	4X100A°	100	1000	250	2	300	15	6.0	2.8	4.5	0.02	14.1	4.7	12,000	2.87	1.64	30.00	......	......
	4-125A	125	3000	225	5	400	20	5.0	6.5	6.2	0.05	10.8	3.1	2450	5.69	2.87	27.50	HR6	......
	4X150A°	150	1000	250	2	300	15	6 0	2.8	4.5	0.02	14.1	4.7	12,000	2.47	1.64	34.00	......	......
	4-250A	250	4000	350	5	600	35	5.0	14.5	5.1	0.12	12.7	4.5	4000	6 38	3.56	37.50	HR6	......
	4-400A	400	4000	350	5	600	35	5.0	14.5	5.1	0.12	12.5	4.7	4000	6.38	3.56	55.00	HR6	......
	4X500A°	500	4000	350	10	500	30	5.0	13.5	6.2	0.05	12.8	5.6	5200	4.75	2.63	97.50	......	......
	4X500F°	500	4000	350	10	500	30	5.0	12.2	6.2	0.05	11.1	3.7	5200	5.38	2.75	85.00	......	......
	4-1000A	1000	6000	700	25	1000	75	7 5	21	7.2	0.24	27.2	7.6	10,000	9.5	5.12	120.00	HR8	......
TRIODES	25T	25	2000	75	7	......	......	6.3	3.0	24	1.5	2.7	0.3	2500	4.38	1.43	8.00	HR1	......
	3C24	25	2000	75	8	......	......	6.3	3.0	23	1.5	1.7	0.3	2500	4.38	1.43	8.00	HR1	HR1
	35T	50	2000	150	15	......	......	5.0	4.0	39	1.8	4.1	0.3	2850	5.5	1.81	9.50	HR3	......
	35TG	50	2000	150	15	......	......	5.0	4.0	39	1.8	2.5	0.4	2850	5.75	1.81	10.00	HR3	HR3
	75TH	75	3000	225	16	......	......	5.0	6.25	20	2.3	2.7	0.3	4150	7.25	2.81	12.00	HR3	HR2
	75TL	75	3000	225	13	......	......	5.0	6.25	12	2.4	2.6	0.4	3350	7.25	2.81	12.00	HR3	HR2
	2C39°	100	1000	100†	3	......	......	6.3	1.1	100	1.9	6.5	0.03	17,000	2.75	1.26	33.00	......	......
	100TH	100	3000	225	20	......	......	5.0	6.3	40	2.0	2.9	0.4	5500	7.75	3.19	16.50	HR6	HR2
	100TL	100	3000	225	15	......	......	5.0	6.3	14	2.0	2.3	0.4	2300	7 75	3.19	16.50	HR6	HR2
	152TH	150	3000	450	30	......		5 or 10	12.5 or 6.2	20	4 8	5.7	0.8	8300	7 63	3.0	26.00	HR5	HR6
	152TL	150	3000	450	25	......	......	5 or 10	12.5 or 6.2	12	4.4	4.5	0.7	7150	7.63	3.0	26.00	HR5	HR6
	250TH	250	4000	350	40	......	......	5.0	10.5	37	2.9	5.0	0.7	6650	10.13	3.81	30.00	HR6	HR3
	250TL	250	4000	350	35	......	......	5 0	10.5	14	3.1	3.7	0.7	2650	10 13	3.81	30.00	HR6	HR3
	304TH	300	3000	900	60	......	......	5 or 10	25 or 12.5	20	10.2	13.5	0.7	16,700	7.63	3.56	55.00	HR7	HR6
	304TL	300	3000	900	50	......	......	5 or 10	25 or 12.5	12	9 1	8.5	0.6	16,700	7 63	3.56	55.00	HR7	HR6
	450TH	450	6000	600	80	......	......	7 5	12.0	38	5.0	8.8	0.8	6650	12 63	5 13	70.00	HR8	HR8
	450TL	450	6000	600	65	......	......	7 5	12.0	18	5.2	7.3	0.9	6060	12.63	5.13	70.00	HR8	HR8
	750TL	750	10,000	1000	100	......	......	7.5	21.0	15	5.8	8.5	1.2	3500	17.0	7.13	125.00	HR8	HR8
	1000T	1000	7,500	750	80	......	......	7.5	17.0	35	5.1	9.3	0.5	9050	12.63	5 13	125.00	HR9	HR9
	1500T	1500	8,000	1250	125	......	......	7.5	24.0	24	7.2	9.9	1.5	10,000	17 0	7 13	200.00	HR8	HR9
	2000T	2000	8,000	1750	150	......	......	10.0	25.0	23	8.5	12.7	1.7	11,000	17 75	8 13	250.00	HR8	HR9
	3X2500A3°	2500	6,000	2000	150	......	......	7.5	48	20	20	48	1.2	20,000	9 0	4 16	180.00	......	......
	3X2500F3°	2500	6,000	2000	150	......	......	7.5	48	20	20	48	1.2	20,000	9 0	4.16	180.00	......	......
	3X12500A3°	12,500	6,000	8000	600	......	......	7.5	192	20	95	240	5	80,000	9 5	11.06	875.00	......	......
	3X20000A3°	20,000	6,000	12,000	900	......	......	7.5	288	20	......	......	......	120,000	10 0	12 5	1275.00		

°External Anode requiring forced-air cooling
†Cathode Current

EIMAC RECTIFIERS

	MERCURY VAPOR RECTIFIERS				HIGH VACUUM RECTIFIERS			
	866A (866)	RX21A (RX21)	872A (872)	KY21A (KY21) (Grid Control)	2-01C	100-R	2-150D (152-RA)	250-R
Filament Voltage	2 5	2 5	5.0	2.5	6.3	5.0	5.0	5.0
Filament Current	5 0 amp.	10 amp.	7 5 amp.	10 amp.	0 4	6.5	13.0	10.5
Peak Inverse Voltage	10,000	11,000	10,000	11,000	1000	40,000	30,000	60,000
Peak Plate Current	1 0 amp.	3 amp.	5.0 amp.	3 amp.	0.010 amp.	....	....	....
Average Plate Current	25 amp	75 amp	1.25 amp.	75 amp.	......	100 amp.	.150 amp	.250 amp.
Price	$1.75	$8.00	$7.50	$12.00	$6.75	$13.50	$17.50	$20.00

EIMAC VACUUM CAPACITORS

	VARIABLE	FIXED							
Type	VVC60	VC6-20	VC12-20	VC25-20	VC50-20	VC6-32	VC12-32	VC25-32	VC50-32
Capacity	10-60 mmf	6-mmf	12-mmf	25-mmf	50-mmf	6-mmf	12-mmf	25-mmf	50-mmf
Rating RF Peak	20-KV	20-KV	20-KV	20-KV	20-KV	32-KV	32-KV	32-KV	32-KV
Price		$13 50	$15.00	$18.00	$22.00	$15.50	$18.00	$21.00	$25.00

HEAT DISSIPATING CONNECTORS

Type	Hole Dia.	Price
HR-1	.052"	$ .60
HR-2	.0625"	.60
HR-3	.070"	.60
HR-4	.1015"	.80
HR-5	.125"	$ .80
HR-6	.360"	.80
HR-7	.125"	1.60
HR-8	.570"	1.60
HR-9	.570"	3.00

DIFFUSION PUMP

HV-1 Diffusion Pump An air-cooled, oil diffusion type, vacuum pump Ultimate vacuum, $4x10^{-7}$ mm of mercury. Speed (without baffle) approx. 67 liters/seconds.	**$125.00**
100 IG, Ionization Gauge An electronic vacuum pressure gauge Filament voltage 3.5 to 7.5 volts	**$22.50**
Eimac Pump Oil A	**$5.00 qt.**

AIR-SYSTEM SOCKETS

Complete Assembly

4-400A/4000 - - -	$16.00
4-1000A/4000 - - -	22.50

Replacement Chimney

4-400A/4006 - - - -	6.00
4-1000A/4006 - - -	7.50

EIMAC VACUUM SWITCHES

Type	General Data	Price
VS-2	Single pole double throw switch within a high vacuum adaptable for high voltage switching. Contact spacing .015". Switch will handle R-f potentials as high as 20 Kv. in DC switching will handle approximately 1 5 Amps at 5 Kv.	**$12.00**
VS-1	Same as above except for slightly smaller glass tubulation.	**$12.00**

Long the criteria of good design in any electronic equipment, Eimac tubes are today the undisputed leaders of their field. Complete data on any of the Eimac products listed is available by writing direct.

EITEL-McCULLOUGH, Inc.

Follow the Leaders to

Eimac
REG. U. S. PAT. OFF.
TUBES

The Power for R-F

OLDEST MANUFACTURER
SPECIALIZING IN RADIO RECEIVING TUBES

HYTRON

SYMBOL
OF QUALITY
SINCE 1921

ORIGINATOR
OF THE FAMOUS
BANTAM GT

HYTRON RECEIVING TUBE PRICE LIST

EFFECTIVE FEB. 1, 1949

TYPE	LIST PRICE
OZ4	$1.65
OZ4G	1.65
1A4P	3.90
1A5GT	1.80
1A6	3.55
1A7GT	2.00
1B3GT/8016	3.20
1B4P	3.90
1B5/25S	3.20
1C5GT	2.20
1C6	3.20
1C7G	3.20
1D5GP	3.90
1D7G	3.20
1D8GT	3.90
1F4	2.65
1F5G	2.65
1F6	3.90
1F7G	3.90
1G4GT	2.65
1G6GT	2.65
1H4G	2.20
1H5GT	1.65
1H6GT	3.20
1J6GT	3.20
1L4	2.00
1LA4	2.65
1LA6	2.65
1LB4	2.65
1LC5	2.65
1LC6	2.65
1LD5	2.65
1LE3	2.65
1LG5	2.65
1LH4	2.65
1LN5	2.65
1N5GT	2.00
1P5GT	2.65
1Q5GT	2.65
1R4	2.65
1R5	2.00
1S4	2.40
1S5	1.80
1T4	2.00
1T5GT	2.65
1U4	2.00
1U5	1.80
1V	2.20
2A3	3.20
2A4G	4.80
2A5	2.20
2A6	2.65
2A7	2.65
3A8GT	4.80
3Q4	2.20
3Q5GT	2.40
3S4	2.00
3V4	2.00
5U4G	1.50
5V4G	2.40
5W4	2.65
5W4GT	1.65
5X4G	1.80
5Y3G	1.05
5Y3GT	1.05
5Y4G	1.50
5Z3	1.80
5Z4	2.65
6A3	3.20
6A6	2.65
6A7	$2.00
6A8	2.00
6A8G	2.00
6A8GT	2.00
6AC5GT	2.90
6AC7/1852	2.90
6AD7G	3.20
6AG5	2.65
6AG7	3.20
6AH6	3.90
6AK5	3.90
6AK6	2.40
6AL5	2.00
6AL7GT	2.65
6AQ5	2.00
6AQ6	1.80
6AQ7GT	2.40
6AR5	1.65
6AS5	2.00
6AT6	1.50
6AU6	2.00
6AV6	1.50
6B4G	3.20
6B5	3.90
6B6G	2.20
6B7	3.20
6B8G	3.20
6BA6	1.80
6BE6	1.80
6BG6G	4.80
6BH6	2.00
6BJ6	2.00
6C4	1.65
6C5	1.65
6C5GT	1.65
6C6	2.00
6C8G	3.20
6D6	1.65
6D8G	3.20
6E5	2.20
6F5	1.65
6F5GT	1.65
6F6	2.00
6F6G	1.65
6F6GT	1.65
6F8G	3.20
6G6G	2.65
6H6	1.65
6H6GT	1.65
6J5	1.50
6J5GT	1.50
6J6	2.90
6J7	2.00
6J7G	2.00
6J7GT	2.00
6J8G	3.20
6K5GT	2.40
6K6GT	1.50
6K7	1.65
6K7G	1.65
6K7GT	1.65
6K8	2.40
6K8GT	2.40
6L5G	2.65
6L6	3.55
6L6G	2.90
6L7	2.40
6L7G	2.90
6N6G	3.90
6N7	2.40
6N7GT	$2.40
6P5GT	2.40
6Q7	2.00
6Q7G	1.80
6Q7GT	1.80
6R7	2.65
6R7GT	2.65
6S7G	3.20
6S8GT	2.65
6SA7	1.65
6SA7GT	1.65
6SB7Y	2.40
6SC7	2.00
6SD7GT	2.90
6SF5	1.65
6SF5GT	1.80
6SF7	2.00
6SG7	2.00
6SH7	2.20
6SJ7	1.65
6SJ7GT	1.65
6SK7	1.65
6SK7GT	1.65
6SL7GT	2.40
6SN7GT	2.20
6SQ7	1.50
6SQ7GT	1.50
6SR7GT	1.80
6SS7	1.80
6SV7	2.90
6T7G	3.20
6T8	3.55
6U5/6G5	2.00
6U7G	1.80
6V6	3.20
6V6GT	2.00
6W4GT	1.80
6X4	1.50
6X5GT	1.50
6Y6G	2.40
6ZY5G	2.20
7A4(XXL)	1.80
7A5	1.80
7A6	1.80
7A7	1.80
7A8	1.80
7AD7	2.65
7AF7	1.80
7AG7	2.20
7AH7	2.20
7B4	1.80
7B5	1.80
7B6	1.80
7B7	1.80
7B8	1.80
7C5	1.80
7C6	1.80
7C7	1.80
7E5	2.65
7E6	1.80
7E7	2.20
7F7	2.20
7F8	2.65
7G7/1232	2.65
7H7	2.00
7J7	2.65
7K7	2.65
7L7	2.20
7N7	2.20
7Q7	1.80
7R7	$2.20
7S7	2.65
7V7	2.65
7W7	2.65
7X7(XXFM)	2.65
7Y4	1.80
7Z4	1.80
12A7	3.20
12A8GT	2.00
12AL5	2.00
12AT6	1.50
12AT7	2.90
12AU6	2.00
12AU7	2.40
12AV6	1.50
12BA6	1.80
12BE6	1.80
12F5GT	1.80
12J5GT	1.50
12J7GT	2.00
12K7GT	1.65
12K8	2.40
12K8GT	2.40
12Q7GT	1.80
12SA7	1.65
12SA7GT	1.65
12SF5GT	2.00
12SF7GT	2.00
12SG7	2.00
12SJ7	1.65
12SJ7GT	1.65
12SK7	1.65
12SK7GT	1.65
12SL7GT	2.40
12SN7GT	2.20
12SQ7	1.50
12SQ7GT	1.50
12Z3	2.65
14A4	2.65
14A7/12B7	2.20
14AF7(XXD)	2.20
14B6	2.20
14B8	2.20
14C5	2.20
14C7	2.20
14E6	1.80
14E7	2.20
14F7	2.20
14F8	2.65
14H7	2.20
14J7	2.65
14N7	2.65
14Q7	2.20
14R7	2.20
14S7	2.65
14W7	2.65
14Y4	2.20
19	3.20
19T8	3.55
24A	2.20
25AC5GT	3.90
25L6GT	1.65
25Y5	2.90
25Z5	1.50
25Z6GT	1.35
26	1.80
27	1.50
30	2.00
32	3.55
32L7GT	3.20
33	$3.20
34	3.20
35/51	2.00
35A5	1.80
35B5	2.00
35C5	2.00
35L6GT	1.65
35W4	1.25
35Y4	1.80
35Z3	1.80
35Z4GT	1.50
35Z5GT	1.25
36	2.65
37	1.80
38	2.20
39/44	2.65
41	1.65
42	1.65
43	1.65
45	1.65
45Z5GT	1.80
46	2.65
47	2.40
50A5	2.20
50B5	2.00
50C5	2.00
50L6GT	1.65
50X6	2.20
50Y6GT	1.80
53	2.65
56	1.80
57	2.00
58	2.00
70L7GT	3.90
71A	2.00
75	1.65
76	1.65
77	1.65
78	1.65
80	1.15
81	3.90
82	2.65
83	2.65
83V	3.20
84/6Z4	1.80
85	2.20
117L/M7GT	3.90
117N7GT	3.90
117P7GT	3.90
117Z3	1.50
117Z4GT	2.90
117Z6GT	2.40
1273	2.40
1280	2.40

SPECIAL PURPOSE TYPES

TYPE	LIST PRICE
OA2	$4.35
OA3/VR75	2.65
OB2	4.55
OB3/VR90	2.65
OC3/VR105	2.65
OD3/VR150	2.65
3A5	† 1.95
5R4GY	† 1.50
6AS7G	† 6.75
9001	† 3.10
9002	† 2.50

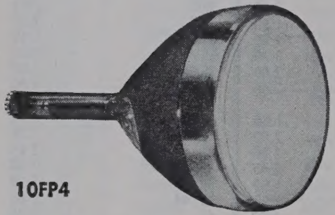
† Dealer net price, not subject to discount.

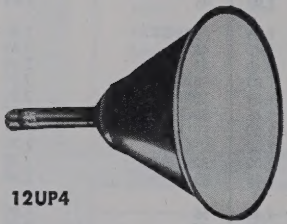
PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

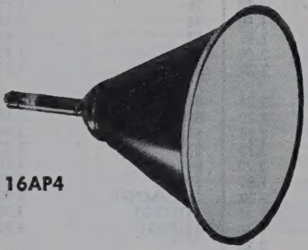
RAULAND *Television* PICTURE TUBES

PROVEN DEPENDABILITY · SUPERIOR PERFORMANCE

Rauland, a pioneer name in television, identifies a top source of supply for better television picture tubes. The incomparable aluminized "brighter picture" (another Rauland "first") and metal-glass direct view tubes embody the latest advanced engineering practices . . . achieving "Perfection through Research."


10FP4


12UP4


16AP4

10FP4

Direct view picture tube incorporating new "bright light" aluminized reflector screen. Provides up to 80% brighter picture when used as replacement for 10BP4. No ion magnet required or circuit changes necessary.

12KP4

Similar to 10FP4 except 12½" diameter. Incorporates aluminized reflector screen. Direct replacement for 12LP4. No ion magnet used or circuit changes necessary.

12UP4

12" metal-glass type used as standard equipment in many receivers. Available with conventional screen or new "Luxide Screen" for improved contrast ratio and definition.

16AP4 & 16EP4

16" metal-glass tubes used in many direct view receivers. 16AP4 has deflection angle of 53°, overall length 22¼"—16EP4 overall length 19⅝", deflection angle 60°. Both types available with new "Luxide Screen" for improved contrast ratio and definition.

the new

Luxide Screen

The Luxide Screen is another first by Rauland. Luxide provides greatly increased contrast ratio and improved definition over conventional screen direct view tubes. With the Luxide Screen, the ambient light traveling to the screen is reduced by the absorption percentage of the Luxide Screen and the reduced ambient light reflected back to the viewer from the screen is reduced by the same percentage as it passes through the screen a second time. Contrast ratio is improved over 50% by reason of the cancellation effect. The Luxide Screen also contributes to absence of halation and improved definition.

Luxide Screens Available on 12LP4 - 12UP4 - 16AP4 - 16EP4.

Type No.	Suggested List Price	Dealer Price
10BP4	$32.20	$24.75
10FP4	35.00	26.80
12KP4	44.75	34.40
12LP4	42.00	32.35
12LP4-A	43.80	33.70
12UP4	44.75	34.40
12UP4-A (Luxide)	48.30	37.15
16AP4 16EP4	73.35	56.40
16AP4-A 16EP4-A (Luxide)	76.90	59.15

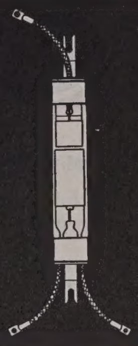
COMPLETE DESIGN SPECIFICATIONS AVAILABLE

Rauland engineers are ready at all times to consult with you on technical problems regarding application of picture tubes for replacements or for new receivers. Word from you will bring immediate and helpful response. Design data on all television picture tubes manufactured by Rauland is available upon request.

THE RAULAND CORPORATION — CHICAGO 41, ILL.

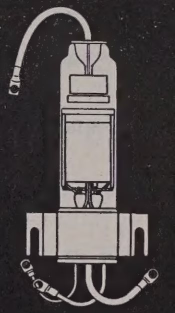
"EL" XENON GAS-FILLED TUBES

RECTIFIERS



	FULL WAVE RECTIFIER EL 1C	FULL WAVE RECTIFIER EL 3C	FULL WAVE RECTIFIER EL 6C	HALF WAVE RECTIFIER EL 6B	HALF WAVE RECTIFIER EL 16F
D.C. Output (Amps.)	1.0	2.5	6.4	6.4	16.0
Peak Anode Current	4.0	10.0	25.6	40.0	96.0
Peak Inverse Volts	725	725	725	920	620
Filament Volts	2.5	2.5	2.5	2.5	2.5
Filament Amperes	6.0	11.5	17.0	21	36
Overall Length	5½"	7"	7½"	9½"	15⅝"
Price	$7.10	$8.90	$15.70	$12.40	$24.30

GRID CONTROL RECTIFIERS (THYRATRONS)



	EL C1J	EL C3J	EL C6J	EL C16J	EL C6C
D.C. Output (Amps.)	1.0	2.5	6.4	16.0	6.4
Peak Anode Current	8.0	30.0	77.0	160.0	77.0
Peak Forward Volts	450	750	750	1000	2000
Peak Inverse Volts	700	1250	1250	1250	4000
Filament Volts	2.5	2.5	2.5	2.5	2.5
Filament Amperes	6.3	9.0	21.0	31.0	24.0
Overall Length	4¼"	6⅛"	9"	10"	11"
Price	$8.20	$12.15	$29.50	$53.50	$40.80

	EL C1J/A	EL C3J/A	EL C6J/A
D.C. Output (Amps.)	1.0	2.5	6.4
Peak Anode Current	8.0	30.0	77.0
Peak Forward Volts	750	1000	1000
Peak Inverse Volts	1250	1250	1250
Filament Volts	2.5	2.5	2.5
Filament Amperes	6.3	9.0	21.0
Overall Length	4¼"	6⅛"	9"
Price	$8.90	$14.20	$30.40

SEND FOR DESCRIPTIVE CATALOG

ELECTRONS, INCORPORATED
127 SUSSEX AVENUE
NEWARK, N. J.

GENERAL ELECTRONICS INC.

TRANSMITTING • THYRATRONS
RECTIFIERS • DIATHERMY
ELECTRON TUBES

General Electronics electron tubes have been designed by a well known electronic engineer, who was an early pioneer in the development of the tube industry.

Many induction heating applications and diathermy oscillators and rectifiers have been designed by General Electronics, which means that we are constantly designing tubes for special applications in these various fields.

Inquiries are invited on types not listed, which may be required for special applications.

Type	Description	List Price
DR–3B29	Transmitting diode, pulse rectifier	$ 15.00
DR–17	Grid controlled rectifier	6.00
DR–100TH	Transmitting triode	16.50
DR–200	Power amplifier, oscillator Class B modulator	21.50
DR–250TH	Transmitting triode amplifier oscillator	30.00
DR–300	Power amplifier, oscillator, Class B modulator	29.50
DR–304TH	Transmitting triode power amplifier	50.00
DR–450TH	Transmitting triode amplifier	70.00
DR–575A	Half-wave mercury-vapor rectifier	28.00
DR–576A	Grid controlled mercury vapor rectifier	150.00
DR–715C	Transmitting pulse modulator tetrode	43.00
DR–757	Grid controlled mercury vapor rectifier	325.00
DR–801A	R-F, A-F power amplifier modulator	3.00
DR–803	R-F power amplifier pentode	21.00
DR–805	Transmitting triode	11.75
DR–808	Transmitting triode	8.50
DR–809	R-F power amplifier, Class B modulator	3.50
DR–810	Transmitting triode	12.50
DR–811	Transmitting triode-high MU	3.50

Type	Description	List Price
DR–812	Transmitting triode-medium MU	$ 3.50
DR–813	Beam power amplifier	14.50
DR–816	Half-wave, mercury-vapor rectifier	1.25
DR–826	Transmitting triode	9.25
DR–832A	Push-pull R-F beam power amplifier	10.60
DR–837	R-F power amplifier, pentode transmitter	4.15
DR–833A	R-F amp. modulator, osc	45.00
DR–838	Class B modulator, R-F power amplifier oscillator	12.00
DR–849A	R-F, A-F power amplifier, oscillator, modulator	120.00
DR–851	Transmitting triode amplifier	230.00
DR–857B	Diode gas rectifier	190.00
DR–861	Screen grid R-F power amplifier	155.00
DR–864	Amplifier	1.20
DR–866A	Half-wave, mercury vapor rectifier	1.75
DR–869B	High-voltage, high wave mercury vapor rectifier	120.00
DR–872A	Half-wave, mercury vapor rectifier	7.50
DR–873	Half-wave, mercury-vapor grid control rectifier	15.00
DR–892R	R-F power amplifier Class B modulator AIR COOLED	345.00
DR–8008	Half-wave, mercury vapor rectifier	7.50
DR–8020	High vacuum, half-wave rectifier	18.00

All tubes licensed under the patents of Radio Corporation of America
GENERAL ELECTRIC COMPANY and EITEL McCULLOUGH, Inc.

Electron Tubes with LONG LIFE AND PRECISION CONSTRUCTION

GENERAL ELECTRONICS, INC. • 101 Hazel St., Paterson, N. J.

CETRON ELECTRONIC TUBES

Engineered and Manufactured by Continental Electric Co.

CETRON PHOTOTUBES

CETRON phototubes are either of the gas-filled or of the vacuum type. With the gas-filled type, greater effective response is obtained, particularly in low impedance circuits, while the vacuum type is recommended where maximum stability is desired.

CETRON phototubes are selected as to their sensitivity and priced accordingly. Phototubes of the Super Class A/B are generally used for experimental purpose where very high sensitivities are required; Class C mostly for motion picture equipment; Class D for relay work, etc.

CETRON BLUE SENSITIVE TUBES

CETRON blue sensitive tubes comprise the most complete line of phototubes designed for sound reproduction work from dye recorded film.

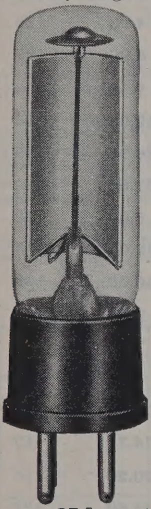
Continental Electric also manufactures a complete line of special purpose phototubes such as: CE-5, CE-7, CE-8, CE-10, CE-15, CE-18, CE-20, CE-26, etc. We will be happy to work with you on design and development problems. Full data, prices, etc., will be forthcoming upon request.

GAS-FILLED PHOTOTUBES

The rated sensitivity for Super Class A/B is 200 microamperes per lumen and up (average 300); Class C, 125-200 microamperes per lumen (average 160); Class D, 75-125 microamperes per lumen (average 100). These sensitivities are measured at recommended operation and test voltage as specified in our technical chart.

VACUUM PHOTOTUBES

The rated sensitivity for Super Class A/B is 30 microamperes per lumen and more (average 35); Class C, 22-30 microamperes per lumen (average 25); and Class D, 12-22 microamperes per lumen (average 16); all are measured at 250 Volts.



CE-1
CE-91

LIST PRICES

RED SENSITIVE TYPES, GAS-FILLED. RMA SPECTRAL RESPONSE S1.

Type	Class A/B	Class C	Class D	Replaces No. 868 918
CE-1	$6.20	$4.10	$2.60	PJ-23 WL-735
CE-2	8.50	5.50	3.30	WL-737
CE-3	8.50	5.50	3.30	WL-728 WE-3A
CE-4	8.50	5.50	3.30	—
CE-21	15.00	5.60	3.60	920
CE-22	8.50	4.00	2.40	924 1P41
CE-23	5.50	2.90	1.75	923
CE-25	10.00	5.50	2.50	927
CE 30	5.50	2.60	1.50	930
CE-36	10.00	5.50	2.50	—

RED SENSITIVE TYPES, VACUUM. RMA SPECTRAL RESPONSE S1.

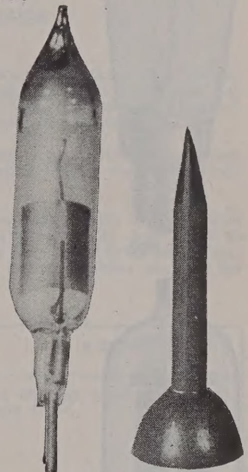
Type	A/B	Class C	Class D	Replaces No.
CE-1V	$ 8.50	$4.20	$2.60	PJ-22
CE-2V	8.50	5.50	3.30	—
CE-4V	8.50	5.50	3.30	—
CE-11V	12.00	5.00	3.00	917
CE-25V	12.00	5.00	3.00	—
CE-30V	5.50	2.80	1.85	925
CE-31V	12.00	5.00	3.00	919

BLUE SENSITIVE TYPES, GAS-FILLED, RMA SPECTRAL RESPONSE S4

	Class u Amp/Lumen Q	Class R	Q	R	Replaces No.
CE-59	180-up	90-190	$9.00	$3.80	5581
CE-64	130-up	65-130	9.00	3.80	5583
CF-74	160-up	80-160	9.00	5.50	—
CE-83	180-up	90-180	13.00	8.10	—
CE-91	180-up	90-180	9.00	3.00	1P37
CE-97	180-up	90-180	13.00	8.50	—

BLUE SENSITIVE TYPES, VACUUM, RMA SPECTRAL RESPONSE S4

CE-29	55-up	25-55	$9.00	$2.10	929 1P89
CE-34	36-up	17-36	9.00	3.80	934
CE-61	55-up	25-55	9.00	6.00	GL 441
CE-99	55-up	25-55	13.00	6.20	—



CE-58-60-90

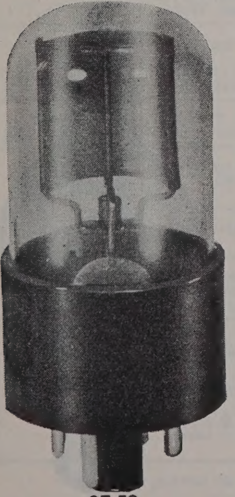
MINIATURE TYPES

LEAD SULFIDE TYPES

Type		Price
CE-701	Side Type	$10.00
CE-702	Side Type	10.00
CE-703	End Type	10.00
CE-704	Double Side Type	15.00
CE-711	Three-Pin Side Type	10.00

BLUE TYPES, RMA S4

	Price
CE-60 Vacuum Side Type: Class Q, 18-up microamperes per lumen	$10.00
CE-60 Vacuum Side Type: Class R, 8-18 microamperes per lumen	4.00
CE-90 Gas Side Type: Class Q, 65-up microamperes per lumen	10.00
CE-90 Gas Side Type: Class R, 32-65 microamperes per lumen	4.00



CE-59

CE-25
CE-64

CE-2-2V

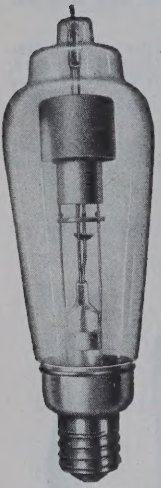
CETRON
CE-29

CE-29

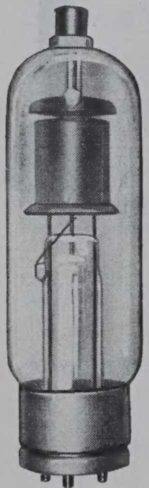
CETRON ELECTRONIC TUBES

Engineered and Manufactured by Continental Electric Co.

CETRON RECTIFIER and GRID CONTROL TUBES



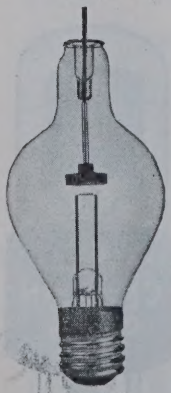
CE-202



CE-872A

Type New No.	Old No.	Description	List Price	Data Sheet No.
CE-200A	CE-200	2 amp. full wave mercury vapor 250 volts DC with standard 4 pin base	$ 7.75	111
CE-201A	CF-201	2 amp. full wave mercury vapor 250 volts DC with special 4 long pin base.	8.00	111
CE-202	—	15 amp. half wave mercury vapor 250 volts DC mogul Screw base	30.00	108
CE-203	—	15 amp. half wave mercury vapor 150 volts DC Mogul Screw base	10.50	104
CE-205	2-RA-5	5 amp. half wave mercury vapor 250 volts DC Mogul Screw base	12.60	105
CE-206	2-RA-6	6 amp. half wave mercury vapor 90 volts DC Mogul Screw base	5.00	106
CE-210A	CE-210	2 amp. full wave mercury vapor and gas 250 volts D.C. with standard 4 pin base	7.75	131
CE-212A	CE-212	2 amp. half wave gas filled 60 volts DC Medium Screw Base	4.00	120
CE-213A	CE-213	2½ amp. half wave mercury vapor 600 volts DC standard 4 pin base	6.90	107
CE-215	2-RA-15	15 amp. half wave mercury vapor 75 volts DC Mogul Screw base	9.50	103
CE-220	CE-72	.020 amp. 20,000 half wave high vacuum, rect. tubes. Stand. 4 pin base	12.00	113
CE-221	4B25	6.4 amp. full wave gas filled 200 volts DC special 4 pin base	16.90	125
CE-224	4B24	2.5 amp. full wave gas filled 200 volts DC No. 412 4 pin base	11.80	124
CE-226	R-6-A	6 amp. half wave gas filled 90 volts DC Mogul Screw base	5.00	112
CE-230	3B24	.060 amp. 20,000 half wave high vacuum rect. med. 4 pin base	12.00	123
CE-235	R-15-A	15. amp. half wave gas filled 60 volts DC Mogul Screw base	10.00	109
CE-866A/866	VT-46A	.25 amp. half wave mercury vapor 10,000 peak inverse med. 4 pin base	2.00	129
CE-872A	VT-42A	1.25 amp. half wave mercury vapor 10,000 peak inverse jumbo 4 pin base	7.55	117
CE-8008	—	1.25 amp. half wave mercury vapor 12,000 peak inverse No. 4310 4 pin ind. base	7.55	128
CE-303	3C31	1 amp. grid control tube, gas filled standard 4 pin base	15.65	114
CE-304	—	12.5 amp. grid control mercury vapor 125 amp. peak current No. 4310 4 pin ind. base	74.75	119
CE-305	—	2 amp. grid control tube, gas filled, standard 4 pin base	20.20	116
CE-308	—	6 amp. grid control tube, gas filled, 40 amp. peak current, 4 pin base No. 412	33.60	122
CE-309	FG17	.5 amp. grid control tube mercury vapor 5000 peak inverse med. 4 pin base	6.50	126
CE-311	3C23	1.50 amp. grid control tube mercury and gas filled 1000 peak inverse med. 4 pin base	13.25	127
CE-393A	—	1.50 amp. grid control tube mercury and gas filled 1250 peak inverse med. octal base	13.25	127
CE-320	—	2.5 amp. grid control tube mercury vapor and gas filled 1250 peak inverse. Medium 4 pin base	14.20	134
CE-322	—	6.4 amp. grid control tube mercury vapor and gas filled 1500 peak inverse. 4 pin base No. A4-18	21.65	135
CE-323B	—	1.5 amp. grid control tube mercury vapor and gas filled 1250 peak inverse. Medium 5 pin base	13.25	133

Engineering bulletins giving detailed specifications on all tubes listed here are available and may be had upon request. The extensive engineering and manufacturing facilities which we have, make possible the development and production of many types of special tubes. If you have a problem involving the use of any CETRON tubes you are invited to consult with us. We are also prepared to make special tubes to your specifications.

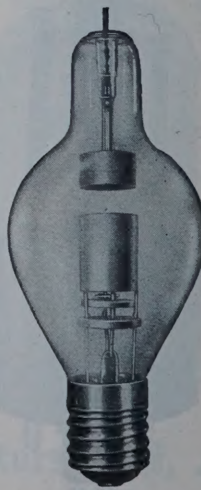


CE-226

WARRANTY

We guarantee all products manufactured by us to be free from all material and manufacturing defects and to give satisfactory service when operated in accordance with instructions indicated for their use.

Continental Electric Co.

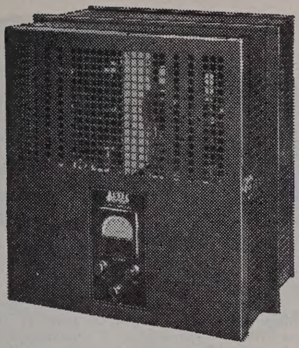


CE-203

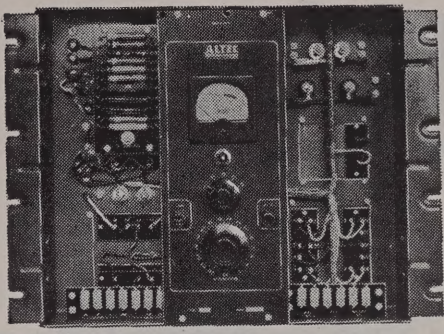
ALTEC
LANSING CORPORATION

1161 N. VINE STREET
HOLLYWOOD 38, CALIF.
161 SIXTH AVENUE
NEW YORK 13, N. Y.

POWER AMPLIFIERS



A-287 F or W AMPLIFIER



A-256A AMPLIFIER

Altec Lansing A-127 and A-256-A amplifiers have been designed for the most exacting applications.

These amplifiers will deliver **Power** within 1 db of rating from 40 to 10,000 cycles with not more than 8% intermodulation distortion; when operated 3 db below rating their frequency response is uniform from 20 to 20,000 cycles. Thus they are particularly suited to broadcast or recording applications, where preemphasis or other equalization is used.

Input transformers have 90 db of magnetic shielding to allow operation in high magnetic fields. All components are conservatively used for long dependable service.

These amplifiers, finished in blue-gray baked enamel, are assembled on relay rack panels of recess pan construction, making them adaptable for either rack or cabinet mounting. The front panel and mat are readily removable, exposing all parts for quick servicing. A panel meter permits checking tube currents while in operation.

The 287 series amplifiers are available for use where very high audio power is required such as skating rinks, stadiums, large plants, etc.

They are of the single stage push-pull type, with self-contained power supply and in general are constructed on the same lines as other Altec rack mounted amplifiers. As they are strictly power amplifiers, they must be operated from a driver amplifier such as the A-127 series or the A-256-A.

	A-127	A-256A	A-287F	A-287W
GAIN	**A-127:** Max. 66 db from 100,000-ohm input. **A-127A-B:** Max. 66 db for all impedances without fixed pad. A gain control of 40 db range in steps of 2 db is provided on input.	50 db.; 30 db. bridging. Gain control provided.	15 db from all input impedances.	12 db from 3,000-ohm impedance driver.
FREQUENCY RANGE	±1 db 20-20,000 cycles.	±½ db 20-20,000 cycles.	±1 db 20-20,000 cycles.	±1 db 100-10,000 cycles.
POWER OUTPUT	15 watts with not more than 8% intermodulation or 2% total harmonics. Delivers 15 watts within 1 db from 40 to 10,000 cycles.	65 watts with not more than 8% intermodulation or 75 watts with less than 2% total harmonics. Delivers full power within 1 db from 40 to 15,000 cycles.	75 watts with less than 8% intermodulation or 2% total harmonics. Delivers 75 watts within 1 db from 40 to 10,000 cycles.	250 watts with not more than 5% total harmonics. Class B. Delivers 250 watts in the range of 100 to 10,000 cycles.
NOISE LEVEL	—42 dbm (ref .001 watt).	—45 dbm (ref .001 watt).	—22 dbm (ref .001 watt).	—20 dbm (ref .001 watt).
INPUT IMPEDANCE	**A-127:** Grid input 100,000 ohms. **A-127A-B:** 600/500, 300/250, 36/30 ohms.	500/600, 300/250, 36/30 ohms.	14, 56, 125, 220, 500 ohms. Requires 5 watts driver power.	3,000 ohms CT. Can be used with input transformer giving 10 or 20 ohms. Requires 15 watts driver power.
OUTPUT IMPEDANCE	**A-127** and **A-127-A:** 10 or 20 ohms. ***A-127B:** 3,000, 2,000, 750, 500 ohms.	10 or 20 ohms.	24/48, 12/24, 6/12, 3/6 ohms. Maximum power developed when amplifier works into 36, 18, 9, or 4.5 ohms.	Taps to work into loads from 2.25 to 20 ohms.
POWER REQUIREMENTS	105, 117 or 130 volts, 50-60 cycles, 110 watts. Fused.	105, 117 or 130 volts, 50-60 cycles, 200 watts. Fused.	105, 117 or 130 volts, 50-60 cycles, 400 watts. Fused.	105, 117 or 130 volts, 50-60 cycles, 700 watts. Fused.
POWER AVAILABLE EXTERNALLY	6.3 V. AC at 2.5 amp. 350 V. DC at 20 ma.	6.3 V. AC at 1.0 amp. 350 C. DC at 10 ma.		
TUBES USED	1-6J7, 1-6J5, 2-6L6G, 1-5U4G.	2-6S17, 2-6SN7, 2-807, 2-5R4GY, 4-VR-150/ODS.	2-845 or 284. 2-866A.	2-805. 2-866A.
PANEL EQUIPMENT	Plate Current Meter, Selector Switch, Attenuator, AC Fuse, AC Switch, Pilot Lamp.	Plate Current Meter, Selector Switch, Attenuator, AC Fuse, AC Switch, Pilot Lamp.	Plate Current Meter, Push-type Meter Switches, Fil-Plate Power Switch.	Plate Current Meter, Push-type Meter Switches, Fil-Plate Power Switch.
DIMENSIONS	8¾" high, 19" wide, 7" deep.	14" high, 19" wide, 10" deep.	19¼"high, 19"wide, 12½"deep.	19¼"high, 19"wide, 12½"deep.
WEIGHT	18 pounds.	60 pounds.	141 pounds.	141 pounds.
LIST PRICE	**A-127** .... **$246.67** **A-127A-B** .... **$280.00** Includes 1 set of tubes.	**$393.33.** Includes 1 set of tubes.	**$794.67.** Includes 1 set of tubes.	**$913.33.** Includes 1 set of tubes.

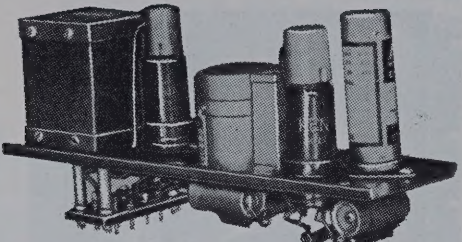
*Particularly suitable for driving A-287-W 250-watt Class B amplifier; provided with output transformer with tertiary winding for inverse feedback.

ALTEC
LANSING CORPORATION

PRE-AMPLIFIERS

1161 N. VINE STREET
HOLLYWOOD 38, CALIF.

161 SIXTH AVENUE
NEW YORK 13, N. Y.



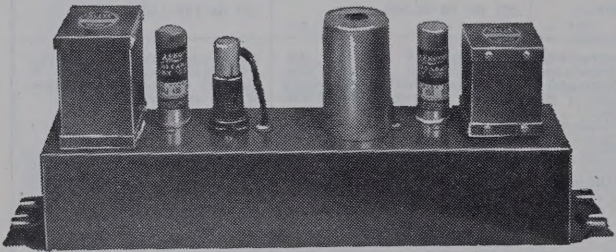
A-425B PRE-AMPLIFIER AND MIXER

The A-425B Pre-Amplifier and Mixer is designed for high quality speech input equipment and P.A. application. It is a microphone pre-amplifier, and one pre-amplifier is required for each microphone. The output of the second stage is coupled to a 20,000-ohm mixer control which is mounted on the chassis but may be removed and mounted up to 12 inches away from the amplifier if required. The chassis may be mounted on a standard relay rack through the use of the 10629 Assembly or it may be mounted in a mixer console designed for that purpose.

The A-425C Pre-Amplifier with required equalization is available for phonograph input using a variable reluctance pickup. A crystal phonograph pickup may be connected directly into the input of the A-426 Amplifier.

SPECIFICATIONS

Voltage Gain	54 db into 66,000 ohm load (62 db high gain connection)
Frequency Range	±1 db 20 to 20,000 cycles at normal gain ±1 db 25 to 15,000 cycles at high gain
Maximum Power Output	.001 watts
Noise Level	—80 dbm
Input Impedance	30/36, 250/300, 500/600 ohms
Output Impedance	20,000 ohms
Power Supply Required	6.3 V. AC at .6 amps., 380 V. DC at 5.5 ma (From P-505)
Weight	3½ lbs.
Tubes	2 - 6J7
Color	Blue-Gray
Dimensions	2 11/16″ x 10⅛″
List Price, A-425B	**$138.00**
List Price, A-425C	**$132.00**

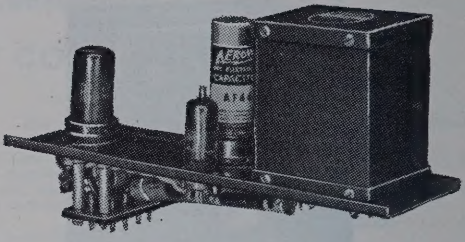


A-420 PRE-AMPLIFIER

The Altec Lansing A-420 is a fixed gain low level pre-amplifier designed to operate into the Altec Lansing A-127-A or -B or A-256A amplifier, from which it obtains its power supply. It is intended as a pre-amplifier for microphone, phonograph pick-up or other low level signal. The input transformer has 90 db of magnetic shielding for hum-free operation. This amplifier, finished in blue-gray baked enamel, is assembled on a relay rack panel of recess construction so that it may be mounted on a rack or in a cabinet.

SPECIFICATIONS

Voltage Gain	Normal: 42 db. High: 49 db
Frequency Range	20-20,000 cycles within 1 db
Maximum Power Output	—2 dbm (.001 watt ref.)
Noise Level	—77 dbm (.001 watt ref.)
Input Impedance	30/36, 250/300, 500/600 ohms
Output Impedance	600/500, 300/250, 150/125, 75/62.5
Power Supply Required	6.3 V. AC at .6 amps., 325 V. DC at 6 ma.
Weight	12 lbs.
Tubes	2 - 6J7
Dimensions	3½″ high x 19″ wide x 7″ deep
List Price (Including Vacuum Tubes)	**$166.67**

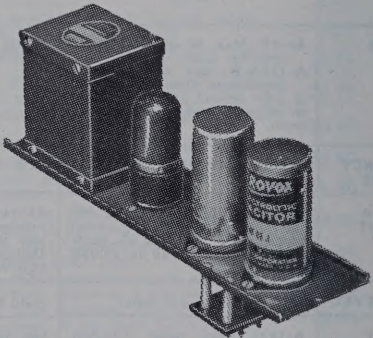


A-426B LINE AMPLIFIER

The A-426B Line Amplifier is used to amplify the signal output of one to four A-425B Pre-Amplifiers. A separate input terminal is provided for each A-425B Pre-Amplifier. When less than four A-425B Pre-Amplifiers are used, the unused terminals should be strapped to ground which prevents the gain of the amplifier from changing. Interaction between controls is less than 2 db. The chassis is designed to mount with the A-425B Pre-Amplifiers either in the rack mounting assembly or in the console. An input transformer may be installed in this amplifier for low impedance input when desired.

SPECIFICATIONS

Voltage Gain	18 db
Frequency Range	±1 db 20 to 20,000 cycles
Maximum Power Output	+18 dbm
Noise Level	—70 dbm
Input Impedance	66,000 to 550,000 ohms
Output Impedance	600/500, 300/250, 150/125, 75/62.5
Power Supply Required	6.3 V. AC at .6 amps., 380 V. DC at 15 ma. (From P-505)
Weight	3-7/10 lbs.
Tubes	2 - 6J7
Color	Blue-Gray
Dimensions	2 11/16″ x 10⅛″
List Price	**$128.00**



P-505B POWER SUPPLY

The P-505B Power Supply is AC operated and supplies all power requirements for four A-425B or A-425C Pre-Amplifiers and one A-426B Line Amplifier. It is mounted on the same type chassis as the pre-amplifiers and is designed to mount in the rack mounting assembly or in the console. The external magnetic field in this unit is sufficiently low that it can be mounted directly beside the A-426B Line Amplifier.

SPECIFICATIONS

DC Output Voltage	380 volts
Line Voltage Requirements	105, 117 or 130 volts selected by taps on the transformer
Output Current	40 ma.
Tube	1 - 6X5
Dimensions	2 11/16″ x 10⅛″
Weight	3½ lbs.
Color	Blue-Gray
List Price	**$48.00**

THE A-10625 MOUNTING BASE

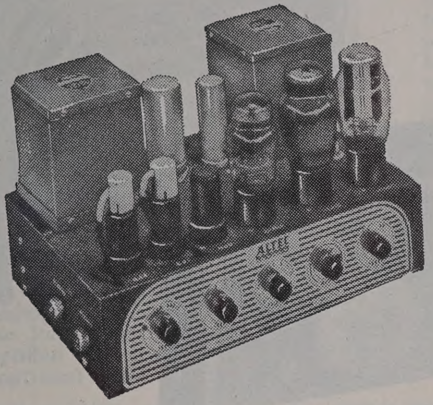
is provided for mounting any combination of A-425B or C, A-426B amplifier and/or P505B Power Supplies. Up to six units may be accommodated. The base has been so designed that it may be installed within as an integral part of a mixer console or in a standard relay rack or cabinet. 10½″ of standard rack space is required..........List Price, **$24.00**

ALTEC
LANSING CORPORATION

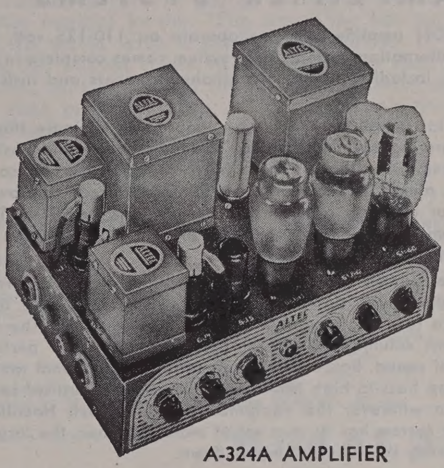
AMPLIFIERS

1161 N. VINE STREET
HOLLYWOOD 38, CALIF.

161 SIXTH AVENUE
NEW YORK 13, N. Y.



A-323B AMPLIFIER



A-324A AMPLIFIER

The A-323B is a portable conventional chassis-type general-purpose amplifier designed for high quality reproduction of sound, music, and speech from records, radio and microphone. It is engineered and manufactured to meet the high quality standards required of an amplifier when used in conjunction with Altec Lansing speakers.

The outstanding features are: (1) Full rated **Power** output within 1 db from 35 to 12,000 cycles. (2) Hum balancing potentiometer to eliminate necessity of careful selection of tubes for quiet operation. (3) Two inputs with selector switch for high and low gain. (4) Continuous variable low frequency tone control. (5) High frequency equalization through use of a stepped controlled low pass filter which gives sharp cutoff of noise frequencies yet allows full reproduction of usable high frequencies. Operation of this low pass filter is quite different from customary treble tone control and is only available generally on the most expensive amplifiers. (6) Equalization for phonograph pickup in the first amplification stage designed primarily for the new General Electric variable reluctance or Pickering pickup but which also meets the requirements of other types of reproducers for the reproduction of commercial recordings. This phonograph equalization which is not in the low gain input circuit for radio, can be removed by unsoldering a strap when a microphone is used on high gain phonograph input for P.A. work. This leaves a flat frequency response that can be varied by means of the bass and treble tone controls.

The Altec Lansing A-324A Amplifier is a portable 15-watt Public Address amplifier designed for use in high quality public address and music systems.

The outstanding features of this amplifier are: (1) **Flat** frequency response ±1 db from 20 cycles to 20,000 cycles (when tone controls are set for flat response). (2) Delivers full rated **Power** within 1 db from 35 cycles to 12,000 cycles. (3) **Two** high-gain low-impedance microphone inputs with individual volume controls on each input for mixing purposes. (4) **Two** low-gain high-impedance inputs for AM or FM tuner, crystal phonograph pickup or high impedance microphone. These two inputs have a dual "fader" type volume control which allows fading smoothly from one input to the other. (5) Bass control gives flat bass response or continuously variable bass boost of 12 db at 50 cyles. When set at "PA" position, the bass response of the low impedance microphone inputs is attenuated to eliminate "boominess" due to improper microphone technique. (6) Continuously variable treble attenuator from flat response. (7) Microphone input transformers have electrostatic shield between primary and secondary, and 90 db of magnetic shielding — eliminating hum pickup from stray magnetic fields. (8) Extra AC power socket on chassis for connecting radio tuner or record changer. (9) Pilot lamp jewel indicates when amplifier is in operation.

The Altec Model A-324A Amplifier is a professional amplifier, constructed of heavy duty parts and is designed for continuous service. Finish is grey crackle with chrome operating control panel.

SPECIFICATIONS

	A-323B	A-324A
GAIN	117 db (phono input) 77 db (radio input)	102 db (mic. #1 input) 102 db (mic. #2 input) 72 db (phono inputs #1 & #2)
GAIN CONTROL	Continuously variable	Continuously variable. Individual controls for microphone inputs. Dual fader type control for phono inputs.
FREQUENCY RESPONSE	20-20,000 cycles ±1 db	20-20,000 cycles ±1 db
POWER OUTPUT	15 watts (+34 db, .006 watts reference)	15 watts (+34 db, .006 watts reference)
POWER CHARACTERISTICS	Delivers full power within 1 db from 35 to 12,000 cycles	Delivers full power within 1 db from 35 to 12,000 cycles.
DISTORTION	No more than 2% total harmonics—less than 8% INTERMODULATION at 15 watts output	No more than 2% total harmonics—less than 8% intermodulation at 15 watts output
NOISE LEVEL AT FULL GAIN	—30 db (.006 watts reference) high gain input; —50 db (.006 watt reference) low gain input	—20 db (.006 watt reference) microphone input —45 db (.006 watt reference) phono input
INPUT IMPEDANCE	Both inputs, phono and radio, are 500,000 ohms	Microphone #1 30-250-500/600 ohms Microphone #2 30-250-500/600 ohms Phono #1 and #2 500,000 ohms
OUTPUT IMPEDANCE	2.5-5, 8-12, 16-24 ohms	2.5-5, 8-12, 16-24 ohms
POWER SUPPLY	110-125 V. AC, 50-65 cycles, 110 watts. Fused.	110-125 V. AC, 50-60 cycles. Fused.
TUBES USED	2—6J7, 1—6J5, 2—6L6G, 1—5U4G. Tubes furnished with amplifier	3—6J7, 1—6J5, 2—6L6G, 1—5U4G. Tubes furnished with amplifier
DIMENSIONS	9″ x 12″ x 9″ high including cover	9″ x 12″ x 9″ high including cover
WEIGHT	12 lbs.	14 lbs.
FINISH	Dark Grey Crackle Chrome Operating Panel	Dark Grey Crackle Chrome Operating Panel
LIST PRICE	**$177.32** (price includes Excise Tax)	**$240.00** no excise tax
ACCESSORIES	Input connector plugs supplied with amplifier. 10349 Carrying cover must be ordered as a separate item. List price—**$11.33**	Input connector plugs supplied with amplifier 10349 Carrying Cover must be ordered as a separate item, List price—**$11.33**

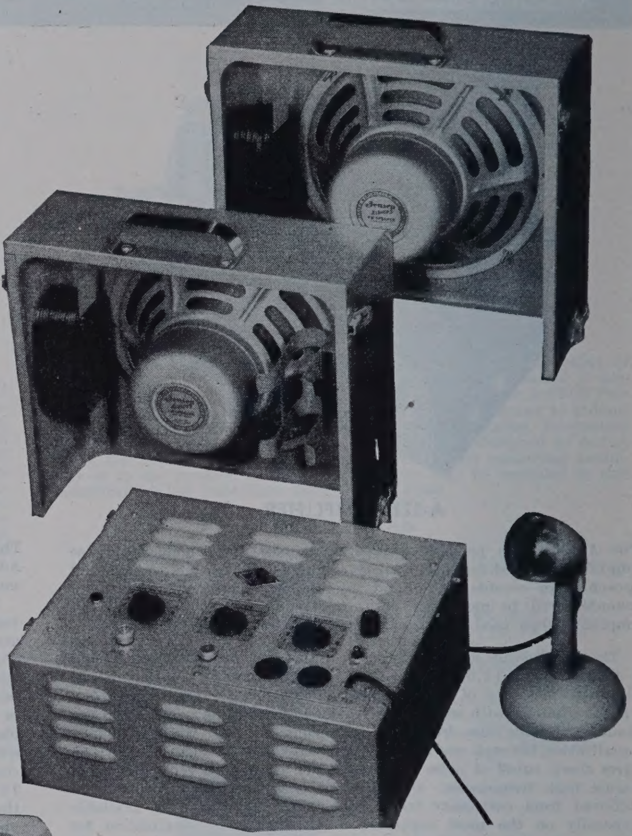
HAMILTON ELECTRONICS

DS SERIES OF PORTABLE AMPLIFIER SYSTEMS

HAMILTON amplifier systems operate on 110-125 volt, 60 cycles, alternating current. Each system comes complete in all respects, including tubes, microphone, speakers and instructions.

Hamilton amplifier systems are housed in a single three-piece carrying case. Each piece fastens securely and easily. The upper halves each hold a heavy duty Jensen Alnico V speaker, plus a 25-foot cable with plug attached. The lower section of the case contains the perfect tone amplifier. The crystal microphone with shielded plug-in and 25 feet of cable rests in a special holder.

All the controls for the DS series amplifier are on the front panel, along with the toggle power switch, pilot light and protective fuse. Nothing is hidden or hard-to-get-at. The independent volume controls for both channels allow perfect mixing of sound. Bass-treble tone control permits tonal range from deep bass to high treble and allows for acoustical compensation wherever the equipment is used. Each Hamilton amplifier system has its own set of matched tubes, the larger units having the tubes clamped down.



MODEL SPECIFICATIONS

DS-720 — 20 watts........ **List Price $175.00**

Size: 14" x 12" x 20". Net wt.: 43 lbs. Shipping wt.: 52 lbs. Tubes: 1-6SJ7, 1-6SL7, 2-6L6G, 1-5U4G. 12" speakers.

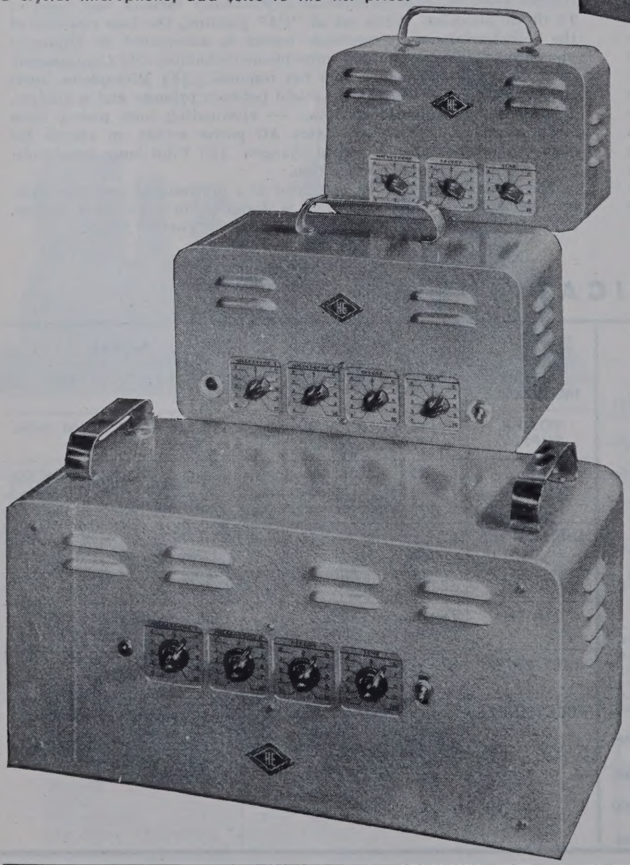
DS-715 — 15 watts........ **List Price $150.00**

Size: 12" x 10' x 18". Net wt.: 34 lbs. Shipping wt.: 42 lbs. Tubes: 1-6SJ7, 1-6SL7, 2-6L6GT, 1-5Y3GT. 10" speakers.

DS-710 — 10 watts........ **List Price $125.00**

Size: 11" x 9" x 16". Net wt.: 26 lbs. Shipping wt.: 38 lbs. Tubes: 1-6SJ7, 1-6SL7, 2-6V6GT, 1-5Y3GT. 8" speakers.

DYNAMIC MICROPHONE—For a dynamic microphone instead of a crystal microphone, add $5.00 to the list price.



H SERIES OF AMPLIFIERS

H-707-A SPECIFICATIONS — 7-watt output. Tubes: 2-6SJ7, 1-6L6, 1-5Y3GT. Inputs: 1 Microphone, 1 Phono; both high impedance. Output impedances to voice coil. Operates on 117-volt, 60 cycles, draws 65 watts. Baked grey hammerloid finish. Size: 11" x 7" x 5". Net wt.: 9 lbs.; shipping wt.: 12 lbs. Audience coverage, up to 700 persons; area coverage, up to 4000 square feet. This is the ideal amplifier for all those smaller installations. **H-707-A — List Price $48.00**

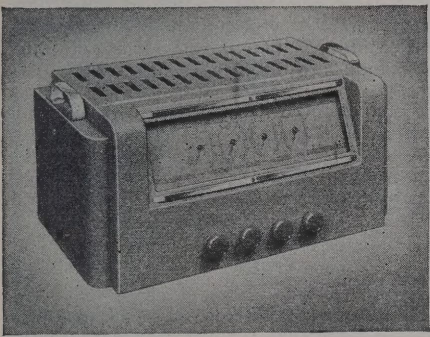
H-715-B SPECIFICATIONS — 15-watt output. Tubes: 2-6SJ7, 1-6SL7, 2-6L6, 1-5Y3GT. Inputs: 2 Microphones, 1 Phono; all high impedance. Output impedances: 4, 8, 15 and 500 ohms. Operates on 117-volt, 60 cycles, draws 100 watts. Baked grey hammerloid finish. Size: 14" x 7½" x 6½". Net wt.: 14½ lbs.; shipping wt.: 21 lbs. The tried and tested amplifier for general PA work. Many are in operation in garages, churches, factories, school auditoriums and restaurants. Will cover audiences up to 1500 people or an area of 8000 square feet. **H-715-B — List Price $75.00**

H-730-B SPECIFICATIONS — 30-watt output. Tubes: 3-6SJ7, 1-6SN7, 2-807, 1-5Z3. Inputs: 2 Microphones, 1 Phono; all high impedance. Output impedances: 4, 8, 15 and 500 ohms. Operates on 117-volt, 60 cycles, draws 145 watts. Baked grey hammerloid finish. Size: 10" x 20" x 8½". Net wt.: 27 lbs.; shipping wt.: 45 lbs. An outstanding amplifier value, low in cost but high in quality. This amplifier will fill 75% of all sound job requirements. **H-730-B — List Price $125.00**

H-750-B SPECIFICATIONS — 50-watt otuput. Tubes: 3-6SJ7, 1-6SN7, 4-807, 1-83. Inputs: 2 Microphones, 1 Phono; all high impedance. Output impedances: 4, 8, 15 and 500 ohms. Operates on 117-volt, 60 cycles, draws 245 watts. Baked grey hammerloid finish. Size: 10" x 20" x 10". Net wt.: 31 lbs.; shipping wt.: 48 lbs. One of the finest ampliers obtainable; only the highest quality parts and the best workmanship are put into it. The ideal amplifier for the large job where volume or coverage is needed. This is really high-power sound. **H-750-B — List Price $175.00**

BELL SOUND EQUIPMENT

15 WATT BELL AMPLIFIER Model 3715



- Three Input Circuits.
- Illuminated Control Panel.
- Beam Power Output Tubes.
- Simplified Operation.
- Exceptional Tone Quality.

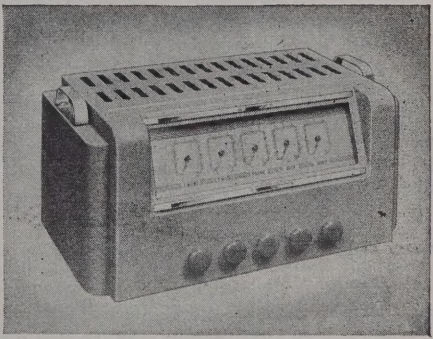
This amplifier is as fine in performance as it's functional and modern design suggests. The beautiful gray and silver case, with it's illuminated, full-view control panel, is high lighted by distinctive red plastic control knobs. The amplifier has an undistorted output of 15 watts with a peak of 18 watts. It utilizes push-pull beam power output tubes, inverse feedback that reduces harmonic distortion, and has three input channels with separate volume controls that permit mixing of two microphones and a phonograph simultaneously.

SPECIFICATIONS
Model 3715

Power Output: 15 Watts at less than 5%. Peak Power 18 Watts.
Freq. Response: Plus or Minus 1 db. 30 to 13,000 Cycles.
Overall Gain: Microphone Channels 120 db.; Phono Channel 87 db.
Hum Level: —63 db. Below Rated Output.
Inputs: 2 Microphone; 1 Phonograph.
Input Imped: Microphone Channels 10 Megs; Phono Channel ½ Meg.
Controls: 2 Microphone Volume Controls; 1 Phono Volume Control; 1 Tone Cont. W/AC Switch.
Output Imp: 2.5; 4; 8; 15; 250; 500 ohms.
Power Cons: 100 Watts; 117 Volts; 50-60 Cycles.
Tubes: 2—7B7; 1—6SF5; 1—6N7; 2—6V6G; 1—5U4G.
Dimensions: 11½" Deep; 8" High; 16½" Wide.
Shipping Weight: 32 lbs.

25 WATT BELL AMPLIFIER Model 3725

An ideal Amplifier of medium wattage. This seven tube model has proven to be one of the most popular units that Bell has ever manufactured. For a good all around amplifier of medium price it cannot be beaten. Experienced engineering and time proven circuits has made it one that thousands of users rely on day in and day out for continuous satisfactory service. The Model 3725 is truly the "Work Horse" of Bell's entire amplifier line.

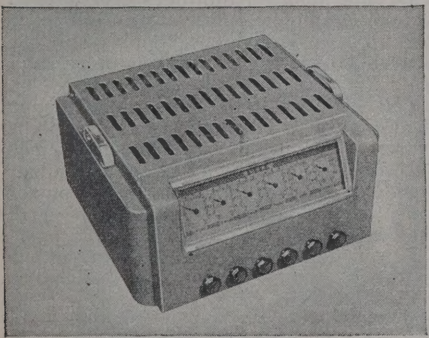


- Treble and Bass Boost.
- Ultra-Modern Design.
- Three Input Circuits.
- Illuminated Control Panel.
- Built to Last—Easy to Service.

SPECIFICATIONS
Model 3725

Power Output: 25 Watts at Less than 5%. Peak Power 33 Watts.
Freq. Response: Plus or Minus 2 db. 50 to 18,000 Cycles.
Overall Gain: Microphone Channels 122 db.; Phono Channel 89 db.
Hum Level: —65 db. Below Rated Output.
Inputs: 2 Microphone; 1 Phonograph.
Input Imped: Micro. Channels 10 Megs: Phono Channel ½ Meg.
Controls: 2 Microphone Volume Controls: 1 Phono Vol. Control: 1 Bass Tone Cont.; 1 Treble Tone Cont. W/AC Sw.
Output Imp: 2.5; 4; 8; 15; 250; 500 ohm.
Power Cons.: 150 Watts; 117 Volts; 50-60 Cycles.
Tubes: 2—7B7; 1—6SF5; 1—6N7; 2—6L6G; 1—5U4G.
Dimensions: 11½" Deep; 8" High; 16½" Wide.
Shipping Weight: 38 lbs.

50 WATT BELL AMPLIFIER Model 3750



- Rugged Construction.
- Four Inputs.
- Bass and Treble Boost.
- Available for Remote Standby Operation.
- Excellent Frequency Response.

This unit offers "powerhouse" performance with sufficient wattage to cover 90% of all commercial sound requirements. It has power to spare and has been designed for the ultimate in flexibility and operation. Three microphones and a phonograph can be simultaneously mixed by the operator. New tone control circuits, operating in an inverse feedback network, provide extremely wide tone adjustments with greatly reduced distortion. For example, the Bass Control is adjustable from flat response to plus 10 db or to minus 20 db and the treble control from plus 8 db to minus 22 db, 30 db overall.

SPECIFICATIONS
Model 3750

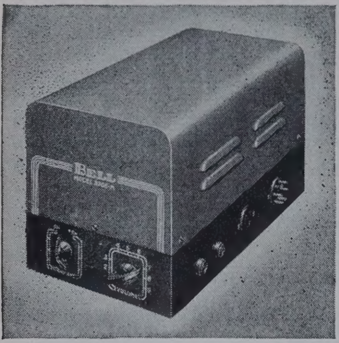
Power Output: 50 Watts at Less than 5%. Peak Power 88 Watts.
Freq. Response: Plus or Minus 1 db., 30 to 15,000 Cycles.
Overall Gain: Microphone Channels 125 db.; Phono Channel 90 db.
Hum Level: —67 db. Below Rated Output.
Inputs: 3 Microphone; 1 Phonograph.
Input Imped: Microphone Channels 10 Megs: Phono Channel ½ Meg.
Controls: 3 Microphone Volume Controls; 1 Phono Volume Control; 1 Bass Tone Cont; 1 Treble Tone Cont. W/AC Switch.
Output Imp: 2.5; 4; 8; 15; 250; 500 ohms.
Power Cons: 260 Watts; 117 Volts; 50-60 Cycles.
Tubes: 3—7C6; 3—6SC7; 1—6SN7; 2—6L6G; 1—5U4G; 1—5R4GY; 1—5V4G.
Dimensions: 16½" Deep; 8" High; 16½" Wide.
Shipping Weight: 62 lbs.

Model 3750-R **same as above but provided with a relay to permit remote operation of "B" supply.**

Mfg. by **THE BELL SOUND SYSTEMS, Inc. •**

BELL SOUND EQUIPMENT

6 WATT BELL MOBILE AMPLIFIER — Model 3706-M



- Phono & Micro Inputs.
- Chassis Removable for Servicing.
- Fits under most dashboards.
- Battery Stand-by Switch.

Here is a brand new addition to the time-proven Bell line of amplifiers. A compact, rugged and amazingly efficient low wattage mobile amplifier. It was especially designed for use by Municipal Police and Fire Departments, Safety Patrols, Traffic Control and outdoor audible advertising. The tubes and vibrator can be inspected or changed without disturbing the installation because the chassis and front panel are so constructed that they easily slide out of the case. In an emergency a whole new spare unit can be inserted in the case. It will operate on 6 volts DC or 117 volts 60 cycles and is provided with a standby switch to conserve battery drain. It comes complete with two cables. Any high impedance microphone can be used with this amplifier.

SPECIFICATIONS
Model 3706-M

Power Output: 6 Watts at Less than 5%. Peak Power 8 Watts.
Freq. Response: Plus or Minus 2 db., 60 to 15,000 Cycles.
Overall Gain: Microphone Channel 112 db.; Phono Channel 75 db.
Hum Level: —60 db. Below Rated Output.
Inputs: 1 Microphone; 1 Phonograph.
Input Imped: Microphone Channel 10 meg.; Phono Channel 1 meg.
Controls: 1 Microphone and Phono Volume Control with Power Switch; 1 Battery saver stand-by switch.
Output Imp: 4; 8; 15 ohms.
Power Cons: 45 Watts; 117 Volts; 60 Cycles; 8 Amperes; 6 Volts D.C.
Tubes: 1-6SJ7; 1-6SN7; 1-6L6; 1-6X5GT.
Dimensions: 10″ Deep; 6½″ High; 5½″ Wide.
Shipping Weight: 15 lbs.

25 WATT BELL MOBILE AMPLIFIER — Model 3723-M

This unit is another new member of the Bell line of Amplifiers. It is a medium wattage mobile Amplifier of the most modern design. It has a microphone input and a built-in phono unit. The volume of both the microphone and phono are individually controlled and in addition, a tone control is provided to permit individual selection or adjustment of the bass or treble response. There is also a stand-by switch provided to turn off the "B" supply while the filaments remain heated. This permits economical operation and extends the life of the battery power supply.

SPECIFICATIONS
Model 3723-M

Power Output: 25 Watts at Less than 5%. Peak Power 38 Watts.
Freq. Response: Plus or Minus 2 db. 30 to 15,000 Cycles.
Overall Gain: Microphone Channel 115 db.; Phono Channel 82 db.
Hum Level: —60 db. Below Rated Output.
Inputs: 1 Microphone; 1 Phonograph.
Input Imped: Microphone Channel 10 meg.; Phono Channel ½ meg.
Controls: 1 Microphone Volume Control; 1 Phono Volume Control; 1 Tone Control W/AC Switch, 1 Standby Switch, 1 Phono motor off-on switch.
Output Imp: 2.5; 4; 8; 15; 250; 500 ohms.
Power Con: 115 Watts; 117 Volts 60 Cycles; 19 Amperes; 6 Volts D.C.
Tubes: 1-7B4; 1-6C5; 1-6SN7; 2-6L6; 2-6X5GT.
Dimensions: 11½″ Deep; 10″ High; 16½″ Wide.
Shipping Weight: 40 lbs.

- Built in Phono unit.
- Standard Bell Cabinet.
- Illuminated Control Panel.
- Remote Drive on Controls.
- Heavy Steel Construction.

30 WATT BELL MOBILE AMPLIFIER — Model 3728-M

- Astatic AB-8M Mobile Pickup.
- Circuit Breaker Protection on 6 volts.
- Bass Boost and Treble Compensators.
- Power Economizer Switch.
- Three Input Channels.
- Heavy Duty Dual Vibrator.

One of the most completely satisfying mobile Amplifiers ever offered for general use. The "Moto-Master" combines a 30-watt amplifier of tone and quality, with a phono pickup of new design, that plays all 12″ and smaller records. Market research proves it's capacity is more than ample for the majority of needs.

This high gain unit operates on either a 6 volt DC storage battery or 117 volt 60 cycle AC line current. Conversion from one type of current to another is achieved by simply removing one plug and inserting the other. Current consumption on battery is reduced by a power economizer switch. High fidelity; improved wide range tone controls; beam power output tubes; and two microphones inputs and one phono input, each with separate volume controls are features of the "Moto-Master".

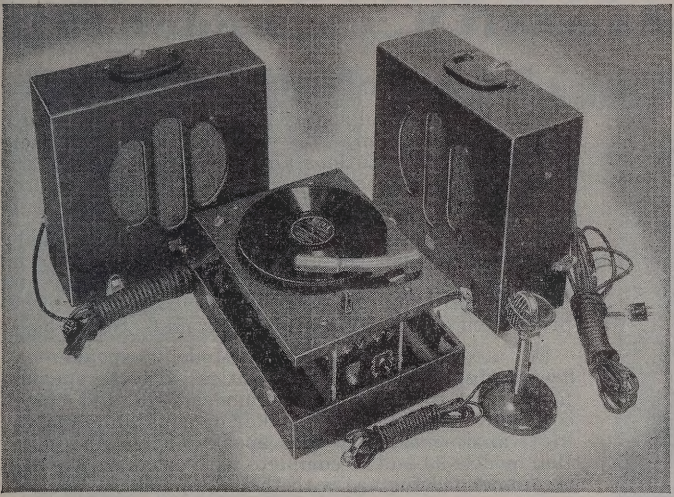
Turntable speed of 78 r.p.m. New type crystal pickup stays "in the groove."

SPECIFICATIONS
Model 3728-M

Power Output: 30 watts at Less than 5%. Peak Power 45 Watts.
Freq. Response: Plus or Minus 2 db. 50 to 14,000 Cycles.
Overall Gain: Microphone Channels 120 db.; Phono Channel 84 db.
Hum Level: —60 db. Below Rated Output AC; —58 db. on DC.
Inputs: 2 Microphone; 1 Phonograph.
Input Imped: Microphone Channels 10 Meg.; Phono Channel 1 Meg.
Controls: 2 Microphone Volume Controls; 1 Phono Volume Control; 1 Bass Tone Cont; 1 Treble Tone Cont. with Power Switch; 1 Stand by Switch; 1 Phono OFF-ON Switch.
Output Imp: 2.5; 4; 8; 15; 250; 500 ohms.
Power Cons: 22 amp., 6 volts DC; 120 watts; 117 volts; 60 Cycles.
Tubes: 1-7Y4; 2—7Z4; 3—7B4; 1—6SL7; 2—6L6GA.
Dimensions: 16½″ Deep; 10″ High; 16½″ Wide.
Shipping Weight: 60 lbs.

Mfg. by THE BELL SOUND SYSTEMS, Inc. •

BELL SOUND EQUIPMENT



10 WATT BELL PHONO-PA SYSTEM

SPECIFICATIONS Model PA-3710-P

Amplifier: 3710.

Speakers: 2-10″ Heavy Duty P.M.

Cables: 2-25′ Type SV with Plugs.

Phono Equipment: 78 RPM Turntable with Crystal Pickup.

Microphone: JT-30 with desk type stand.

Microphone Cable: 15′ Shielded Rubber with Connector.

Microphone Stand: Furnished with Micro.

Case: Model 3710, 3 piece Portable.

Dimensions: 12″ Deep; 18½″ High; 15¾″ Wide.

Shipping Weight: 50 lbs.

15 WATT BELL SINGLE CASE PA SYSTEM

SPECIFICATIONS Model PA-3715-E

Amplifier: 3715 (See page B-5).

Speakers: 2-10″ Heavy Duty P.M.

Cables: 2-25′ Type SV with Plugs.

Built-in Phono Equipment: None.

Microphone: JT-30 with desk-type stand.

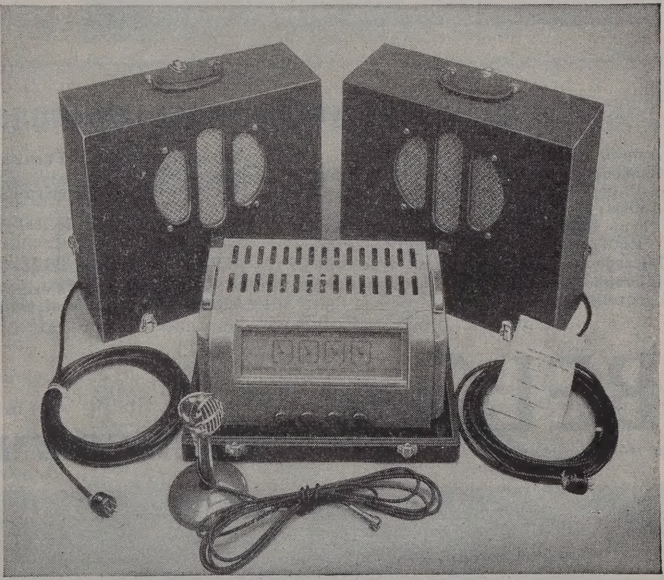
Microphone Cable: 15′ Shielded Rubber with Connector.

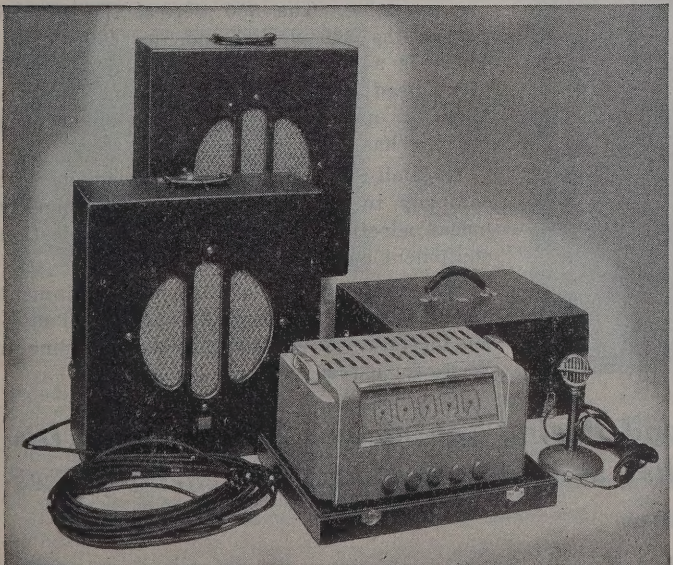
Microphone Stand: Furnished with Micro.

Case: Model 15 Three pc.

Dimensions: 13¾″ Deep; 19¾″ High; 17¾″ Wide.

Shipping Weight: 62 lbs.





25 WATT BELL DUO-CASE PA SYSTEM

SPECIFICATIONS Model PA-3725-E

Amplifier: 3725 (See Page B-5).

Speakers: 2-12″ Heavy Duty P.M. with Line Matching Trans.

Cables: 2-50′ Type SV with Plugs.

Built-in Phono Equipment: None.

Microphone: JT-30 with desk type stand.

Microphone Cable: 15′ Shielded Rubber covered with Connector.

Microphone Stand: Furnished with Micro.

Case: 1 Model 95. 1 Model 14-A.

Dimensions: Model 14-A, 13½″ Deep; 10¼″ High; 18″ Wide.

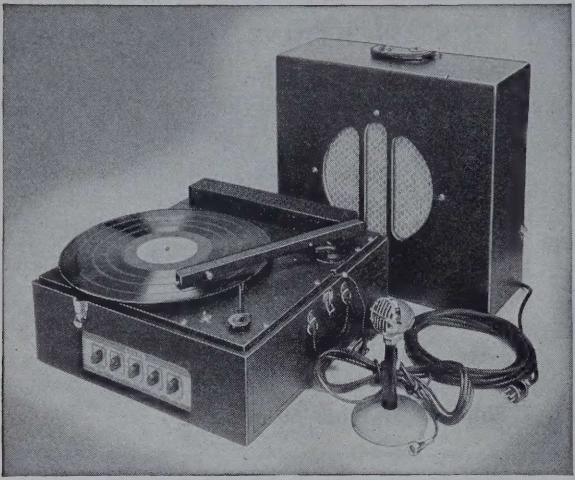
Model 95, 10¼″ Deep; 19¾″ High; 19″ Wide.

Shipping Weight: Complete System, 90 lbs.

***Mfg. by* THE BELL SOUND SYSTEMS, Inc.** •

BELL SOUND EQUIPMENT

25 WATT BELL PHONO-PA SYSTEM Model 2078



The School-Master

The Bell "Schoolmaster" has been received with great public acclaim. This unit has proven extremely popular with institutions and schools throughout the country. One city school system has over one hundred of these units in operation.

Practically every need for high quality public address and music coverage is met with this system. With it's governor-controlled, two speed motor and professional type tone arm, it will give excellent reproduction of lateral cut records from 6″ to 16″.

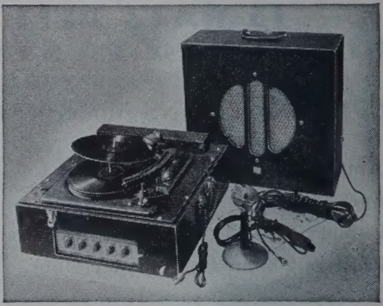
For auxiliary equipment, the Model 98 speaker has been designed. This unit is identical with the speaker portion or top half of the model 2078 and comes complete with a P-12-Q speaker or equal, line matching transformer, fifty foot speaker cable and plug. Bell models 93 and 95 complete with speakers are also recommended for use with this equipment.

SPECIFICATIONS Model No. 2078

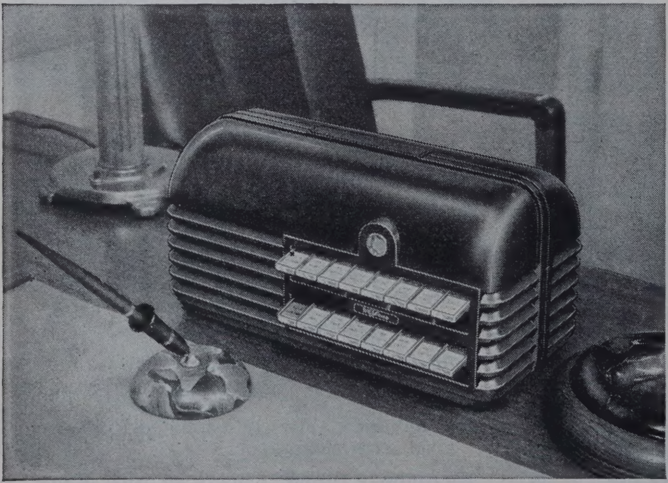
Amplifier: 3725 (See page B-5).
Speakers: 1—12″ P-12-Q or equal Heavy Duty P.M.
Cables: 25′ Type SV with plug.
Phono Equip: Built-in 2—Speed (78-33⅓ RPM) Motor; Type HP-16 Tone Arm.
Microphone: JT-30 with desk type Stand.
Microphone Cable: 15′ Shielded Rubber covered with Connector.
Microphone Stand: Furnished with Micro.
Case: Model 2078.
Dimensions: 19″ Deep; 13¼″ High; 19¾″ Wide.
Shipping Weight: 73 lbs.

Model 2078-CH

Same as Model 2078 except with Webster 56 Changer in place of transcription unit.



BELfone INTERCOMMUNICATION SYSTEMS



WE offer the finest and most complete line of inter-office communicating equipment in the world today.

Four entirely different series of BELfones are available. The 350 Series, the 374-SS Series, the 440 Series and the 460 Series. There is a BELfone System that will meet every need; and for clarity of tone, appearance, low operating cost and maintenance, the Bell line has no peer.

The Bell Sound Systems, Inc., was the first company to design and produce reasonably priced electronic inter-office communication equipment commercially.

The complete line of BELfone equipment and accessories are shown in our special catalog for inter-office communicating equipment. Write for it today.

Bell also builds *Industrial Sound and Paging Equipment; School Sound Distribution Systems; Recording Units;* and *other Sound Equipment and Accessories.* For further details write to

BELL SOUND SYSTEMS, Inc. •

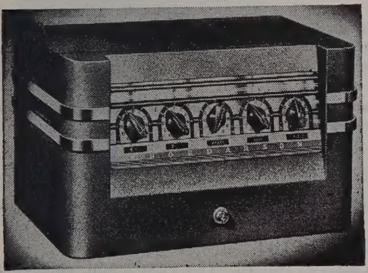
THORDARSON AMPLIFIERS

THORDARSON 8 WATT AMPLIFIER — T-31W08

This amplifier combines maximum performance with minimum size. It is ideal for ballyhoo installations, carnivals, or inter-phone applications. The quality is such that it may be used for reproduction of the finest records. Individual controls for phono and microphone provide electronic mixing. The treble attenuation tone control has sufficiently smooth operation for satisfactory elimination of needle scratch or objectionable highs; or with the control in a normal position the highest treble tone can be clearly reproduced.

List Price $64.00

POWER OUTPUT—8 Watts (+31.25 Db) at less than 9% distortion.
TWO INPUT CIRCUITS—
One high impedance microphone channel—115 Db gain (based on 100,000 ohms input impedance).
One high impedance phono channel—72 Db gain (based on 100,000 ohms input impedance).
All input circuits may be mixed.
Low impedance microphone input optional at slight additional cost (50, 250, or 500 ohms).
IMPROVED TONE CONTROL—(high frequency attenuator type). Maximum position attenuated 1,000 C.P.S. 4 Db, 5,000 C.P.S. 17 Db, 10,000 C.P.S. 22 Db.
FREQUENCY RESPONSE—Flat within 1 Db from 50 to 10,000 C.P.S.
CHASSIS TYPE CONSTRUCTION—Attractive three-tone control panel.
INVERSE FEED-BACK CIRCUIT.
OUTPUT IMPEDANCES—4, 8, 15, 250, 500 ohms—all available at an 8-prong receptacle.
HUM LEVEL—60 Db below rated output.
TUBES—1-6J7; 1-6SJ7; 1-6L6; 1-5Y3.
DIMENSIONS—10″ x 6″ x 7½″ high.
POWER CONSUMPTION—70 watts, 110-120 volts, 50-60 cycles other primary voltages on special order).
(**WEIGHT NET**—14¾ pounds; shipping 16 pounds.

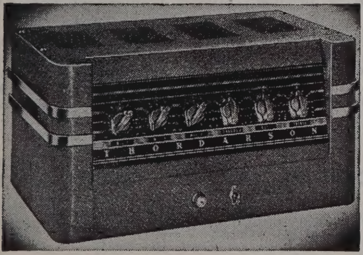


THORDARSON 25 WATT AMPLIFIER — T-31W25AX

Sufficient undistorted power is available from this unit for large auditorium or night club installations. Two low level inputs and one high level input will allow the use of two microphones with low impedances or high impedances to be satisfactorily mixed with a phono input for musical background. The attractive front panel is supplied with three gain controls and two tone controls. The tone controls provide individual bass or treble attenuation to eliminate undesirable highs in recordings or undesirable lows for crisp speech output. When the tone controls are in the normal position—Tru-Fidelity output is available.

List Price $135.00

POWER OUTPUT—25 watts (+36.2 Db) at less than 3% distortion.
TWO INPUT CIRCUITS—
One high-impedance microphone channels—116 Db gain (based on 100,000 ohms input impedance).
One high impedance phono channel—72 Db gain (based on 100,000 ohms input impedance).
Low impedance microphone input optional at slight additional cost (50, 250, 500 ohms).
All input circuits may be mixed.
INPOVED TONE CONTROLS (Treble and bass attenuators).
Maximum attenuation positions.
Bass—50 C.P.S.—20 Db. 100 C.P.S.—12 Db.
Treble—1,000 C.P.S.—4 Db 5,000 C.P.S.—15 Db 10,000 C.P.S.—23 Db.
FREQUENCY RESPONSE—Flat within 1 Db from 30 to 15,000 C.P.S.
FULLY ENCLOSED CONSTRUCTION—All-steel streamlined cabinet—Attractive three-tone control panel.
MULTIPLE INVERSE FEED-BACK CIRCUIT.
OUTPUT IMPEDANCES—4, 8, 15, 250, 500 ohms—all available at 8-prong receptacles, selected by means of a switch.
HUM LEVEL—65 Db below rated output.
TUBES—2-6J7; 1-6SJ7; 1-6N7; 2-6L6; 1-5X4G.
DIMENSIONS—15½″ x 10″ x 9″ high.
POWER CONSUMPTION—137 watts—110-120 volts, 50-60 cycles (other primary voltages on special order).
WEIGHT NET—28 pounds; shipping 32 pounds.



THORDARSON 50 WATT AMPLIFIER — T-31W50AX

This amplifier employs 4-Beam Power tubes; is conservatively rated at 50 watts and will supply over 65 watts of peak power. The unit is ideal for large stadium or roller-rink applications. The three low-level microphone and two high-level phono inputs will satisfactorily handle the most elaborate mixing applications. Dual tone controls will attenuate individually either the bass or treble or individually boost the bass or treble. Either low or high impedance inputs may be accommodated. The range of output impedances provided will accommodate multiple speaker applications.

List Price $260.00

POWER OUTPUT—50 Watts (+39.6 Db) at less than 5% distortion.
FIVE INPUT CIRCUITS—
Three input microphone channels—115 Db gain (based on 100,000 ohms input impedance).
Two phono fader inputs—75 Db gain (based on 100,000 ohms input impedance).
Low impedance microphone input optional at slight additional cost (50, 250, 500 ohms).
TWO TONE CONTROLS—
One bass control providing a bass boost of 9½ Db at 80 C.P.S. to a bass attenuation of 25 Db at 80 C.P.S.
One treble control providing a boost of 11½ Db at 8,000 C.P.S. to an attenuation of 25 Db at 8,000 C.P.S.
Nine extreme individual response curves available with the two tone controls.

FREQUENCY RESPONSE—Flat within 1 Db from 30 to 15,000.

CHASSIS TYPE CONSTRUCTION—All-steel streamlined cabinet—attractive three-tone control panel.

INVERSE FEED-BACK CIRCUIT.

OUTPUT IMPEDANCES—4, 6, 8, 15, 125, 250 and 500 ohms—selected by means of a selector switch.

HUM LEVEL—70 Db below rated output.

TUBES—2-5X4; 1-6X5; 4-6L6; 1-6V6; 3-6J7; 1-6SJ7; 1-6J5.

DIMENSIONS—17″ x 11¾″ x 8¾″ high.

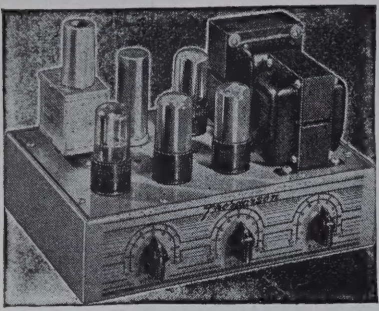
POWER CONSUMPTION—250 Watts at 110-120 volts, 50-60 cycles (other primary voltages on special order).

WEIGHT NET—44 pounds; shipping 50 pounds.

TRANSFORMER SPECIALISTS SINCE 1895 **THORDARSON**

THORDARSON AMPLIFIERS

T-32W10 AUDIO AMPLIFIER



America's greatest value in quality. **VERSATILE**—available with or without pre-amplifier. Buy only what you need, add pre-amplifier if needed later.

FEATURES—Frequency responses from 20 to 20,000 cycles ● —70 DB hum level below rated output ● Adequate gain to obtain full output from the ordinary high impedance pickup or tuner ● A treble boost and treble attenuation tone control feature ● A bass boost or flat response control ● Both tone controls continuously variable ● Output for 3 to 4 ohms, or 15 to 16 ohms which covers all popular high fidelity speakers ● The unit will be supplied with felt mounting feet and a separate bracket for permanent installations ● Gray hammertone finish ● A pre-wired socket will allow the use of a T-32W00 plug-in-pre-amp which will accommodate any of the popular magnetic reluctance phono pickups or a high impedance microphone ● A frequency compensated pre-amplifier, T-32W00 can be supplied with 15 DB of bass compensation for use with magnetic phone pickups. The bass compensation can be removed for flat response when microphone operation is desired ● Output impedances are terminated to a four-screw terminal board ● Tubes: One 6SL7-GT, two 6V6-GT, one 5Y3-GT ● Complete with self-contained power supply, 115 volts A.C., and tubes ● Output—10 clean watts at less than 2% distortion.

New THORDARSON **T-32W10** AUDIO AMPLIFIER. Less T-32W00 Pre-Amplifier—but *complete* for use with high impedance pickup or tuner. **List Price $55.00**

New THORDARSON **T-32W00** Plug-in Pre-Amplifier. Necessary when Audio Amplifier is to be used with any of the popular reluctance phono pickups or high impedance microphones. **List Price $9.90**

T-31W10AX TRU-FIDELITY PHONO-AMPLIFIER

Unique in design the Thordarson 10 Watt Phono Amplifier combines versatility of application with Tru-Fidelity performance. Both microphone and phono input channels allow the 31W10AX to be used in conjunction with the High-Fidelity Meissner AM-FM Tuner and other tuners of comparable performance; as a speech amplifier in amateur transmitters; or as the amplifier section in a recording set-up. Little is left to be desired in naturalness and brilliance of tone.

Separate bass and treble controls with both boost and attenuation action assure complete adaptation of the output to all acoustical conditions, plus the pleasure of listening to music the way it is desired to be heard. Production cost is lowered by the mounting of this unit on a simple chassis inasmuch as the amplifier is usually installed in cabinet, no cover is required. LIST PRICE $127.50

T-31W10AX Specifications

POWER OUTPUT—10 Watts at less than 5% distortion (50 to 10,000 cycles).

TWO INPUT CIRCUITS—

One high impedance microphone channel—107 Db gain (based on 100,000 ohms input impedance).

One high impedance phono channel—71 Db gain (based on 100,000 ohms input impedance).

TWO TONE CONTROLS—

One bass control providing a bass boost of 12 Db at 80 C.P.S. to a bass attenuation of 13 Db at 80 C.P.S.

One treble control providing a treble boost of 12 Db at 8000 C.P.S. to an attenuation of 18 Db at 8000 C.P.S.

FREQUENCY RESPONSE—Flat within 1 Db from 40 to 15,000 C.P.S.

CHASSIS TYPE CONSTRUCTION—Attractive three-tone control panel.

INVERSE FEED-BACK CIRCUIT

OUTPUT IMPEDANCES—4, 8, 15, 125, 250, 500 ohms—all available at an eight-prong receptacle.

HUM LEVEL—60 Db below maximum rated output.

TUBES—1-6J7; 1-6SJ7; 1-6J5; 1-6SN7; 2-6B4; 1-5U4G.

DIMENSIONS—14" x 8" x 7½" high.

POWER CONSUMPTION—117 Watts full signals—110-120 volts, 50-60 cycles (other primary voltages available on special order).

WEIGHT NET—19 pounds; shipping 22 pounds.

T-31W20AX 20 WATT MOBILE AMPLIFIER

Conservatively-rated, this universal mobile amplifier furnishes sufficient undistorted power for sound truck, picnic, carnival and similar installations that require the versatility of 6 volts D.C. volts and 115 volts A.C. operation.

The electric turntable and pick-up mounted on top of the amplifier operates practically in any position, whether tilted vertically or horizontally. Shock-mounted for smooth operation over rough terrain, it is truly versatile. With all connections on the back of the chassis, simplification of hook-up is provided, leaving trimness of style for the front panel.

Treble attenuation tone compensation makes allowance for correcting to acoustical conditions and reducing record scratch. Mixing procedure is completely controlled with the coupled phono and microphone input channels. LIST PRICE $200.00

T-31W20AX Specifications

POWER OUTPUT—20 Watts at less than 6% distortion (50 to 10,000 cycles).

TWO INPUT CIRCUITS—

One high impedance microphone channel—110 Db gain (based on 100,000 ohms input impedance).

One high impedance phono channel—72 Db gain (based on 100,000 ohms input impedance).

Both input circuits may be mixed.

FREQUENCY RESPONSE—Flat within 1 Db from 40 to 15,000 C.P.S.

IMPROVED TONE CONTROL—(high frequency attenuator type). Maximum position attenuated 1,000 C.P.S. 1 Db; 5,000 C.P.S. 10 Db; 10,000 C.PS. 16 Db.

T-31KO9 COVER

A trim grey wrinkle finish cover, perforated for complete ventilation; for use on the T-31W08 amplifier.

FULLY ENCLOSED CONSTRUCTION—Trim light grey wrinkle cabinet with three-tone control panel.

CRYSTAL PICK-UP—Specially-designed pick-up arm. Spring-action holds arm in place.

INVERSE FEED-BACK CIRCUIT.

OUTPUT IMPEDANCES—4, 8, 15, 125, 250, 500 ohms—all available at two 8-prong receptacles, selected with switch.

HUM LEVEL—66 Db below maximum rated output.

TUBES—1-6J7; 1-6SJ7; 1-6N7; 2-6L6; 2-6X5.

DIMENSIONS—15½" x 10" x 11" high.

POWER CONSUMPTION—140 Watts full signal—110-120 volts, 50-60 cycles; 6 volts D.C. 23 Amp. (6 volts standby current—5.15 Amps.).

WEIGHT NET—34½ pounds; shipping 39 pounds.

FOR BEST RESULTS SELECT

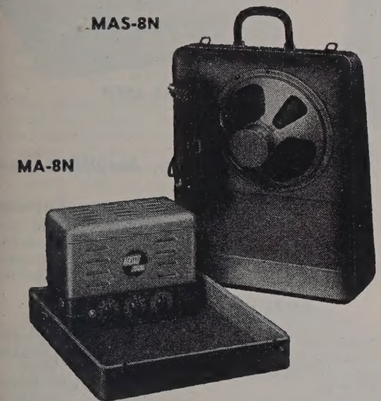
MASCO manufactures a complete line of amplifiers and sound systems ranging in power output from 8 to 75 watts, including phono-top, mobile, high fidelity and musical instrument amplifiers and recorders, transcription players, school systems, plant broadcasting and intercommunication systems. All *MASCO* amplifiers, many of which are shown as portable systems are recommended for use in FIXED SYSTEMS.

MASCO SOUND SYSTEMS

MA-8N 8-WATT AMPLIFIER *and* MAS-8N 8-WATT PORTABLE SYSTEM

AMPLIFIER FEATURES: Microphone and phono input separately controlled • Bass-treble tone control • Hammertone-finish chassis • Light, compact and sturdy • U/L Approved.

APPLICATIONS FOR AMPLIFIER AND SYSTEM: Both units are ideal for paging systems for bus and railroad stations and they are recommended for side shows, auction rooms, sales meetings, small taverns and clubs.



AMPLIFIER SPECIFICATIONS MODEL MA-8N

POWER OUTPUT......8 Watts, Class A, at less than 5% distortion
PEAK POWER......13 Watts
INPUTS......Two: 1-microphone, and 1-phono
FREQUENCY RESPONSE......± 2 DB 50 to 10,000 CPS
POWER GAIN...... Microphone, 128.5 DB; Phono, 75 DB
CONTROLS......Three: Microphone, Phono, Tone (On-Off Switch)
TUBES......1-6SF5, 1-6SJ7, 1-6L6G, 1-5Y3GT (Rectifier)
OUTPUT IMPEDANCES...3.2, 8 and 500 Ohms
HUM LEVEL......60 DB below output level of 8 Watts
POWER CONSUMPTION...75 Watts at 117 Volts
VOLTAGE......105-125 Volts, 60 CPS
DIMENSIONS......10″ x 6″ x 7½″ high

PRICES	**List Price**
MA-8N Amplifier (less Cover, less Tubes) Shipping Weight 14 lbs.	$47.75
Cover for MA-8N	4.50
Kit of Matched Tubes for MA-8N	7.25
Kit of Mached Plugs and Connectors	2.00
MAS-8N Portable System Shipping Weight: 30 lbs.	110.45

Consists of: 1—MA-8N Amplifier with Cover (less tubes)
1—Jensen P10-S 10″ PM Speaker, or equal
1—25-ft. Speaker Cable and Plug
1—Model 303 Portable Carrying Case (Attractive Luggage Style)
1—Astatic JT-30 Microphone with 12-ft. Cable and Connectors

(If microphone is not desired, deduct $14.00 from above list price. If cover is not desired with system, deduct from list price $4.50.)

MA-17N 17-WATT AMPLIFIER *and* MAS-17N 17-WATT PORTABLE SYSTEM

AMPLIFIER FEATURES: Two microphone inputs • One phono input • Individual volume controls • Separate bass and treble controls • Tapped line and voice-coil impedances • Impedance selector switch • U/L Approved.

APPLICATION FOR AMPLIFIER AND SYSTEM : They are suitable for small orchestras, lecturers, ballyhoo, store demonstrations, night clubs and ballrooms.

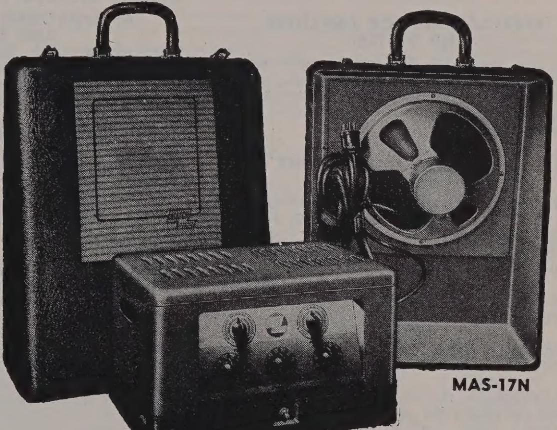
AMPLIFIER SPECIFICATIONS • MODEL MA-17N

POWER OUTPUT......17 Watts, Class A, at less than 5% distortion
PEAK OUTPUT......26 Watts
INPUTS......Three: 2-microphone, 1-phono
FREQUENCY RESPONSE......± 2 DB 50 to 12,000 CPS
POWER GAIN......Microphone, 132 DB; Phono, 78 DB
CONTROLS......Five: 2-microphone, Phono, Bass, Treble, Separate Power On-Off Switch
TUBES...1-6SC7, 1-6SJ7, 1-6SL7GT, 2-6L6G, 1-5V4G (Rectifier)
OUTPUT IMPEDANCES......4, 8, 15, 125, 250, 500 Ohms
HUM LEVEL......62 DB below output level of 17 Watts
POWER CONSUMPTION......125 Watts at 117 Volts
VOLTAGE......105-125 Volts, 60 CPS
DIMENSIONS......13″ x 8″ x 8⅜″ high

PRICES	**List Price**
MA-17N Amplifier (less Tubes) Shipping Weight: 45 lbs.	$75.75
Kit of Matched Tubes for MA-17N	14.25
Kit of Matched Plugs and Connectors	2.95
MAS-17N Portable System Shipping Weight: 45 lbs.	170.65

Consists of: 1—MA-17N Amplifier (less tubes)
2—Jensen P10-S 10″ PM Speakers, or equal
2—25-ft. Speaker Cables and Plugs
1—Model 304 Portable Carrying Case (attractive luggage style)
1 Astatic JT-30 Microphone with 12-ft. Cable and Connectors

(If microphone is not desired, deduct $14.00 from above list price)



MA-17PN 17-WATT PHONO TOP AMPLIFIER *and* MAS-17PN 17-WATT PHONO TOP PORTABLE SYSTEM

APPLICATION FOR AMPLIFIER AND SYSTEM:

For recorded music, alone or combined with voice • Plays 12″ and smaller records • Widely preferred as record demonstrators.

AMPLIFIER SPECIFICATIONS MODEL MA-17PN

Same as MA-17N (Described on this page) but includes phono-top.
Chassis size: 14″ x 11″ x 8⅜″.

PRICES	**List Price**
MA-17PN Amplifier (less tubes)	$105.25
Kit of Matched Tubes	14.25
Kit of Plugs and Connectors	1.90

PRICE	**List Price**
MAS-17PN Portable System Shipping Weight: 56 lbs.	$207.70

Consists of:
1—MA-17PN Amplifier (less tubes)
2—HEAVY-DUTY Jensen P12-S 12″ PM Speakers, or equal
2—25-ft. Speaker Cables and Plugs.
1—Model 305 Portable Carrying Case (attractive luggage style)
1—Astatic JT-30 Microphone with 12-ft. Cable and Connectors
(If microphone is not desired, deduct $14.00 from above list price)

To secure a LOW-IMPEDANCE INPUT for amplifiers, see PAGE B-13

WEST OF ROCKIES ADD 5% TO ABOVE LIST PRICES

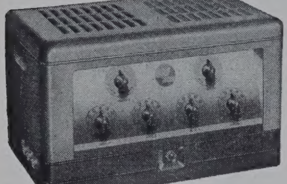
Amplifiers licensed under U.S. patents of Western Electric Company, Inc., and American Telephone and Telegraph Company. *Specifications and prices subject to change without notice.*

MARK SIMPSON MANUFACTURING CO. • LONG ISLAND CITY, N. Y.

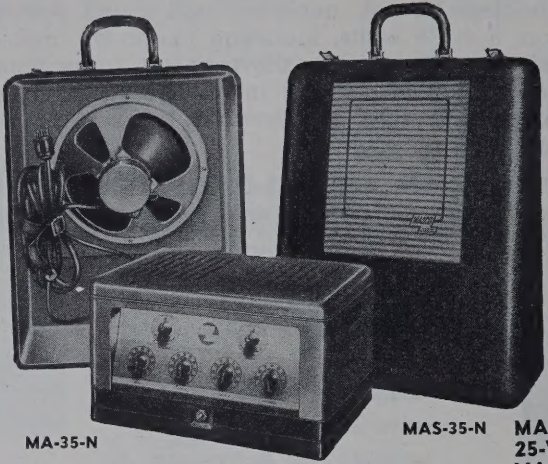
FOR BEST RESULTS SELECT MASCO SOUND SYSTEMS

TYPICAL PORTABLE SYSTEM ILLUSTRATED →

MAS-25N and MAS-25PN Systems incorporate carrying case as illustrated.



MA-25N MA-25NR



MA-35-N

MAS-35-N

MA-25PN

MA-25N 25-Watt Amplifier *and* MAS-25N 25-Watt Portable System

AMPLIFIER FEATURES: Four inputs • Four-channel electronic mixing • Separate bass and treble controls • Tapped line and voice-coil impedances • Full 25 watts of undistorted output • Over-all negative feedback • U/L Approved.

APPLICATIONS FOR AMPLIFIER AND SYSTEM:

They are ideal for the larger auditoriums, churches, night clubs, orchestras, indoor sports arenas, and also for outdoor use at fairs, bazaars, children's camps, and similar locations.

AMPLIFIER SPECIFICATIONS MODEL MA-25N

POWER OUTPUT	25 Watts, Class AB-1, at less than 5% distortion
PEAK POWER	40 Watts
INPUTS	Four: 3-microphone, 1-phono
FREQUENCY RESPONSE	± 2 DB 50 to 15,000 CPS
POWER GAIN	Microphone, 133.5 DB; Phono, 79 DB
CONTROLS	Six: 3-microphone, Phono, Bass, Treble, Separate Power On-Off Switch
TUBES	4-6J7, 2-6SC7, 2-6L6G, 1-5V4G (Rectifier)
OUTPUT IMPEDANCES	4, 8, 15, 125, 250, 500 Ohms
HUM LEVEL	64 DB below output level of 25 Watts
POWER CONSUMPTION	145 Watts at 117 Volts
VOLTAGE	105-125 Volts, 60 CPS
DIMENSIONS	15" x 8½" x 8⅜" high

PRICES	**List Price**
MA-25N Amplifier (less tubes) Shipping Weight: 30 lbs.	$92.30
Kit of Matched Tubes for MA-25N	20.20
Kit of Matched Plugs and Connectors	3.55
MAS-25N Portable System Shipping Weight: 60 lbs.	194.75

Consists of:
- 1—MA-25N Amplifier (less tubes)
- 2—Jensen P12-S 12" PM Speakers, or equal
- 2—25-ft. Speaker Cables and Plugs
- 1—Model 305 Portable Carrying Case (Attractive Luggage Style)
- 1—Astatic JT-30 Microphone with 12-ft. Cable and Connectors

(If microphone is not desired, deduct $14.00 from above List Price.)

MA-25NR 25-Watt Remote-Control Amplifier

The Model MA-25NR Remote-Control Amplifier follows closely all specifications for the Model MA-25N, but has, in addition, a built-in circuit for remote control of two of the microphone channels when used with the Model RCB Remote-Control Box as shown on page B-13.

PRICES	**List Price**
MA-25NR Remote-Control Amplifier (less tubes)	$99.80
Kit of Matched Tubes for MA-25NR	20.20
Kit of Matched Plugs and Connectors for MA-25NR	3.55

MA-35N 35-Watt Amplifier *and* MAS-35N 35-Watt Portable System

AMPLIFIER FEATURES: Four inputs • Three microphone and one phono input, each separately controlled • Electronic mixing over-all • Individual bass and treble equalizers • Tapped output impedances of 4, 8, 15, 125, 250, and 500 ohms • Over-all negative feedback.

APPLICATIONS FOR AMPLIFIER AND SYSTEM:

They are suitable for use at beaches and fairs, for paging and announcing at airports and terminals and the like, and equally ideal for orchestras, theatres and carnivals.

AMPLIFIER SPECIFICATIONS MODEL MA-35N

POWER OUTPUT	35 Watts, Class AB-2, at less than 5% distortion
PEAK POWER	50 Watts
INPUTS	Four: 3-microphone, 1-phono
FREQUENCY RESPONSE	± 2 DB 50 to 15,000 CPS
POWER GAIN	Microphone, 135 DB; Phono, 80.5 DB
CONTROLS	Six: 3-microphone, Phono, Bass, Treble, Separate Power On-Off Switch
TUBES	1-6SC7, 3-6J7, 3-6SN7GT, 2-6L6G, 1-5U4G, 1-6X5GT (Rectifier)
OUTPUT IMPEDANCES	4, 8, 15, 125, 250, 500 Ohms
HUM LEVEL	65 DB below output level of 35 Watts
POWER CONSUMPTION	190 Watts at 117 Volts
VOLTAGE	105-125 Volts, 60 CPS
DIMENSIONS	15" x 9½" x 8⅜" high

PRICES	**List Price**
MA-35N Amplifier (less tubes) Shipping Weight: 32 lbs.	$131.60
Kit of Matched Tubes for MA-35N	23.40
Kit of Matched Plugs and Connectors	3.55
MAS-35N Portable System Shipping Weight: 63 lbs.	240.05

Consists of:
- 1—MA-35N Amplifier (less tubes)
- 2—EXTRA-HEAVY-DUTY Jensen P12-R 12" PM Speakers, or equal
- 2—25-ft. Speaker Cables and Plugs
- 1—Model 305 Portable Carrying Case (Attractive Luggage Style)
- 1—Astatic JT-30 Microphone with 12-ft. Cable and Connectors

(If microphone is not desired, deduct $14.00 from above List Price.)

NOTE: For areas of high temperature and humidity a Model PN Crystal Cartridge may be substituted in Model MA-17PN, MA-25PN and MA-35RCN Amplifiers at cost of $3.50 list.

MA-25PN 25-Watt Phono Top Amplifier *and* MAS-25PN 25-Watt Phono Top Portable System

Application for Amplifier and System for recorded music alone, or combined with voice. Plays 12" and smaller records. Widely preferred as record demonstrators.

AMPLIFIER SPECIFICATIONS MODEL MA-25PN

Same as MA-25N Amplifier (described on this page) but includes phono top. Chassis size for MA-25PN: 14" x 11" x 8⅜" high.

PRICES	**List Price**
MA-25PN Amplifier (less tubes) Shipping Weight: 32 lbs.	$114.80
Kit of Matched Tubes for MA-25PN	20.20
Kit of Matched Plugs and Connectors	2.50
MAS-25PN Portable System Shipping Weight: 61 lbs.	217.25

Consists of:
- 1—MA-25PN Amplifier (less tubes)
- 2—HEAVY DUTY Jensen P12-S 12" PM Speakers, or equal
- 2—25-ft. Speaker Cables and Plugs
- 1—Model 305 Portable Carrying Case (Attractive Luggage Style)
- 1—Astatic JT-30 Microphone with 12-ft. Cable and Connectors

(If microphone is not desired, deduct $14.00 from above List Price.)

MA-35RCN

MA-35RCN 35-Watt Amplifier *with* Automatic Record Changer Top

Amplifier specifications same as MA-35N (except for record changer mechanism). Chassis size: 15" x 15" x 10½" high.

PRICES	**List Price**
MA-35RCN Amplifier (less tubes) Shipping Weight: 52 lbs.	$186.60
Kit of Matched Tubes for MA-35RCN	23.40
Kit of Matched Plugs and Connectors	2.50

To secure a LOW-IMPEDANCE INPUT for amplifiers, see PAGE B-13

WEST OF ROCKIES ADD 5% TO ABOVE LIST PRICES

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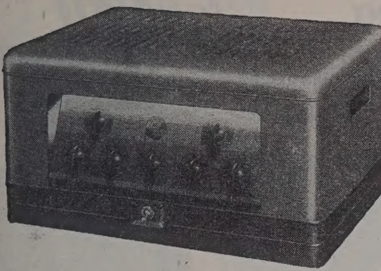


MA-50N MA-50NR

MA-50N 50-WATT AMPLIFIER

AMPLIFIER FEATURES: Five input channels • Four microphone and one phono input • Full electronic mixing of all channels • Individual bass and treble equalizers • Fifty watts of undistorted power • Peak power output: 70 watts • Negative feedback • U/L Approved • Fully fused.

APPLICATION: It is suitable for rack mounting and heavy-duty service, and is successfully used for the larger auditoriums, theatre re-inforcement, indoor and outdoor rinks, stadia, and the like, wherever numerous speakers are required. It is excellent for church chime applications. With suitable speakers and horns, the power can be concentrated where needed at points of high noise level, as at the starting line of an auto race, or in steel mills. Other speaker arrangements permit uniform coverage of large areas, such as football fields or circuses. Ideal as the basic unit for paging and fire-alarm systems in hotels.

AMPLIFIER SPECIFICATIONS • MODEL MA-50N

POWER OUTPUT	50 Watts, Class AB-1, at less than 5% distortion
PEAK POWER	70 Watts
FREQUENCY RESPONSE	2 DB 50 to 15,000 CPS
INPUTS	Five: 4-microphone, 1-phono
POWER GAIN	Microphone, 136.5 DB; Phono, 82 DB
CONTROLS	Seven: 4-microphone, Phono, Bass, Treble, Separate Power On-Off Switch
TUBES	1-6SJ7, 4-6J7, 2-6SC7, 4-6L6G, 2-5V4G (Rectifiers)
OUTPUT IMPEDANCES	4, 8, 15, 125, 250, 500 Ohms
HUM LEVEL	67 DB below output level of 50 Watts
POWER CONSUMPTION	190 Watts at 117 Volts
VOLTAGE	105-125 Volts, 60 CPS
DIMENSIONS	16" x 11" x 8⅜" high

PRICES	**List Price**
MA-50N Amplifier (less tubes) Shipping Weight: 41 lbs.	$154.95
Kit of Matched Tubes for Model MA-50N	30.05
Kit of Matched Plugs and Connectors	4.80

MA-50NR 50-WATT REMOTE-CONTROL AMPLIFIER

The Model MA-50NR is similar in construction and circuit to the Model MA-50N, but has, in addition, a built-in circuit for remote control of two of the microphone channels, when used with the Model RCB Remote-Control Box as described below.

PRICES	**List Price**
MA-50NR Amplifier (less tubes) Shipping Weight: 41 lbs.	$159.50
Kit of Matched Tubes for MA-50NR	30.05

MA-75N 75-WATT AMPLIFIER

AMPLIFIER FEATURES: Five input channels • Separate controls for each input • Impedance selector switch • Separate plate and screen supplies • Peak power: 125 watts • Electronic mixing of all channels • Fully fused • U/L Approved.

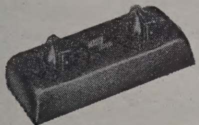
APPLICATION: The Model MA-75N is widely used in rack and mounted installations, and also by itself for covering large outdoor areas such as football fields, baseball diamonds, motor speedways, and airports. It finds industrial use for paging and announcing in large steel mills, cotton mills, drydocks, shipways, and on heavy construction jobs of all kinds. At sea it is used for paging and announcing from the bridge, and with suitable horns, for ship to ship and ship to shore voice communications.

AMPLIFIER SPECIFICATIONS • MODEL MA-75N

POWER OUTPUT	75 Watts, Class AB-2, at less than 5% distortion
PEAK POWER	125 Watts
INPUTS	Five: 4-microphone, 1-phono
FREQUENCY RESPONSE	2 DB 50 to 15,000 CPS
POWER GAIN	Microphone, 138 DB; Phono, 83.5 DB
CONTROLS	Seven: 4-microphone, Phno, Bass, Treble, Power On-Off Switch
TUBES	4-6J7, 2-6SC7, 2-6V6GT, 4-6L6G, 1-5Y3GT, 2-5V4G (Rectifiers)
OUTPUT IMPEDANCES	8, 15, 60, 125, 250 Ohms
HUM LEVEL	68 DB below output level of 75 watts
POWER CONSUMPTION	260 Watts at 117 Volts
VOLTAGE	105-125 Volts, 60 CPS
DIMENSIONS	17" x 12" x 8⅜" high

MA-75N

PRICES	**List Price**
MA-75N Amplifier (less tubes) Shipping Weight: 63 lbs.	$191.55
Kit of Matched Tubes for MA-75N	33.45
Kit of Matched Plugs and Connectors	4.80



RCB

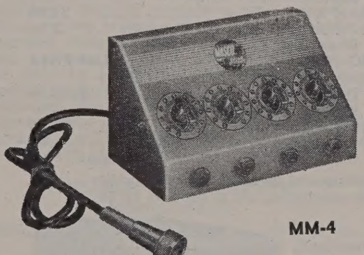
MODEL RCB • DUAL-CHANNEL REMOTE-CONTROL BOX

Compact remote volume-control unit containing two volume controls. Provides independent or simultaneous operation from a remote position of two microphone channels of either the Model MA-25NR Amplifier, Page B-12, or MA-50NR shown above.

Can be used with up to 2,000 feet of cable with negligible cable loss. Tone quality is not affected, and there is no inductive hum pick-up in either the control unit or cable. Dimensions of Model RCB are 5¾" x 2¾" x 2½" high.

PRICES	**List Price**
RCB Remote Control Box (less cables) Shipping Weight: 3 lbs.	$12.50
CA-50 Fifty-Foot Cable and Plugs	6.75
CA-100 One Hundred-Foot Cable and Plugs	11.75

Above cables for use with RCB-Remote Control Box

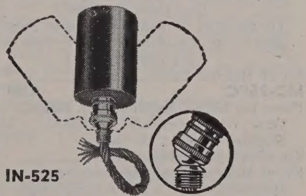


MM-4

MM-4 • FOUR-CHANNEL MICROPHONE MIXER

Can be connected to the high-impedance microphone input of any amplifier. Equipped with four independent gain controls and four microphone connectors, allowing for mixing and fading over-all. It readily converts an amplifier having only one microphone input to four-channel operation. Four feet of rubber-covered shielded cable with standard screw-on connector are supplied. It is completely shielded in an all-metal housing finished to match the *MASCO* amplifiers.

PRICES	**List Price**
MM-4 Four-Channel Mixer, wih 4-ft. Cable and Connector Shipping Weight: 4 lbs.	$25.00



IN-525

IN-525 • LOW-IMPEDANCE TRANSFORMER CONVERSION TO LOW-IMPEDANCE INPUT

One or more of the high impedance microphone inputs regularly incorporated in *MASCO* Amplifiers may be readily converted to a low impedance by the installation of *MASCO* Transformer No. IN-525. It is multi-alloy shielded and is mounted on a swivel-ball joint which allows complete rotation and tilting and assures hum-free operation. Primary impedances available are: 50 ohms unbalanced line; 200 ohms or 500 ohms balanced line. Specify tap-setting when ordering.

PRICES	**List Price**
Factory-installed Low Impedance Input Transformer (per input)	$29.95
IN-525 Low Impedance Transformer (for use with any Standard Amplifier) Shipping Weight: 2 lbs.	21.00

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FOR BEST RESULTS SELECT

MASCO'S OUTSTANDING MOBILE SOUND EQUIPMENT

6-VOLT DC AND 117-VOLT AC MOBILE AMPLIFIERS

THE ONLY COMPLETE LINE OF U/L APPROVED MOBILE EQUIPMENT • 7 DIFFERENT MODELS

MASCO SOUND SYSTEMS

AMPLIFIER FEATURES contained in all models are: Four input channels • Stand-by switch • Heavy-duty switches • Low battery drain • Double-fused circuit • Hum-and-ripple-free operation • Heavy-duty dual vibrator • Crystal pick-up input.

APPLICATION: The widely varied types of these amplifiers adequately meet all possible needs or applications such as outdoor gatherings, bathing beaches, traveling road shows, open-air theatres, election campaigns and charity drives, traveling evangelists, police and fire-department rescue work, and other locations where AC power is unavailable.

Operates as efficiently from 6-volt batteries as from 117-volt AC source. Rugged and powerful, expressly designed for sound truck and other outdoor applications. The battery-saver switch, which shuts off the vibrator during intermission, reduces battery drain to a minimum. The extra-heavy-duty dual vibrator maintains steady voltage and frequency. These amplifiers are provided with separate cable, fitted with rugged heavy-duty plugs and receptacles for each voltage supply.

MC-25PN MAC-25PN

GENERAL AMPLIFIER SPECIFICATIONS:

POWER OUTPUT	25 Watts, Class AB-1, at less than 5% distortion
PEAK POWER	40 Watts
INPUTS	Four: 3-microphone, 1-phono
FREQUENCY RESPONSE	± 2 DB 50 to 15,000 CPS
POWER GAIN	Microphone, 133.5 DB; Phono, 79 DB
CONTROLS	Six: 3-microphone, Phono, Bass, Treble, Separate Motor Switch and Battery-Saver Switch
TUBES	4-6J7, 1-6SC7, 2-6L6G, 1-6SL7, 2-7Z4 (Rectifiers)
OUTPUT IMPEDANCES	4, 8, 15, 125, 250, 500 Ohms
HUM LEVEL	AC: 64 DB below output of 25 Watts; DC: Ripple-free
POWER CONSUMPTION	AC: 145 Watts at 117 Volts (including phono motor); DC: 23 Amps. at 6 Volts (battery) (includes phono motor)
VOLTAGE	105-125 Volts, 60 CPS AC or 6 Volts DC (Storage Battery)

Power Cables included with all Mobile Amplifiers.

MC-25PN	**List Price**
Phono-top Mobile Amplifier (less tubes) Shipping Weight: 44 lbs.	$158.20
Kit of Matched Tubes	21.80
Kit of Matched Plugs and Connectors	2.50

Dimensions: 14″ x 11″ x 8⅜″ high.

MAC-25PN	**List Price**
Portable Mobile System Shipping Weight: 72 lbs.	$260.65

Consists of:
- 1—MC-25PN Phono-top Amplifier (less tubes)
- 2—Jensen P12-S 12″ Speakers (or equal)
- 2—25-ft. Speaker Cables and Plugs
- 1—Model 305 Portable Carrying Case (Attractive Luggage Style)
- 1—Astatic JT-30 Microphone with 12-ft. Cable and Connectors

(If microphone is not desired, deduct $14.00 from above list price.)

(If amplifier is desired with plain cover less phono top mechanism, deduct from above list price $10.00)

Kit of Matched Tubes	21.80

MC-25PC	**List Price**
Phono-top Mobile Amplifier with Hinged Cover (less tubes) Shipping Weight: 46 lbs.	$178.20
Kit of Matched Tubes	21.80
Kit of Matched Plugs and Connectors	2.50

Dimensions: 14″ x 11″ x 10⅞″ high.

MCO25PN	**List Price**
Outdoor Mobile System Shipping Weight: 86 lbs.	$317.65

Consists of:
- 1—MC-25PN Phono-top Amplifier (less tubes)
- 2—3½-ft. Model REMOX Reentrant Horns
- 2—Model REVAT PM Driver Units
- 2—25-ft. Cables and Connectors
- 1—Astatic JT-30 Microphone with 12-ft. Cable Connectors

(If microphone is not desired, deduct $14.00 from above list price.)

(If amplifier is desired with plain cover less phono-top mechanism, deduct from above list price $10.00)

Kit of Matched Tubes	21.80

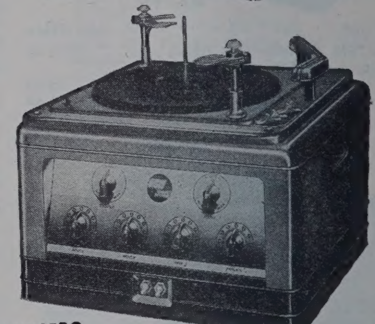
MC-25N	**List Price**
Mobile Amplifier, Plain Cover without Phono-top (less tubes) Shipping Weight: 39 lbs.	$148.20
Kit of Matched Tubes	21.80
Kit of Matched Plugs and Connectors	2.50

Dimensions: 14″ x 11″ x 8⅜″ high.

MC-25RC	**List Price**
Mobile Amplifier with Record Changer (less tubes) Shipping Weight: 52 lbs.	$233.20
Kit of Matched Tubes	21.80
Kit of Matched Plugs and Connectors	2.50

Dimensions: 15″ x 15″ x 10½″ high.

MC-25PC

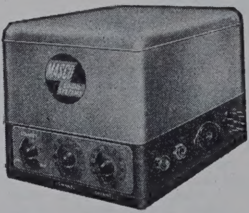

MC-25RC

MODEL PN CRYSTAL CARTRIDGE is recommended for use in areas of humidity and high temperature with phono-top equipment. For substitution, add to list price $3.50.

MC-10 10-WATT MOBILE AMPLIFIER

AMPLIFIER FEATURES: Two inputs, microphone and phono • Light-weight, rugged • Push-pull output • Separate microphone and phono control • Low battery drain • U/L Approved.

APPLICATION: For application in police safety and traffic work, fire department, transportation systems, hearses and ambulance service.



AMPLIFIER SPECIFICATIONS • MODEL MC-10

POWER OUTPUT	10 Watts, Class A, at less than 5% distortion
PEAK POWER	14 Watts
INPUTS	Two: 1-microphone, 1-phono
FREQUENCY RESPONSE	± 3 DB 100 to 8,000 CPS
POWER GAIN	Microphone, 110 DB; Phono, 75 DB
CONTROLS	Microphone, Phonograph, On-off Stand-by-Operate (Battery-Saver) Switch
TUBES	1-6SF5, 1-6SL7GT, 2-6V6GT, 1-7Z4 (Rectifier)
OUTPUT IMPEDANCES	3.2, 8, and 15 Ohms
HUM LEVEL	60 DB below output level of 10 Watts
POWER CONSUMPTION	AC: 60 Watts at 117 Volts DC: 8 Amps. at 6 Volts (Battery)
VOLTAGE	105-125 Volts, 60 CPS AC or 6 Volts DC (Storage Battery)
DIMENSIONS	7½″ x 6″ x 6″ high

MC-10 PRICES	**List Price**
MC-10 Mobile Amplifier with Power Cables (less tubes) Shipping Weight: 16 lbs.	$62.65
Kit of Matched Tubes for MC-10	9.85
Kit of Matched Plugs and Connectors	2.00

RCM

MODEL RCM REMOTE CONTROL FOR MODEL MC-10

is a compact unit which clamps to the steering-post of a car, handy to the driver. Permits within-reach adjustment of the controls, simplifying operation while driving. Individual control of microphone and phono channels is provided.

RCM REMOTE CONTROL	**List Price**
with 6-ft. Cable, Connector and Clamp for attachment to steering-post	$15.00

To secure a LOW-IMPEDANCE INPUT for amplifiers, see PAGE B-13

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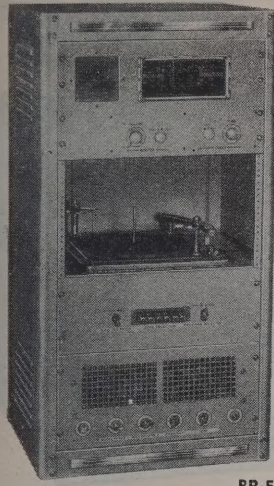
MASCO SOUND SYSTEMS

MASCO SOUND BROADCASTER
for Industrial and Institutional Use

BR-50 50 WATT SOUND BROADCASTER



BR-50

FEATURES: U/L approved • Six-position zone selector switch • 50-watt heavy-duty amplifier • Separate all-call switch • Constant voltage output • Oversized components assuring trouble-free service • Four inputs • Attractive Hammertone steel cabinet • Hinged door • Self-powered AM-FM Superheterodyne tuner.

APPLICATION: Offers performance to be had ONLY in custom-built equipment. Its all-in-one feature allows for Voice Paging, Phono and Radio Operation • For use in Airports • Hospitals • Institutions • Department Stores • Factories • Auditoriums • Schools and Playgrounds.

Write the factory for Quotations on your custom built requirements.

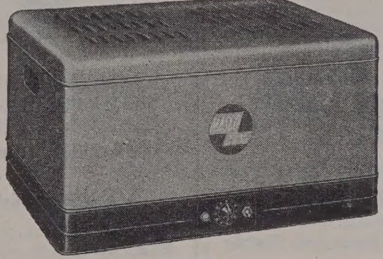
PRICES	**List Price**
BR-50 Sound Broadcaster	$495.00
No Federal Excise Tax applies	

Shipping Weight: 120 lbs.

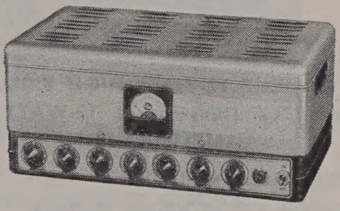
Consists of:
- 1—Steel Cabinet with Hinged Door
- 1—50-Watt Amplifier
- 1—AM-FM Superheterodyne Self-Powered Tuner
- 1—Oak Mfg. Co. Two-Post Record Changer
- 1—Six-Position Zone Selector Switch
- 1—Separate "All-Call" Switch
- 1—Built-in Monitor Speaker
- 1—Set of Matched Tubes

BR-50R Sound Broadcaster, same as above but with Built-in Microphone Relay and Built-in Tone Signal	$545.00
No Federal Excise Tax applies	
For one additional Built-in Six-Position Zone Selector Switch, add	15.00

MB-50N



MB-75



DR-5M

MB-50N 50-WATT BOOSTER AMPLIFIER

AMPLIFIER FEATURES: Zero-level input • For standard rack mounting • Designed for parallel operation • Oversize components • Tapped line and voice-coil impedances • Mast gain control • Separate On-off switch • Fused circuit • 50 watts of undistorted power • 70 watts of peak power • U/L Approved.

APPLICATION: Used for centralized sound systems, either alone or in parallel with other MB-50N boosters, or MB-75 boosters, thus providing power in steps of 50 watts or 75 watts. It can also be used to step up the power of existing systems.

Especially recommended for use with the Model DR-5 Driver Amplifier.

AMPLIFIER SPECIFICATIONS
MODEL MB-50N

POWER OUTPUT	50 Watts, Class AB-1, at less than 5% distortion
PEAK POWER	70 Watts
INPUTS	500 Ohms balanced or unbalanced line
FREQUENCY RESPONSE	± 2 DB 50 to 15,000 CPS
POWER GAIN	46 DB
CONTROLS	One: Master Gain, Separate On-Off Switch
TUBES USED	2-6SN7GT, 4-6L6G, 2-5V4G (Rectifiers)
OUTPUT IMPEDANCES	4, 8, 15, 125, 250, 500 Ohms
HUM LEVEL	60 DB below output level of 50 Watts
POWER CONSUMPTION	185 Watts at 117 Volts
VOLTAGE	105-125 Volts, 60 CPS
DIMENSIONS	17" x 12" x 8½" high

PRICES	**List Price**
MB-50N Booster Amplifier (less tubes)	$114.20
Shipping Weight: 41 lbs.	
Kit of Matched Tubes for MB-50N	20.80
Kit of Two Output Plugs	1.35

MB-75 75-WATT BOOSTER AMPLIFIER

AMPLIFIER FEATURES: Zero-level input • Full 75 watts undistorted power • Peak power 125 watts • Safety fused • Tapped line and voice-coil impedances • Impedance selector switch • U/L Approved.

APPLICATION: One or more boosters mounted in a rack along with a driver amplifier, record changer and radio (any radio can be adjusted to operate with this amplifier) form a complete and powerful sound system with facilities for microphone, recorded music, and radio reproduction. Such systems, of 400 to 1,000 watts power, are used in large mills and factories for morale music, special announcements, radio broadcast distribution, and other purposes where a very large number of speakers and horns is required. Especially recommended for use with the DR-5 Driver Amplifier.

AMPLIFIER SPECIFICATIONS
MODEL MB-75

POWER OUTPUT	75 Watts, Class AB-2, at less than 5% distortion
INPUTS	500 Ohms balanced or unbalanced line
FREQUENCY RESPONSE	± 2 DB 50 to 15,000 CPS
POWER GAIN	47.5 DB
CONTROLS	Master Gain, Separate On-Off Power Switch
TUBES USED	1-6SN7GT, 2-6V6GT, 4-6L6G, 1-5Y3GT, 2-5V4G (Rectifier)
OUTPUT IMPEDANCE	8, 15, 60, 125, 250 Ohms
HUM LEVEL	68 DB below output level of 75 Watts
POWER CONSUMPTION	250 Watts at 117 Volts
VOLTAGE	105-125 Volts, 60 CPS
DIMENSIONS	17" x 12" x 8½" high

PRICES	**List Price**
MB-75 Booster Amplifier (less tubes)	$158.35
Shipping Weight: 57 lbs.	
Kit of Matched Tubes for MB-75	23.65
Kit of Two Output Plugs	1.35

DR-5 DRIVER PRE-AMPLIFIER less meter *and* DR-5M *(illustrated)* DRIVER PRE-AMPLIFIER with built-in DB Output Meter

AMPLIFIER FEATURES: Five inputs • Four high-gain microphone inputs • Phono input • Provision for Radio Tuner • Inputs separately controlled • Electronic mixing • Separate bass and treble equalizers • U/L Approved.

APPLICATION: Suitable for mixing and adding additional microphone input channels to existing low-gain and booster amplifiers. They are ideal for telephone line work, and for studio, theatre and sound-stage applications. They may be used either in or out of racks. They are recommended for mixing and for pre-amplification in rack systems using the Model MB-50N or Model MB-75 Boosters.

AMPLIFIER SPECIFICATIONS
MODEL DR-5

POWER OUTPUT	1.9 Volts across 500-Ohm Line at less than 5% distortion
INPUTS	Six: 4-microphones, 1-phono-radio
FREQUENCY RESPONSE	± 2 DB 50 to 15,000 CPS
POWER GAIN	Microphone, 97 DB; Phono, 65 DB
CONTROLS	Seven: 4-microphone, Phono-Radio, Bass, Treble, Separate On-Off Switch, Bass Boost at 50 CPS: 9 DB. Attenuation: 10 DB. Treble Boost at 10,000 CPS: 10 DB. Attenuation: 12 DB.
TUBES USED	1-6SL7GT, 5-6J7, 1-6SN7GT, 1-6X5GT (Rectifier)
OUTPUT IMPEDANCES	500 Ohms balanced or unbalanced line
HUM LEVEL	35 DB below zero level of .006 Watts
POWER CONSUMPTION	40 Watts at 117 Volts
VOLTAGE	105-125 Volts, 60 CPS
DIMENSIONS	15" x 8½" x 8⅜" high

DR-5M Same as DR-5 but includes built-in DB output meter.

PRICES	**List Price**
DR-5 Driver Pre-Amplifier (less tubes)	$ 86.40
DR-5M Driver Pre-Amplifier with Built-in Output Meter (less tubes)	113.90
Kit of Matched Tubes for Model DR-5 or Model DR-5M	16.10
Kit of Matched Plugs and Connectors	3.80

To secure a LOW-IMPEDANCE INPUT for amplifiers, see PAGE B-13

WEST OF ROCKIES ADD 5% TO ABOVE LIST PRICES

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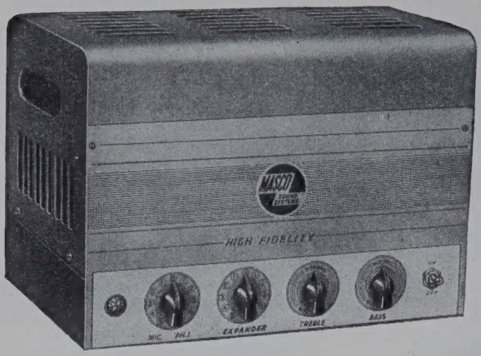

MA-12HF
MA-12EX

MA-12HF 12-WATT HIGH FIDELITY AMPLIFIER
MA-12EX *(illustrated)* 12-WATT HIGH FIDELITY AMPLIFIER WITH EXPANDER

AMPLIFIER FEATURES:

Available with or without expander • Compensated inputs with switching arrangement for G-E, Pickering and crystal pick-ups • Radio Tuner Input • Separate Bass and Treble Controls • U/L Approved.

The Model MA-12EX expander model incorporates the many outstanding features of the MA-12HF, but has in addition the new *MASCO* variable expander, which operates instantaneously; has no chopping effect or time lag.

APPLICATION:

Model MA-12HF is especially adapted for use by broadcast stations for bridging applications and recording. Is ideal as a distribution amplifier for wired music applications.

AMPLIFIER SPECIFICATIONS:
MODEL MA-12HF *and* MODEL MA-12EX

RATED POWER OUTPUT	12 Watts at less than 5% distortion 9 Watts at less than 2% distortion
PEAK POWER OUTPUT	17 Watts
FREQUENCY RESPONSE	± 2 DB 50 to 15,000 CPS (tone control normal)
INPUT SENSITIVITY & GAIN	Magnetic pickup .008 Volts (90 DB) High level crystal pickup 1.5 Volts (60 DB) Low level crystal pickup .45 Volts (70 DB) Radio Tuner, Bridging .3 Volts (75 DB)
CONTROLS	Magnetic pickup, crystal pickup, radio tuner-1-Bass, 1-Treble (Model MA-12EX has separate expander control)
TUBES FOR MA-12HF	1-6SC7, 2-6SL7GT, 2-6V6GT, 1-5Y3GT (Rectifier)
TUBES FOR MA-12EX	1-6SC7, 2-6SL7GT, 2-6SN7GT, 2-6V6GT, 1-5Y3GT (Rectifier)
OUTPUT IMPEDANCES	2, 4, 8, 15, 500 Ohms
HUM LEVEL	65 DB below output level of 12 Watts
POWER CONSUMPTION	80 Watts at 117 Volts
VOLTAGE	105-125 Volts, 60 CPS
DIMENSIONS	13″ x 8″ x 8⅝″ high

Both Models supplied with Connectors.

PRICES	List Price
MA-12HF Amplifier, less tubes	$ 83.15
Kit of Matched Tubes for Model MA-12HF	11.85
MA-12EX Amplifier, less tubes (with built-in Expander Circuit)	108.75
Kit of Matched Tubes for Model MA-12EX	16.25
If Cover is not desired, deduct from either model	6.90

Shipping Weight — either model: 20 lbs.

To secure a LOW-IMPEDANCE INPUT for amplifiers, see PAGE B-13

WEST OF ROCKIES ADD 5% TO ABOVE LIST PRICES

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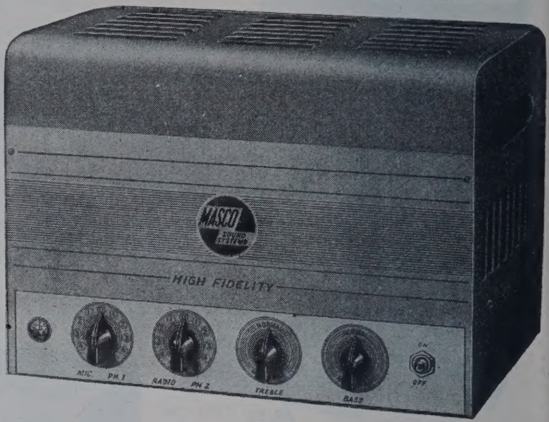

MA-25HF
MA-25EX

MA-25HF *(illustrated)* 25-WATT HIGH FIDELITY AMPLIFIER
MA-25EX 25-WATT HIGH FIDELITY AMPLIFIER WITH EXPANDER

FEATURES:

Available with or without volume expander • Four inputs separately controlled • Input switching arrangement for G-E, Pickering, High and Low output crystal and magnetic pickups, microphone and radio tuner • Separate bass and treble controls • Output tapped at 4-8-16-250 and 500 ohms • Flat frequency response • Over-all negative feedback • U/L Approved.

The specially designed Controlled Expander Circuit built into the MA-25EX offers true expander functions since it allows expansion on only the "above average" passages of a record. Expansion is variable from zero to 15 DB and is entirely free from time lag, thump and microphonics.

APPLICATION:

For broadcast stations, recording studios, bridging and monitoring, transcription playback and the "critical" music lover.

AMPLIFIER SPECIFICATIONS:
MODEL MA-25HF *and* MODEL MA-25EX

RATED POWER OUTPUT	25 Watts at less than 5% distortion 20 Watts at less than 2% distortion (at all frequencies from 30 to 20,000 CPS)
PEAK POWER	43 Watts
FREQUENCY RESPONSE	± 1 DB 30 to 20,000 CPS (tone controls normal)
INPUT SENSITIVITY & GAIN	Magnetic pickup, .008 Volts (90 DB) High level crystal pickup, 1.5 Volts (60 DB) Low level crystal pickup, .45 Volts (70 DB) Radio Tuner, Bridging .3 Volts (75 DB) Microphone, .005 Volts (120 DB)
CONTROLS	Microphone, Magnetic pickup, crystal pickup and Radio-1-bass, 1-treble (Model MA-25EX has separate expander control)
TUBES FOR MA-25HF	1-12SC7, 1-12SJ7, 2-6SL7GT, 2-6L6G, 1-5V4G (Rectifier)
TUBES FOR MA-25EX	1-12SC7, 1-12SJ7, 2-SN7GT, 2-6SL7GT, 2-6L6G, 1-5V4G (Rectifier)
OUTPUT IMPEDANCES	4, 8, 16, 250, 500 Ohms
HUM LEVEL	80 DB below output level of 25 Watts
POWER CONSUMPTION	140 Watts at 117 Volts
VOLTAGE	105-125 Volts, 60 CPS
DIMENSIONS	14″ x 10″ x 8⅝″ high

Both Models supplied with Connectors.

PRICES	List Price
MA-25HF Amplifier, less tubes	$138.15
Kit of Matched tubes for Model MA-25HF	16.85
MA-25EX Amplifier, less tubes (with built-in Expander Circuit)	147.25
Kit of Matched Tubes for Model MA-25EX	21.25
If Cover is not desired, deduct from either model	7.40

Shipping Weight — either model: 34 lbs.

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VOLUME
EXPANDER
TONE
NORMAL
TREBLE
MODEL MHP-110X

MHP-110
MHP-110X

MHP-110 10-WATT HIGH FIDELITY AMPLIFIER
MHP-110X *(illustrated)* 10-WATT HIGH FIDELITY AMPLIFIER WITH BUILT-IN EXPANDER CIRCUIT

AMPLIFIER FEATURES:

Exclusive *MASCO* 4-Way Tone Compensator • Voltage Supply Socket for Attachment of External Pre-amplifier • Power Supply Socket • Crystal Pickup input provision • Radio Tuner input provision • Pre-amplifier input provision • Safety fused • Over-all negative feedback • U/L Approved • Expander circuit available • 10-Watt power output • 4-foot extension controls for cabinet mounting.

AMPLIFIER SPECIFICATIONS:
MODEL MHP-110 *and* MODEL MHP-110X

POWER OUTPUT	10 Watts at less than 5% distortion
PEAK POWER OUTPUT	14 Watts
FREQUENCY RESPONSE	± 1 DB 40 to 15,000 CPS (Tone Compensator Normal)
GAIN AND SENSITIVITY	MHP-110: .9 Volts — 70 DB MHP-110X: .5 Volts — 75 DB
FLAT RESPONSE	With Tone Compensator at Normal: Response is ± 1 DB 40 to 15,000 CPS
VOLUME CONTROL	Continuously Variable with Power On-Off Switch
4-WAY INDIVIDUAL TONE COMPENSATOR:	Position — No. 1: Deep bass with high cut No. 2: Medium bass (Bass Boost with normal treble) No. 3: Normal (Flat response) No. 4: Treble (Normal bass with treble boost)
VARIABLE EXPANDER (MHP-110X only):	Manually controlled from zero to + 10 DB. Operates instantaneously. No chopping effect. No time lag.
TUBES USED MHP-110	1-6SL7GT, 2-6V6GT, 1-5Y3GT (Rectifier)
TUBES USED MHP-110X	3-6SL7GT, 2-6V6GT, 1-5Y3GT (Rectifier)
OUTPUT IMPEDANCES	4 and 8 Ohms
POWER CONSUMPTION	60 Watts at 117 Volts, 60 CPS
HUM LEVEL	80 DB below 10 Watts
AC RECEPTACLE	Provided for external attachment of phonograph or radio tuner. (Radio tuner may be adjusted for use.)
CHASSIS DIMENSIONS	10″ x 5½″ x 2½″ high

PRICES	List Price
MHP-110 High Fidelity 10-Watt Amplifier with Tubes and Input Connectors Weight: 9 lbs.	$ 48.75
MHP-110X High Fidelity 10-Watt Amplifier with Built-in Expander Circuit, with Tubes and Input Connector Weight: 9½ lbs.	59.95
EXT-4 4-Foot Extension Control Cables for Cabinet Mounting. May be used with either model. Specify when ordering, and add to the above list price	6.90

To secure a LOW-IMPEDANCE INPUT for amplifiers, see PAGE B-13

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VOLUME
BASS
TREBLE
MAX
MODEL MA-10HF

MA-10HF
MA-10EX

MA-10HF *(illustrated)* 10-WATT HIGH FIDELITY AMPLIFIER

MA-10EX 10-WATT HIGH FIDELITY AMPLIFIER WITH BUILT-IN EXPANDER CIRCUIT

AMPLIFIER FEATURES:

10 Watts of hum-free power • Built-in compensated pre-amplifier • Four inputs • Two inputs equalized for various magnetic and reluctance pickups • One input equalized for crystal pickup • One input unequalized for radio tuner • Ideal for L.P. pickups • Expander circuit available • Individual bass and treble boost and attenuation • Heavy duty output transformer with impedances of 2-4-8-16 and 500 ohms to match most all speakers • Inverse feedback 12 DB over-all • Safety fused • U/L Approved.

AMPLIFIER SPECIFICATIONS:
MODEL MA-10HF *and* MODEL MA-10EX

POWER OUTPUT	10 Watts at less than 5% distortion
PEAK POWER OUTPUT	14 Watts
FREQUENCY RESPONSE	± 1 DB 40 to 20,000 CPS (Tone controls normal)
GAIN AND SENSITIVITY	Magnetic Input No. 1: .01 Volts 92 DB at 1000 CPS Magnetic Input No. 2: .08 Volts 78 DB at 1000 CPS Crystal Input: .5 Volts 70 DB at 1000 CPS Radio Input: .5 Volts 70 DB at 1000 CPS
VOLUME CONTROLS	Continuously variable
TREBLE CONTROLS (MA-10HF only)	High frequency boost 15 DB Attenuation at 15,000 CPS 14 DB
BASS CONTROL (MA-10HF only)	12.5 DB boost at 50 CPS, and 12.5 DB attenuation at 50 CPS
FLAT RESPONSE	With controls at normal, response is ± 1 DB 40 to 20,000 CPS
4-WAY INDIVIDUAL TONE COMPENSATION (MA-10EX only):	Position — No. 1: Deep bass with high cut No. 2: Medium bass (Bass boost with normal treble) No. 3: Normal (Flat response) No. 4: Treble (Normal bass with treble boost)
VARIABLE EXPANDER (MA-10EX only):	Manually controlled from zero to + 10 DB. Operates instantaneously. No chopping effect. No time lag.
TUBES USED MA-10HF	1-6SC7, 2-6SL7GT, 2-6V6GT, 1-5Y3GT (Rectifier)
TUBES USED MA-10EX	1-6SC7, 3-6SL7GT, 2-6V6GT, 1-5Y3GT (Rectifier)
OUTPUT IMPEDANCES	2, 4, 8, 16, 500 Ohms
POWER CONSUMPTION	75 Watts at 117 Volts, 60 CPS
HUM LEVEL	70 DB below 10 Watts Contains 2 hum balancing potentiometers
AC RECEPTACLE	Provided for external attachment of phonograph or radio tuner. (Radio tuner may be adjusted for use.)
CHASSIS DIMENSIONS	12″ x 7″ x 2½″ high

PRICES	List Price
MA-10HF High Fidelity 10-Watt Amplifier with Tubes and Input Connector Weight: 11½ lbs.	$ 68.95
MA-10EX High Fidelity 10-Watt Amplifier with Built-in Expander Circuit, with Tubes and Input Connector Weight: 12 lbs.	84.95
EXT-3 Set of 3 Extension Shafts, each 6″ long, may be used with either model for cabinet mounting; specify when ordering	2.50

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MASCO SOUND SYSTEMS

RK-5
RK-5M

RK-5 *and* RK-5M DUAL-SPEED DISC RECORDERS AND PLAYBACK

FEATURES: Instant play-back • Recording and play-back at both 78 and 33⅓ rpm • Electronic Volume-Level Indicator • Heavy-duty 6" PM Alnico V Speaker • Separate volume and tone controls • Adjustable cutting head • Heavy-duty recording motor and table • Three input channels • U/L Approved.

APPLICATION: Invaluable for use in educational programs, for self-criticism by vocalists, actors, elocutionists, physicians, orchestras, language students and for any form of program recording or use in the "rumpus room."

AMPLIFIER SPECIFICATIONS:
MODEL RK-5 *and* RK-5M

TUBES	2-6SL7GT, 1-6V6GT, 1-6U5, 1-6X5GT (Rectifier)
POWER CONSUMPTION	75 Watts, including motor
VOLTAGE	117 Volts, 60 CPS
CASE COVERING	Brown Alligator Fabrikoid
CASE DIMENSIONS	16" x 19¼" x 8½" high

Models RK-5L *and* RK-5ML Disc Recorders with additional pick-up arm for playback of long playing records (Same Amplifier specifications as RK-5 and RK-5M).

PRICES	List Price (*Plus Federal Excise Tax)
RK-5 Recorder with Crystal Cutting Head and Tubes	$150.00*
RK-5M Recorder with Magnetic Cutting Head and Tubes	155.00*
RK-5L Recorder with Tubes and additional LP Pick-up Arm	160.00*
RK-5ML Recorder with Tubes, Magnetic Cutting Head and additional LP Pick-up Arm	165.00*

Shipping Weight — all models: 40 lbs.

MODEL PN CRYSTAL CARTRIDGE is recommended for use in area of humidity and high temperature. Add to list price $3.50.

TP-16A

TP-16A DE LUXE 16" TRANSCRIPTION PLAYER with Built-in 5-WATT AMPLIFIER

FEATURES: Individual microphone and phono input • Individual bass and treble equalizers • Heavy-duty 10" PM speaker • Plays 16" and standard recordings • Dual speed motor • Easily portable • Astatic No. 400 arm with QT cartridge • U/L Approved.

APPLICATION: Expressly designed for reproduction of 16" transcriptions for broadcasting studios, advertising agencies, theatrical agencies, lectures, and sales meetings.

AMPLIFIER SPECIFICATIONS:
MODEL TP-16A

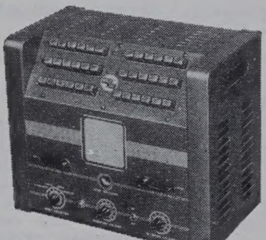
TUBES	2-6SL7GT, 1-6V6GT, 1-6X5GT (Rectifier)
POWER CONSUMPTION	80 Watts, including motor
VOLTAGE	105-125 Volts, 60 CPS
CASE COVERING	Brown Alligator Fabrikoid
CASE DIMENSIONS	17¾" x 22" x 10¾" high

Model TP-16AL Transcription Player with additional Pick-up Arm for playback of long-playing records. Same Amplifier specifications as TP-16A.

PRICES		List Price (*Plus Federal Excise Tax)
TP-16A	Transcription Player, with Tubes	$155.00*
TP-16AL	Transcription Player, with Tubes and additional LP Pick-up Arm	170.00*

Shipping weight: 43 lbs.

MODEL PN CRYSTAL CARTRIDGE is recommended for use in areas of humidity and high temperature. Add to list price $3.50.


MS-36

MS SERIES SCHOOL AND INDUSTRIAL SYSTEMS

FEATURES: 28 - Watt Amplifier • Two-way conversation • Simultaneous or selective paging • Provides for up to 36 rooms • External phono provision • Volume-level indicator • Input selector switch • External microphone provision • Provision for radio input • U/L Approved.

APPLICATION: An invaluable aid to the efficiency of educational institutions. Addresses may be heard in several or all rooms at once. Control of fire drills or other emergencies is facilitated. Many of these advantages apply with equal force to hospitals, institutions, clubs, hotels, and passenger ships.

AMPLIFIER SPECIFICATIONS • MS SERIES

POWER OUTPUT	28 Watts, Class AB-1, at less than 5% distortion
PEAK POWER	40 Watts
INPUTS	External microphone, phono and radio provision, built-in intercommunication speakers
FREQUENCY RESPONSE	± 2 DB 50 to 15,000 CPS
POWER GAIN	Microphone, 130 DB; Phono, 85 DB
CONTROLS	Separate incoming and outgoing volume controls, Function selector switch, "Talk-Listen" switch, Master call switch, Station selector switches, Power On-Off switch, Eye level control
TUBES	1-6SC7, 1-6SL7GT, 1-6SN7GT, 2-6L6G, 1-6U5, 1-5V4G (Rectifier)
OUTPUT IMPEDANCES	80 Ohm balanced line, constant voltage output
HUM LEVEL	64 DB below output level of 28 Watts
POWER CONSUMPTION	145 Watts at 117 Volts
VOLTAGE	105-125 Volts, 60 CPS
CABINET (Metal)	Finished in Brown Hammertone
DIMENSIONS	16" x 9½" x 13" high

PRICES			List Price
MS-24-1	(6 rooms)	Amplifier with Tubes	$184.50
MS-24-2	(12 rooms)	Amplifier with Tubes	189.50
MS-24-3	(18 rooms)	Amplifier with Tubes	194.50
MS-24	(24 rooms)	Amplifier with Tubes	199.50
MS-30	(30 rooms)	Amplifier with Tubes	217.00
MS-36	(36 rooms)	Amplifier with Tubes	229.50

Shipping Weight — all models: 37 lbs.

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JM-5 MASTER

MODERN PACKAGED INTER-COMMUNICATION SYSTEMS

FEATURES: Master Station equipped with Volume Control with "on-off" switch • Separate "press to talk" switch • Remote Station has "press to talk" switch to originate call to master station if desired and allow for privacy • Remote Station can be used for two-way conversation without manual operation • Natural Voice reproduction • Ample Sensitivity • Matching Master and Remote Stations • Unbreakable cast-aluminum housings • Finished in attractive Walnut Hammertone • U/L Approved.

	List Price
MODEL JMR—Two-Station System complete. One master with tubes, one remote, and 50-ft. cable	$42.50
MODEL JM5—Master, with tubes. For communication between it and 5 remote stations; can converse with all 5 stations or can select any one remote station. Master has press-to-talk and station selector switch and volume control with on-off switch	37.50
MODEL JR—Remote. "Press-to-talk" switch allows remote to originate call to JM5 Master, permitting privacy; JR can be used as two-way paging system. Use of switch may be omitted. System uses 3-Wire Vinylite Covered Cable	12.75
MODEL IM-5—All Master, with tubes. Communication between it and 5 other masters. Each master can converse two-way with any or all masters in system. Has press-to-talk and station selector switches and volume control with on-off switch	37.50
7-Conductor Cable. Must be used with 5 or more master stations...(per foot)	.25
5-Conductor Cable for use with up to 4 master stations...(per foot)	.20

(All units are available in white baked enamel finish at slight additional cost)

SPECIFICATIONS FOR IM-5, JM-5 *and* JMR MASTER:

VOLTAGE	117 Volts AC or DC
POWER OUTPUT	2.5 Watts
POWER CONSUMPTION	30 Watts
TUBES	14F7 Dual Voltage Amplifier, 50L6 Beam Power Amplifier, 50Y6 Rectifier
SPEAKER	4" Alnico V Magnet, 13-Ohm voice coil used in master and remotes.
DIMENSIONS	L 6⅝", W 7⅛", H 5¼"

SHIPPING WEIGHTS:
JM-5: 6 lbs.
JR: 3¼ lbs.
IM-5: 6 lbs.
JMR System: 9¼ lbs.

JR - REMOTE

CSA

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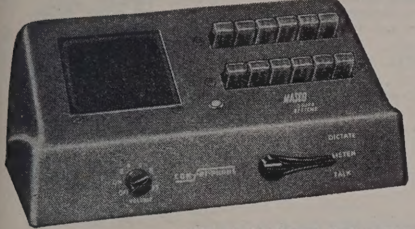
CON-FER-PHONE *Line of* INTER-MIX, INTERCOMMUNICATION *Equipment*

Build a system around any one Master to meet your requirements. Available in Six and Twelve-Station Masters. Remote available WITH or WITHOUT Call Switch or with 6-Position Master Station Selector.

MASCO SOUND SYSTEMS



JMP-12 MASTER STATION

DICTATE
LISTEN
TALK
CON-FER-PHONE

JMP-6 MASTER STATION

JS-6 REMOTE

FEATURES:

- For Master-to-Master-to-Remote Intermix Installation.
- For Master-to-Master Installation.
- For Master-to-Remote Installation.
- Remote Station for two-way conversation with Masters.
- Remote Station can originate call to Masters.
- Masters may have personal remotes.
- Push-Button station selection.
- Press-to-talk switch with dictate position on Master.
- Individual or group conversation.
- Volume control with on-off switch.
- On-Off indicating light.
- AC-DC operation.
- Finished in attractive walnut hammertone.
- Finish available in baked white enamel.
- U/L Approved.

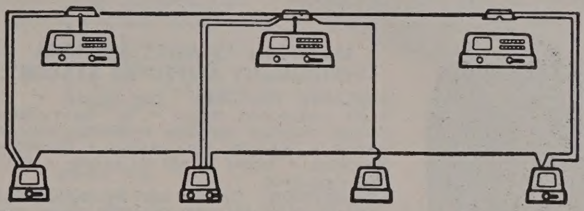


Illustration of a Master-to-Master-to-Remote Inter-Mix Installation:

The above is an inter-mixed system using both Masters and Remotes.
Masters may call selectively or to all masters and remotes in the circuit. Master stations can originate calls to any remote at will.
Remotes can answer any master from a distance but cannot originate calls nor talk to other remotes. Remotes can originate calls to any master in the circuit, but cannot talk with other remotes. Model JS Remote may originate a call to only one master. Model JS-6 Remote may originate a call to as many as six masters.
Remotes with switch can be installed for private or non-private use.

Each master can have his own private hookup of remotes. The remotes may or may not originate calls to the individual master. Masters can call each other regardless of whether master being called has its power on or off.

Illustration shows less than the maximum number of units possible in installation.

A JMP-6 Master may be connected to a total of six other units and a JMP-12 Master to a total of twelve other units. These units may be other masters or the JL, JS, and JS-6 Remotes, or the MB-8N Booster Amplifier. All of these units may be mixed.

SPECIFICATIONS FOR MODELS JMP-6 *and* JMP-12, MASTERS *and* MODELS JL, JS, *and* JS-6 *REMOTES*

MASTER

VOLTAGE	117 Volts AC or DC
POWER OUTPUT	2.5 Watts
POWER CONSUMPTION	30 Watts
CONTROLS	6 and 12 Push-Button station selectors Volume control with on-off switch
TUBES	1-14F7 Dual Triode Amplifier 1-50L6 Beam Power Amplifier 1-50Y6 Rectifier

MASTER AND REMOTE

SPEAKER	4″ Alnico V Magnet 13-Ohm Voice Coil
FINISH	Walnut Hammertone or White Baked Enamel
DIMENSIONS	Master: 12⅝″ x 7½″ x 5½″ high Remote: 6⅝″ x 7⅛″ x 5¼″ high
SHIPPING WEIGHT	Master: 8 lbs. Remote: 3¼ lbs.

MB-8N

MB-8N 8-WATT BOOSTER AMPLIFIER

FEATURES: U/L Approved • Tapped Output • Master Gain Control • Input Matched to Master • Designed for Long Hour Usage.

APPLICATION: Where paging is required in conjunction with intercommunication. It is the answer to high noise level voice penetration or for large area voice coverage. It is used with separate speakers and baffles.

AMPLIFIER SPECIFICATIONS • MODEL MB-8N

POWER OUTPUT	8 Watts, at less than 5% distortion
PEAK OUTPUT	13 Watts
INPUT	One, 13 Ohms
FREQUENCY RESPONSE	± 2 DB 50 to 10,000 CPS
CONTROLS	One, Master Gain with On-Off Switch
TUBES	1-6SJ7, 1-6L6G, 1-5Y3GT (Rectifier)
OUTPUT IMPEDANCES	3.2, 8, 500 Ohms
HUM LEVEL	60 DB below output of 8 Watts
POWER CONSUMPTION	75 Watts, 117 Volts, 60 Cycles
DIMENSIONS	10″ x 6″ x 7½″ high
SHIPPING WEIGHT	14 lbs.

PRICES

		List Price
JMP-6	Six-Station Master with Tubes	$57.95
JMP-12	Twelve-Station Master with Tubes	67.95
JL	Remote **Less** Call Switch	12.75
JS	Remote **With** Call Switch	14.00
JS-6	Remote with 6-Position Master Station Selector and Call Switch	19.95
MB-8N	Booster Amplifier, 8 Watts, with Cover, with Matched Tubes	57.50
BJ-6	Junction Box for ue with JMP-6 Master and JS-6 Remote. Consists of a terminal strip containing 8 pair of terminal lugs mounted on a metal chassis including a dust cover	7.00
	Above Junction Box, **factory installed**	9.50
BJ-12	Junction Box for use with JMP-12 Master. Consists of a terminal strip containing 14 pair of terminal lugs mounted on a metal chassis and includes a dust cover	7.25
	Above Junction Box, **factory installed**	10.00

CABLE PRICES

		List Price, per 100 ft.
SC	One Pair Shielded Twisted No. 20 Solid. No outside covering	$ 6.75
SCB	One Pair Shielded Twisted No. 20 Solid, with over-all Weather-proof Braid Covering. (This is not water-proof)	8.50
TW-4	Four Pair, each pair Twisted No. 20 Solid with over-all outside Braid Covering all four pair	17.00
TW-7	Seven Pair, each pair Twisted No. 20 Solid with over-all outside Braid Covering all seven pair	23.75
TW-13	Thirteen Pair, each pair Twisted No. 20 Solid with over-all outside covering all thirteen pair	47.50
S	One Pair Twisted Unshielded No. 20 Solid. No outside covering	3.75

Write to factory for catalog giving complete description of Con-Fer-Phone Intercommunication Equipment.

WEST OF ROCKIES ADD 5% TO ABOVE LIST PRICES

To secure a LOW-IMPEDANCE INPUT for amplifiers, see PAGE B-13

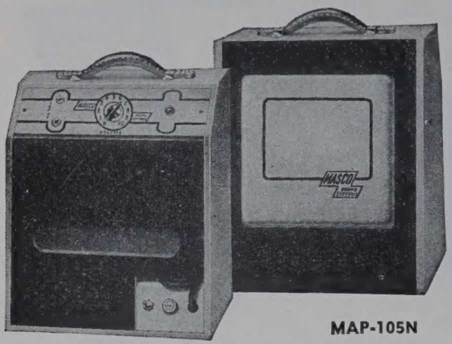
Amplifiers licensed under U. S. patents of Western Electric Company, Inc., and American Telephone and Telegraph Company. • *Specifications and prices subject to change without notice.*

MARK SIMPSON MANUFACTURING CO. • LONG ISLAND CITY, N. Y.

FOR BEST RESULTS SELECT

MASCO MUSICAL INSTRUMENT AMPLIFIER SYSTEMS

MASCO
SOUND SYSTEMS


MAP-105N

MAP-105N 5-WATT MUSICAL INSTRUMENT AMPLIFIER SYSTEM

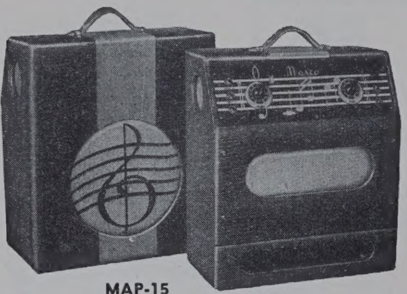
AMPLIFIER FEATURES: Two inputs • 8" heavy-duty, built-in PM speaker • Safety-fused circuit • Hum-free operation • Fully enclosed back • Indicating Pilot Light • U/L - CSA Approved.

APPLICATION: Suitable for use by musicians, singers, lecturers, and other entertainment applications. The dual-channel input permits mixing of singing with dance band or other instrumental music.

AMPLIFIER SPECIFICATIONS • MODEL MAP-105N

POWER OUTPUT	5 Watts, at less than 5% harmonic distortion
INPUTS	Two, suitable for microphone or musical-instrument pick-up
FREQUENCY RESPONSE	± 2 DB 100 to 8,000 CPS
POWER GAIN	105 DB
TUBES	1-6SL7GT, 1-6V6GT, 1-6X5GT (Rectifier)
HUM LEVEL	60 DB below output level of 5 Watts
POWER CONSUMPTION	30 Watts at 117 Volts, 60 CPS
DIMENSIONS	11¾" x 8½" x 13" high

PRICES	**List Price**
MAP-105N Musical Instrument Amplifier System as described (less tubes) Shipping Weight: 15 lbs.	$49.10
Kit of Matched Tubes for MAP-105N	5.90


MAP-15

MAP-15 15-WATT MUSICAL INSTRUMENT AMPLIFIER SYSTEM

AMPLIFIER FEATURES: Three inputs • Separate volume and tone controls • 15 watts of undistorted power • Acoustically-built case • Heavy-duty 12" PM speaker.

APPLICATION: Used by bands, orchestras, and discriminating musicians wherever pure tonal reproduction is required. Suitable for instrumental solos and for voice and instruments combined.

AMPLIFIER SPECIFICATIONS • MODEL MAP-15

POWER OUTPUT	15 Watts, Class A, at less than 5% distortion
PEAK POWER	25 Watts
FREQUENCY RESPONSE	± 3 DB 50 to 12,000 CPS
INPUTS	Three: 1-microphone and 2-instrument
POWER GAIN	110 DB
CONTROLS	Two: Master Volume and Tone
SWITCHES	On-Off AC
TUBES	1-6SC7, 1-6SL7GT, 2-6L6G, 1-5Y3GT (Rectifier)
POWER CONSUMPTION	95 Watts at 117 Volts, 60 CPS

PRICES	**List Price**
MAP-15 Musical Instrument Amplifier, as described (less tubes) Shipping Weight: 30 lbs.	$87.85
Kit of Matched Tubes for MAP-15	11.65

MUSICAL CONTACT MICROPHONES

L-10

WC-20

Model L-10 (less volume control)
Model WC-20 (with volume control)

FEATURES: Operate with all makes of amplifiers • Mellow, rounded tone • Will not mar surfaces • Easy to install • Operate with all instruments. The brilliance of tone resulting from the use of these pick-ups far exceeds the power of the instruments alone. They require no special strings or changes.

PRICES		**List Price**
WC-20	Contact Microphone with Volume Control and 8-foot Cable	$13.75
L-10	Contact Microphone with 8-foot Cable, less volume control	10.50
All-Metal Plug	attached to WC-20 or L-10	1.85

MAP-120N 12-WATT MUSICAL INSTRUMENT AMPLIFIER SYSTEM

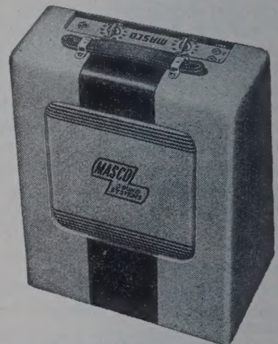
AMPLIFIER FEATURES: Two inputs • 12 watts undistorted output • 10" heavy-duty built-in matched speaker • Master volume control • Separate tone control • Heat-free operation • Fused circuit for safety • U/L-CSA Approved.

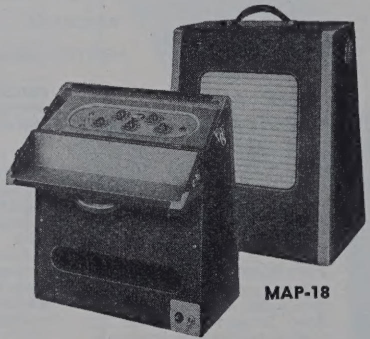
APPLICATION: Can be used by soloists and orchestras, by the MC at night clubs and taverns, for concerts, recitals, ballyhoo, etc.

AMPLIFIER SPECIFICATIONS:
MODEL MAP-120N

POWER OUTPUT	12 Watts, with less than 5% harmonic distortion
INPUTS	Two, suitable for microphone or musical-instrument pick-up
FREQUENCY RESPONSE	± 2 DB 50 to 10,000 CPS
POWER GAIN	110 DB
TUBES	2-6SL7GT, 2-6V6GT, 1-5Y3GT (Rectifier)
HUM LEVEL	62 DB below output level of 12 Watts
POWER CONSUMPTION	60 Watts at 117 Volts, 60 CPS
DIMENSIONS	13" x 8" x 16½" high

PRICES	**List Price**
MAP-120N Musical Instrument Amplifier System as described (less tubes) Shipping Weight: 22 lbs.	$72.65
Kit of Matched Tubes for MAP-120N	9.85


MAP-120N


MAP-18

MAP-18 18-WATT DE LUXE MUSICAL INSTRUMENT AMPLIFIER SYSTEM

AMPLIFIER FEATURES: Three inputs • Separate input controls • Individual bass and treble tone controls • Finest stringed-instrument reproduction • Built-in heavy-duty 12" PM speaker • 18 watts of undistorted output • Convenient top-mounted control panel • U/L - CSA Approved.

APPLICATION: Three instruments or microphones, or any combination may be used separately or simultaneously by means of the three separate volume controls. Voice and instrument may be combined, with individual volume control of each. The bass and treble tone controls vary the overtones from crisp, clear melody, to rich, mellow bass. An 18-watt amplifier is housed in an attractive, portable case. It provides 18 watts of undistorted output by means of an exclusive circuit design. A 12" heavy-duty speaker is incorporated in an acoustically designed case which eliminates all distortion and false harmonics. The control panel is mounted on top to provide quick access to the professional and discriminating musician.

AMPLIFIER SPECIFICATIONS:
MODEL MAP-18

POWER OUTPUT	18 Watts, at less than 5% distortion
PEAK POWER	27 Watts
INPUTS	Three: instrument or microphone
FREQUENCY RESPONSE	± 2 DB 50 to 12,000 CPS
POWER GAIN	110 DB
TUBES	3-6SF5, 1-6SJ7, 1-6SL7GT, 2-6L6G, 1-5V4G (Rectifier)
HUM LEVEL	62 DB below output level of 18 Watts
POWER CONSUMPTION	140 Watts at 117 Volts
VOLTAGE	105-125 Volts, 60 Cycles AC
DIMENSIONS	15¾" x 9⅝" x 18¾" high

PRICES	**List Price**
MAP-18 Musical Instrument Amplifier System, as described (less tubes) Shipping Weight: 36 lbs.	$145.30
Kit of Matched Tubes for Map-18	17.20

To secure a LOW-IMPEDANCE INPUT for amplifiers, see PAGE B-13
WEST OF ROCKIES ADD 5% TO ABOVE LIST PRICES
Amplifiers licensed under U. S. patents of Western Electric Company, Inc., and American Telephone and Telegraph Company. • *Specifications and prices subject to change without notice.*

MARK SIMPSON MANUFACTURING CO. • LONG ISLAND CITY, N. Y.

SOUND-REEL MAGNETIC TAPE RECORDERS

MASCO SOUND SYSTEMS

MODEL 375 and MODEL R-3 (Model R-3 has self-contained Radio)

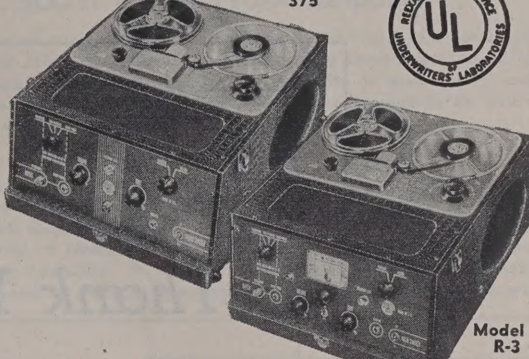
For One Hour Single Channel Continuous Recording

ELECTRICAL AND MECHANICAL SPECIFICATIONS—MODELS 375 and R-3

POWER OUTPUT	5 watts to speaker
OUTPUTS	Three—To Internal Speaker, External Speaker Jack, Jack for Monitoring
FREQUENCY RESPONSE	± 3 db 100-7000 cps
SIGNAL TO NOISE RATIO	40 db
INPUT CHANNELS	Microphone and Radio-Phono
INPUT SENSITIVITY	Microphone: .003 volts for full recording level Radio-Phono: .4 volts for full recording level
AMPLIFIER CONTROLS	Two: Volume and Tone
TONE CONTROL	Treble Attenuator (Variable)
PLAYING TIME	3.75 inches per second—one hour
ERASE	Permanent Magnet Type
TUBES FOR MODEL 375	1-6SJ7 — 1-6SC7 — 2-6V6GT — 1-5Y3GT (Rectifier)
TUBES MODEL R-3	1-6SJ7 — 1-6SC7 — 1-6SA7 — 1-6SF7 — 2-6V6GT — 1-5Y3GT (Rectifier)
POWER CONSUMPTION	117 volts—60 cps, at 118 watts
INPUT IMPEDANCE	Microphone—2.7 Meg. Radio-Phono—½ Meg.
LOW IMPEDANCE AVAILABLE	The microphone input may be converted for low impedance 500 or 200 ohms balanced or 50 ohms unbalanced. Model IN-525 used.
SPEED VARIATIONS INSTANTANEOUS	± 0.1%
SPEAKER	9″ x 6″ Oval Heavy-Duty P.M.
OUTPUT IMPEDANCE	3.2 ohms
MONITOR JACK	For headphone monitoring of recording
FAST-FORWARD REWIND	
HUM LEVEL	Negligible
CAPSTAN	Provides constant tape speed, no Wow or flutter
TAPE BIAS FREQUENCY	40 KC
MOTOR	Heavy-duty, requires no oiling
FLY-WHEEL	Precision balanced assures no Wow or flutter
BEARINGS	Precision Oilite Bearings give Lifetime use without oiling

MECHANICAL FEATURES

- Precision Ground Rubber Surfaces
- Individual Bias Oscillator
- No pressure on rubber drives during idling period
- Recordings may be spliced with "Scotch" tape
- Pre-Equalized Recording Circuit
- Quiet mechanical operation
- No tape spillage



Model 375

Consists of:
The complete portable Magnetic Tape Recorder in two piece case • One Electro-Voice #915 Crystal Microphone with 7½ ft. of cable and plug • One 1200 ft. reel of Minnesota Mining model 111A Plastic Tape • One take-up reel

Case Dimensions:
19¾″ x 16⅞″ x 10¼″ high

Gross Weight	46 lbs.
List Price	$189.50

Model R-3

Consists of:
The complete portable Magnetic Tape Recorder in two piece case • One built-in AM Superheterodyne Radio Tuner • One Electro-Voice #915 Crystal Microphone with 7½ ft. of cable and plug • One 1200 ft. reel of Minnesota Mining model 111A Plastic Tape • One take-up reel

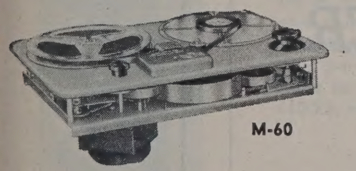
Case Dimensions:
19¾″ x 16⅞″ x 10¼″ high

Gross Weight	48 lbs.
List Price	$218.50

Note: If Microphone is not desired, deduct $5.00 from the above List Prices.

MAGNETIC TAPE RECORDING ACCESSORIES

MASCO now makes it possible to use your existing amplification equipment for magnetic tape recording and reproduction by using these MASCO accessories.



M-60

MODEL M-60 TAPE HANDLING MECHANISM

Complete ready to use supplied with a bias oscillator coil, take-up reel with instructions and circuit diagrams for building own pre-amplifier.

SPECIFICATIONS

SINGLE CHANNEL RECORDING	
TAPE SPEED	3.75 inches per second
PLAYING TIME	One hour (1200 ft. reel of tape)
FREQUENCY RESPONSE	± 3db 100 to 7000 cps
FAST FORWARD . . . FAST REWIND	
ONE FUNCTION SWITCH	To play tape, stop tape, erase tape, rewind and fast forward
SEPARATE ERASE HEAD CONTROL	
RECORDING BIAS FREQUENCY	40 KC
HEADS	Two; one erase, one record-playback
CONSTANT SPEED CAPSTAN DRIVE	
HEAVY DUTY MECHANICAL CONSTRUCTION	
MOTOR	Heavy duty, shock mounted, requires no oiling
WEIGHT	17 lbs.
DIMENSIONS	15¾″ x 11″ x 6″

MODEL M-60 as described (not including reel of tape) **List Price $99.90**

P-4

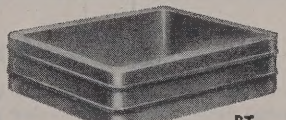
MODEL P-4 RECORD AND PLAYBACK PRE-AMPLIFIER

Pre-amplifier contains bias oscillator and is equalized for both playback and record. It is used in conjunction with your existing power amplifier for tape playback reproduction.

SPECIFICATIONS

INPUTS—THREE	Tape, Microphone, Phono-Radio
INPUT SENSITIVITY	Microphone—.003 volts for full recording level Phono-Radio—.4 volts for full recording level
OUTPUTS—TWO	Output to power amplifier, 1.5 volts Output to recording head
CONTROLS—FOUR	Volume, Record-Playback Switch, Input Selector Switch, Power On-Off Switch
FREQUENCY RESPONSE	± 3 db 100 to 7000 cps
BIAS OSCILLATOR	40 KC
RECORDING LEVEL INDICATOR	Neon
TUBES	1-6SC7, 1-6SN7, 1-6V6GT, 1-6X5GT (Rectifier)
POWER CONSUMPTION	30 watts, 117 volts, 60 cps
CHASSIS FINISH	Gray Hammertone
CHASSIS DIMENSIONS	12″ x 6¾″ x 2¾″ High
WEIGHT	8 lbs.

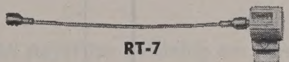
PRICE:
Model P-4 Pre-Amplifier, as described, WITH tubes ....**List Price $82.00**



BT

MODEL BT—MOUNTING BASE FOR TAPE HANDLING MECHANISM

Attractive walnut finished wood base for convenient mounting. **List Price $10.00**



RT-7

MODEL RT-7—TAPE RECORDING TIMER

Designed to facilitate the location of a particular part of the tape recording. Simple to install—Timer is mounted on bracket attached to the chassis of the Tape Handling Mechanism. Flexible shaft snaps on to spindle of supply reel.
Model RT-7, ready to install....**List Price $21.80**

TO CONVERT MICROPHONE INPUT TO LOW IMPEDANCE

IN-525

Model IN-525 Low Impedance Transformer is multi-alloy shielded and is mounted on a swivel-ball joint which allows complete rotation and tilting and assures hum-free operation. Primary impedances available are: 50 ohms unbalanced line; 200 ohms or 500 ohms balanced or unbalanced line. Specify tap setting when ordering.
Factory installed Model IN-525 Transformer (per input) ....**List Price $29.95**

West of the Rockies add 5% to above List Prices. **Specifications and prices subject to change without notice.**

MARK SIMPSON MANUFACTURING CO. • LONG ISLAND CITY, N. Y.

Thank You!

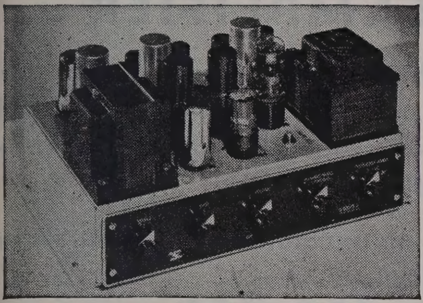
When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

HERMON HOSMER SCOTT, INC.

"PACKAGED ENGINEERING"

385 PUTNAM AVE. • CAMBRIDGE 39, MASS.



H. H. SCOTT Model 210-A Amplifier

Brilliant, realistic reproduction of broadcast and recorded music is assured with the H. H. Scott model 210-A amplifier. Built to laboratory standards of electrical, mechanical, and musical excellence, this 20-watt amplifier is essential to satisfactory custom performance in both FM and AM radio reproduction as well as in record playing. Also available: all-triode model, 211-A.

SPECIFICATIONS

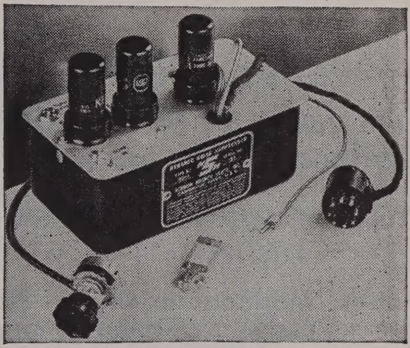
*Dynamic noise suppressor for both scratch and rumble. • Equalization for standard and long-playing records. • Extended listening range. • Squelch circuit. • Twenty-watt output — negligible distortion. • "Distortion and whistle" filter for AM especially. • Matches all speakers from 2 to 500 ohms. • Minimum controls — maximum flexibility. • Compact design with oversize components. • Calibrated adjustments for all types of pickups. • Variable bass and treble boosts.

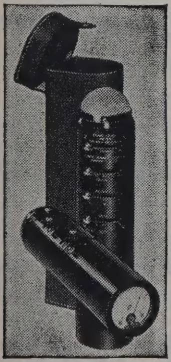
H. H. SCOTT Model 110-A
*Dynamic Noise Suppressor

Now *Dynamic noise suppression is possible with your present radio-phonograph or amplifier on both standard and long-playing records with the H. H. Scott "Little Wonder" *Dynamic Noise Suppressor. Scratch and rumble are reduced without fixed loss of "highs" or "lows." Add realism to your music reproduction by these 2 simple steps.

1. Plug in the "Little Wonder" between your pick-up and amplifier.
2. Plug in the socket adapter to the power-tube socket.

The "Little Wonder" realizes the full capabilities of your present equipment; remote control mounts anywhere; high-and-low-frequency noise suppression; two-inductor-type high-frequency gate circuit; two separate control rectifiers; compact — 7 x 3¾ x 4¾ inches.





H. H. SCOTT Model 410-A Sound Level Meter

The H. H. Scott Model 410-A sound level meter, is a self-contained unit meeting all requirements of the ASA and weighing only a little over two pounds. It is the only truly modern sound-level meter now available, and is unsurpassed for speed, accuracy, and convenience. Held and operated in one hand, it is merely pointed at the noise source and an accurate reading taken from the meter. Provision is made for using the microphone on an extension cable or for using other microphones, vibration integrator 410-X5, and vibration pickup 410-X6.

SPECIFICATIONS

Range: 34 to 140 db above ASA reference level. All standard ASA curves for weighting are provided: flat, 70 db, and 40 db. • Humidity-sealed crystal diaphragm type microphone. • Two-speed type meter provides either standard ASA ballistics or heavy damping. • Simple adjustment resets amplifier gain to original factory-calibrated value. • Only 11⅝" long, 2½" diameter.

H. H. SCOTT Model 910-C
*Dynamic Noise Suppressor

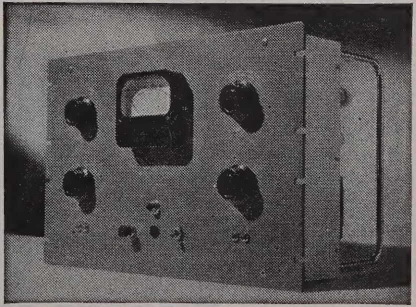
The type 910-C H. H. Scott *dynamic noise suppressor, is widely used by leading independent and net-work stations to provide wide-range, low-noise-level program material from records and transcriptions of music. This is the first and only device of its type available commercially for broadcast station use. Indispensable for FM and high-fidelity AM stations. Also available: smaller model, 912-A, for separate turntables.

SPECIFICATIONS

• Reduces scratch and rumble noises. • Remote control. • Distortion less than 0.3%. • Hum level 80 db below standard test level. • Operating level — 30 to plus 10 VU. • Illuminated meter for monitoring.

*Licensed under U.S. and foreign patents pending and issued.

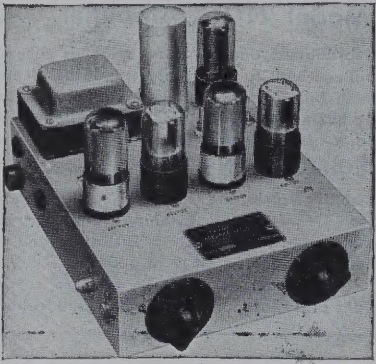
For information on products now in development, write for latest data on H. H. Scott products.



License laboratories maintained for *Dynamic Noise Suppressor.

SOMERSET

DYNAMIC NOISE SUPPRESSOR



SPECIFICATIONS

115 Volts 50-60-Cycle 25 Watts
40-15000 CPS Chassis: 7″ x 9″ x 12″

Tubes: 2-6SL7GT 1-6SK7GT
1-6SJ7GT 1-5Y3GT

Input: Magnetic or Crystal Pickup or FM or AM Detector Output

Gain: .02 Volts Input produces .8 Volts Output to Volume Control of .25 to 1 Meghom

PREAMPLIFIER

- **Accomplishes a high degree of noise reduction — maintains natural brilliance and realism — essential overtones are reproduced at all volume levels.**
- **Introduces no unnatural tonal qualities in the reproduction.**
- **Installation and operation require no technical skill.**
- **Also supplied in combination with a high-quality power amplifier for custom and commercial installations.**

***Net Price* $59.50**

The Somerset Noise Suppressor is essential if you have other high fidelity equipment. A 15,000-cycle wide range reproducing system is of little value if it must be limited to 4,000 or 5,000 cycles by treble control to avoid surface scratch or hiss.

Somerset Laboratories Incorporated has developed a new dynamic Noise Suppressor Pre-amplifier with an optimum frequency response characteristic, so controlled, that wide range quality and naturalness are preserved at all volume levels. Limitation of high frequency noise, during intervals when the varying intensity of the program is insufficient to mask the noise, is accomplished, not by a sharp frequency cutoff, but by a gradual "roll off" attenuation of all of the higher frequencies.

This method substantially retains the relative magnitudes of overtones. Likewise, the pleasing effect of complex tones, which is so dependent upon the many overtones is preserved. The hollow tonal character which may result in sharp cutoff suppressor operation is avoided.

The Somerset Supressor, with its dynamic "roll off," maintains aural balance to such extent that control of the low frequencies is neither desirable nor necessary.

The Somerset Noise Suppressor Preamplifier is equipped with power supply and includes a two-stage high *-mu* triode preamplifier with feedback, compensated for selective use — by a four-position switch — with a number of the better quality phonograph pickups as well as with FM or AM radio tuners.

A unique and highly desirable feature of the circuit arrangement is that the variable gain element, which controls the high frequency amplification, is not directly in the signal path. Distortion at high levels, commonly introduced by non-linearity in variable gain stages through which the signal passes, is not encountered in this circuit.

SOMERSET LABORATORIES INC.

BOGEN HIGH POWER SOUND EQUIPMENT

MODEL E75

70 WATTS

EXCLUSIVE DUAL-OUTPUT CONSTRUCTION — TWO MICROPHONE CHANNELS — ONE PHONOGRAPH CHANNEL — BASS-TREBLE TONE CONTROL — TWO MASTER GAIN CONTROLS

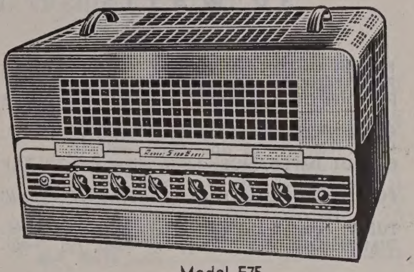
The E75 amplifier has two separate power amplifiers, driven by a common preamplifier. Each power amplifier has its own power supply, inverse feedbck circuit and master gain control.

SPECIFICATIONS

POWER OUTPUT: 70 watts (2 - 35 watt power amplifier) at less than 4%. **PEAK POWER:** 100 watts.
FREQUENCY RESPONSE: 30-14,000 cycles, ±1 db.
HUM: Fund.: —70 db. Mic.: —59 db.
OUTPUT IMPEDANCE: Each power amplifier tapped at 4-8-15-500-1000 ohms.
POWER CONSUMPTION: 290 watts, 117 V, 50-60 cycles AC.
TUBES: Total 14: 2-6SF5, 2-6SL7GT, 2-6F6G, 2-7Z4, 4-6L6G, 2-5U4G.
DIMENSIONS: 17⅛" long, 10" high, 12½" deep.

E75 HIGH IMPEDANCE AMPLIFIER:
Complete with tubes:
List Price..........$223.75

EL75 LOW IMPEDANCE AMPLIFIER:
Same as E75, but first microphone input is low impedance 200 ohms. 50 or 500 ohms available if specified.
List Price..........$245.00


Model E75

MODEL HX50

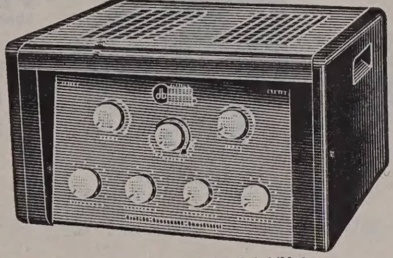
50 WATTS

THREE MICROPHONE CHANNELS — ONE PHONOGRAPH CHANNEL — DUAL ELECTRONIC TONE CORRECTORS — CONSTANT VOLTAGE OUTPUT

The proudest achievement in Bogen's 15 years of sound leadership. Incorporates the new Bogen ANTI-FEEDBACK CONTROL which permits easy "tuning out" of acoustic feedback. Allows greater output to be used—makes mike placement less critical—stabilizes entire sound system.

SPECIFICATIONS

POWER OUTPUT: 50 watts at less than 3%.
PEAK POWER: 90 watts.
FREQUENCY RESPONSE: 20120,000 cycles ±2 db. TONE CORRECTOR RANGE: bass control: —30 to +20 db at 100 cycles; treble control: —14 to +21 db at 10,000 cycles.
HUM: Fund.: —65 db. **Mic.:** —58 db.
OUTPUT IMPEDANCE: 4-8-15 ohm and 2 constant voltage taps (70 and 140 V).
POWER CONSUMPTION: 240 watts, 117 V, 50-60 cycles AC.
TUBES: Total 12. 5-6SC7, 2-6SL7, 1-6SN7, 1-5R4GY, 2-807, 1-5Y3.
DIMENSIONS: 17" long, 9" high, 14" deep.


Model HX50

HX50 HIGH IMPEDANCE AMPLIFIER:
Complete with tubes.
List Price..........$241.90

HXL50 LOW IMPEDANCE AMPLIFIER:
Same as HX50 but first microphone input is low impedance 200 ohms. (50 or 500 ohms available if specified.)
List Price..........$263.15

MODEL H50

50 WATTS

TWO MICROPHONE CHANNELS — ONE PHONOGRAPH CHANNEL — BASS-TREBLE TONE CONTROL — CONSTANT VOLTAGE OUTPUT — UNDERWRITERS' LABORATORIES APPROVED

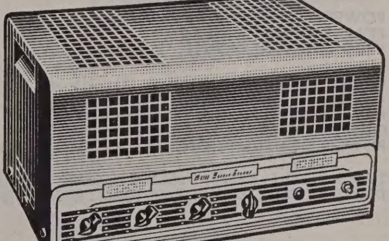
Push-Pull 807 output with constant voltage output taps to simplify line matching transformer calculations.

SPECIFICATIONS

POWER OUTPUT: 50 watts at less than 5%. **PEAK POWER:** 90 watts.
FREQUENCY RESPONSE: 30-20,000 cycles, ±2 db.
GAIN: Microphone inputs (2): 120 db. Phono input (1): 80 db.
HUM: Fund.: —74 db. Mic.: —59 db.
OUTPUT IMPEDANCE: 4-8-15 ohms and two constant voltage taps (70 V and 140 V).
POWER CONSUMPTION: 210 watts, 117 V, 50-60 cycles AC.
TUBES: Total 9: 3-6SC7, 1-6SL7, 1-6SN7, 2-807, 1-5R4GY, 1-5Y3.
DIMENSIONS: 17" wide, 12½" deep, 9¼" high.

H50 HIGH IMPEDANCE AMPLIFIER:
Complete with tubes.
List Price..........$183.75

HL50 LOW IMPEDANCE AMPLIFIER:
Same as H50 but first microphone input is low impedance, 200 ohms. 50 or 50 ohms available if specified.
List Price..........$205.00


Model H50

MODEL HX30

30 WATTS

THREE MICROPHONE CHANNELS — ONE PHONOGRAPH CHANNEL — DUAL ELECTRONIC TONE CORRECTORS — REMOTE CONTROL OF GAIN

Revolutionary Bogen anti-feedback control permits tuning out acoustic feedback for higher useable output, greater stability.

SPECIFICATIONS

POWER OUTPUT: 30 watts at 2%.
PEAK POWER: 45 watts.
FREQUENCY RESPONSE: 50-18,000 cycles, ±1.5 db.
GAIN: Microphone inputs (3): 121 db. Phono input (1): 85 db.
HUM: Fund.: —67 db. Mic.: —60 db.
OUTPUT IMPEDANCE: 4-8-15-500 ohms and 70 volts.
POWER CONSUMPTION: 140 watts, 117 V, 50-60 cycles AC.
REMOTE CONTROL PROVISION: Built-in—permits mixing and fading two of the 4 available inputs from a remote point.
TUBES: Total 10:5-6SC7, 2-6SL7GT, 2-6L6G, 1-5U4G.
DIMENSIONS: 17" wide, 9" high, 14" deep

Model HX30

HX30 HIGH IMPEDANCE AMPLIFIER:
Complete with tubes.
List Price..........$190.00

HXL30 LOW IMPEDANCE AMPLIFIER:
Same as HX30 but first microphone input is low impedance, 200 ohms. 50 or 500 ohms available if specified.
List Price..........$211.25

FOR FURTHER INFORMATION ON AMPLIFIERS AND COMPLETE BOGEN SYSTEMS ASK FOR THE LATEST BOGEN CATALOG
PRICES IN ZONE 2 ARE APPROXIMATELY 5% HIGHER • ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

DAVID BOGEN CO., INC., NEW YORK 12, N. Y.

BOGEN MEDIUM POWER SOUND EQUIPMENT

MODEL H30

30 WATTS

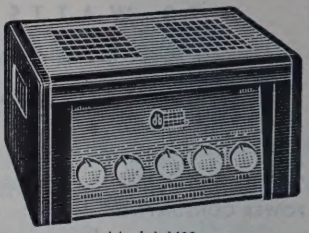
TWO MICROPHONE CHANNELS — ONE PHONOGRAPH CHANNEL
SIX POSITION MULTI-RANGE TONE CORRECTOR
LOW NOISE LEVEL

SPECIFICATIONS

POWER OUTPUT: 30 watts at less than 5%.
PEAK POWER: 40 watts.
FREQUENCY RESPONSE: 30-12,000 cycles, ±2.5 db.
GAIN: Microphone: 119 db. Phono: 77 db.
HUM: Fund.: —68 db. Mic.: —60 db.
OUTPUT IMPEDANCE: 4-8-16 ohms and 70V-TAP (167 ohms.)
POWER CONSUMPTION: 140 watts, 117 V, 50-60 cycles AC.
TUBES: Total 7: 3-6SF5, 1-6SL7, 2-6L6G, 1-5U4G.
DIMENSIONS: 15½" long, 11" deep, 7½" high.

H30 HIGH IMPEDANCE AMPLIFIER:
Complete with tubes.
List Price.....$115.00

HL30 LOW IMPEDANCE AMPLIFIER:
Same as H30 but first microphone input is low impedance, 200 ohms. (50 or 500 ohms available if specified.)
List Price.....$136.25


Model H30

MODELS F30M and F30A

30 WATT AMPLIFIERS With Built-in Phonographs

Model F30A

The perfect answer to a general duty portable amplifier with built-in phonograph. F30M has a built-in single speed (78 RPM) manual record player. F30A uses a single speed (78 RPM) Webster automatic record changer.

F30 Systems are ideal for square dances, funeral parlor installations, clubs, rental systems.

F30A — List Price.....$186.50
F30M — List Price.....158.75

MODEL H15

15 WATTS

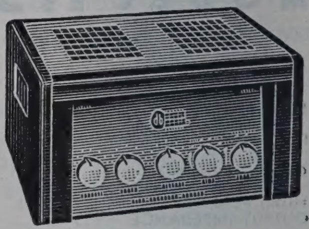
TWO MICROPHONE CHANNELS — ONE PHONOGRAPH CHANNEL
SIX POSITION MULTI-RANGE TONE CORRECTOR
LOW HUM AND NOISE LEVEL

SPECIFICATIONS

POWER OUTPUT: 15 watts at less than 5%.
PEAK POWER: 25 watts.
FREQUENCY RESPONSE: 30-12,000 cycles, ±1.5 db.
GAIN: Microphone channels (2): 115 db. Phono channels (1): 74 db.
HUM: Fund.: —70 db. Mic.: —60 db.
OUTPUT IMPEDANCE: 4-8-16 ohms and 70 V.
POWER CONSUMPTION: 95 watts, 117 V, 50-60 cycles AC.
TUBES: Total 7: 3-6SF5, 1-6SL7GT, 2-6L6G, 1-5Y3G.
DIMENSIONS: 15½" long, 10¾" deep, 7½" high.

H15 HIGH IMPEDANCE AMPLIFIER:
Complete with tubes.
List Price.....$98.75

HL15 LOW IMPEDANCE AMPLIFIER:
Same as H15 but first microphone input is low impedance, 200 ohms. 50 or 500 ohms available if specified.
List Price.....$120.00


Model H15

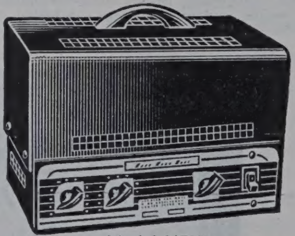
MODEL HE10

10 WATTS

ONE MICROPHONE CHANNEL — ONE PHONOGRAPH CHANNEL
SIX POSITION MULTI-RANGE TONE CORRECTOR — PUSH-PULL OUTPUT
FIVE TUBE, HIGH GAIN CIRCUIT — LOW NOISE LEVEL

SPECIFICATIONS

POWER OUTPUT: 10 watts at 4%.
PEAK POWER: 15 watts.
FREQUENCY RESPONSE: 60-10,000 cycles, ±1.5 db.
GAIN: Mic. channel: 117 db. Phono channel: 66 db.
HUM: Fund.: —66 db. Mic.: —59 db.
OUTPUT IMPEDANCE: 4-8-15-500 ohms.
POWER CONSUMPTION: 70 watts, 117 V, 50-60 cycles AC.
TUBES: Total 5: 1-6SJ7, 1-6SL7, 2-6V6, 1-5Y3GT.
DIMENSIONS: 7" deep, 11" wide, 7¼" high.


Model HE10

HE10 HIGH IMPEDANCE AMPLIFIER:
Complete with tubes.
List Price.....$61.50

HEL10 LOW IMPEDANCE AMPLIFIER:
Same as HE10 but microphone input is low impedance, 200 ohms. 50 or 500 ohms available on transformer.
List Price.....$82.75

FOR FURTHER INFORMATION ON AMPLIFIERS AND COMPLETE BOGEN SYSTEMS ASK FOR THE LATEST BOGEN CATALOG
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DAVID BOGEN CO., INC., NEW YORK 12, N. Y.

BOGEN MOBILE SOUND EQUIPMENT

MODEL HX632

32 WATT MOBILE SYSTEM

UNIVERSAL OPERATION 6 VOLT DC OR 110 VOLT AC
ONE MICROPHONE CHANNEL — ONE PHONOGRAPH CHANNEL
BUILT-IN PHONOGRAPH
SEPARATE BASS AND TREBLE CONTROLS

SPECIFICATIONS

POWER OUTPUT: AC: 32 watts at less than 5%. DC: 25 watts at 5%.

PEAK POWER: 40 watts.

FREQUENCY RESPONSE: 30-12,000 cycles ±2 db.

GAIN: Mic. channel: 121 db. Phono channel: 80 db.

HUM: AC: —70 db.; DC: —60 db.

OUTPUT IMPEDANCE: 4-8-15-500 ohms, 70 V.

POWER CONSUMPTION: 120 watts, 117 VAC; 23.5 amps., 6 V DC.

TUBES: Total 7: 2-6SL7GT, 2-6SF5, 2-6L6G, 1-5U4G.

DIMENSIONS: 16" long, 16⅜" wide, 10⅝" high.

Model HX632

HX632 AMPLIFIER: Complete with tubes and phono.
List Price.......$250.00

HX632TU OUTDOOR SYSTEM: Includes: HX632 amplifier with tubes; 2 Bogen-University LH trumpets with MA25 units; 1 Astatic JT30 crystal microphone with handle, interlocking base, 15' cable and plug.
List Price.......$404.25

HX632TJ OUTDOOR SYSTEM: Same as HX632TU substituting 2 Jensen VH24 trumpets.
List Price.......414.25

MODEL H623

23 WATT MOBILE SYSTEM

UNIVERSAL OPERATION 6 VOLT DC OR 110 VOLT AC
ONE MICROPHONE CHANNEL — ONE PHONOGRAPH CHANNEL
SIX POSITION TONE CORRECTOR
BUILT-IN PHONOGRAPH

SPECIFICATIONS

POWER OUTPUT: AC: 23 watts at 5%. DC: 20 watts at 5%.

PEAK POWER: 30 watts.

FREQUENCY RESPONSE: 30-14,000 cycles ±2.5 db.

GAIN: Microphone channel: 116 db. Phono channel: 73 db.

HUM: AC: Fund.: —74 db.; Mic.: —60 db. DC: Fund.: —75 db.; Mic.: —62 db.

OUTPUT IMPEDANCE: 4-8-15 ohms and 70 V.

POWER CONSUMPTION: 115 watts, 117 V. AC; 14 amp, 6 V DC.

TUBES: Total 6: 2-6SF5, 1-6SL7GT, 2-6L6G, 1-7Z4.

DIMENSIONS: 15¼" long, 10⅞" deep, 10⅛" high.

H623 AMPLIFIER: Complete with phono and tubes.
List Price.......$177.50

H623TJ OUTDOOR SYSTEM: Includes: H623 amplifier with tubes; 1 Jensen VH20 projector unit, 1 Bogen-Shure 710 crystal microphone with stand adapter, 7' cable and plug.
List Price.......$250.50

H623TU OUTDOOR SYSTEM: Same as H623TJ substituting Bogen-University PH trumpet with MA25 unit.
List Price.......$241.50

Model H623

MODEL E66

6 WATT MOBILE SYSTEM

ONE MICROPHONE CHANNEL — PHONOGRAPH JACK — STANDBY POSITION ON POWER SWITCH — 110 V AC OR 6 V DC OPERATION

SPECIFICATIONS

POWER OUTPUT: 6 watts at 5%. **PEAK POWER:** 8 watts.

FREQUENCY RESPONSE: 60-9,000 cycles, ±2 db.

GAIN: Microphone channel (1): 110 db. Phono channel (1): 75 db.

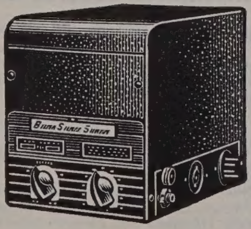
HUM: AC: — 50 db.; DC: —62 db.

OUTPUT IMPEDANCE: 4-8-15 ohms.

POWER CONSUMPTION: 50 watts, 117 V AC; 7 amps, 6 V DC.

TUBES: Total 4: 1-6SJ7, 1-6SL7GT, 1-6L6GA, 1-6X5GT.

DIMENSIONS: 6⅛" wide, 9¼" deep, 6⅞" high.



Model E66

MODEL E66 AMPLIFIER: Complete with tubes.
List Price.......$71.50

MODEL E66F SYSTEM: Includes: 1-E66 amplifier with tubes, 1 University 1B8 trumpet, 1 Bogen-Shure 710 crystal microphone with stand adapter, 7' cable and plug.
List Price.......$114.00

MODEL E66J SYSTEM: Same as above but trumpet is Jensen VH-91.
List Price.......$114.00

FOR FURTHER INFORMATION ON AMPLIFIERS AND COMPLETE BOGEN SYSTEMS ASK FOR THE LATEST BOGEN CATALOG
PRICES IN ZONE 2 ARE APPROXIMATELY 5% HIGHER • ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

DAVID BOGEN CO., INC., NEW YORK 12, N. Y.

BOGEN HIGH FIDELITY EQUIPMENT

MODEL PX15

15 WATT PHONO AMPLIFIER

SPECIFICATIONS

POWER OUTPUT: 15 watts at less than 2% distortion. **PEAK POWER:** 30 watts.
FREQUENCY RESPONSE: 30-20,000 cycles ±1½ db.
TONE CORRECTOR RANGE: Bass control: —23 db. to +20 db. at 60 cps. Treble control: —20 db. to +20 db. at 10,000 cps.
GAIN: Magnetic: 106 db.; Crystal: 78 db.
HUM: —75 db (referred to rated output).
OUTPUT IMPEDANCE: 4-8-16-500 ohms.
POWER CONSUMPTION: 117 V, 50-60 cycles, 105 watts.
TUBES: Total 6: 1-12SJ7, 1-12AH7, 1-6SL7, 2-6L6G, 1-5Y3GT.
DIMENSIONS: 15" x 8" x 9¼".

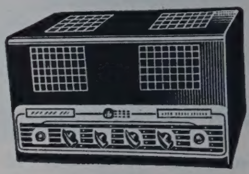
THE VERY FINEST IN HIGH FIDELITY FOR THE MOST CRITICAL LISTENER

New rangemaster control corrects for various conditions of record noise. Built-in preamplifier for G.E., Pickering, Astatic and similar magnetic pickups. Preamplifiers and voltage amplifier tubes use D.C. heated filaments for minimum hum. Dual tone controls provide bass boost and attenuation, treble boost and attenuation. Fifteen watts output at less than 2%. Provision for simple external switching of pickup and tuner removing preamplifier load when tuner is in the circuit. Underwriters' Laboratories approved.

PX15 AMPLIFIER and tubes (less cage).
List Price........$137.50

PX15C—Same as PX15 but with 4 ft. extension controls.
List Price........$151.25

CAG15—Cage for PX15 or PX15C.
List Price........$6.25



Model PX15
Shown with Cage

MODEL PX10

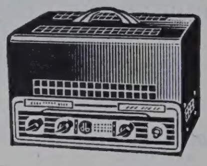
10 WATT PHONO AMPLIFIER

SPECIFICATIONS

POWER OUTPUT: 10 watts at 5%.
PEAK POWER: 17 watts.
FREQUENCY RESPONSE: 30-15,000 cycles ±2 db.
GAIN: Magnetic pickup: 97 db.; Crystal: 70 db.
HUM: —70 db. (referred to rated output).
OUTPUT IMPEDANCE: 4-8-15-500 ohms. 500 ohm tap is equivalent of 70 V constant voltage tap.
POWER CONSUMPTION: 78 watts, 117 V 50-60 cycles AC.
TUBES: Total 7: 1-6SC7, 2-6SL7GT, 1-6SA7, 2-6V6GT, 1-5Y3GT.
DIMENSIONS: 11" long, 7" wide, 7¼" high.
SHIPPING WEIGHT: 15 lbs.
EXPANDER: Straight Line.

FOR TRUE HIGH FIDELITY AT MODERATE COST

Built-in dynamic range expander. Built-in preamplifier for G.E., Pickering, Astatic and similar magnetic pickups. Provision for simple external switching of pickup and tuner, removing preamplifier load when tuner is in circuit. Preamplifier tube shock mounted to minimize feedback and microphonism.



Model PX10
Shown with Cage

PX10 AMPLIFIER and tubes (less cage).
List Price........$85.25

PX10C—Same as PX10 but with 4 ft. extension controls.
List Price........$93.50

CAG10—Cage for PX10 or PX10C.
List Price........$5.00

MODEL PH10

10 WATT MULTI-RANGE PHONO AMPLIFIER

MODEL PH10 AMPLIFIER: Complete with tubes.
List Price........$48.75

MODEL PH10C AMPLIFIER: Same as PH10 but with 4 ft. extension controls.
List Price........$53.75

MULTI-RANGE TONE SWITCH WITH FOUR LABORATORY SELECTED RESPONSE CURVES — VIRTUALLY HUMLESS PERFORMANCE IN ANY TONE POSITION — PUSH-PULL OUTPUT.

SPECIFICATIONS

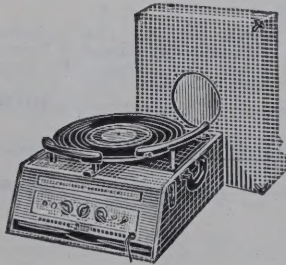
POWER OUTPUT: 10 watts at 5%.
PEAK POWER: 14 watts.
FREQUENCY RESPONSE: (Full Range) 40-15,000 cps ±1 db.
GAIN: 72 db.
INPUT IMPEDANCE: (1) 500,000 ohms.
OUTPUT IMPEDANCE: 3.2 and 8 ohms.
HUM: —80 db. (referred to rated output).
POWER CONSUMPTION: 60 watts, 117 V, 60 cycles.
TUBES: Total 4: 1-6SL7GT, 2-6V6GT, 1-5Y3GT.
DIMENSIONS: 5" x 11" x 3" (overall height 6").

Model PH10

DUAL SPEED HIGH FIDELITY PORTABLE TRANSCRIPTION PLAYERS

MODEL LP16—For standard, transcription and long playing records and microphone.

MODEL UP16—For standard and transcription records and microphone.



Model LP16

Player is housed in sturdy ⅜" plywood case, covered in heavy airplane cloth. Amplifier employs famous Bogen PH10 circuit. Jensen 10" speaker is mounted in removable cover. Two separate constant speed synchronous motors for 78 and 33⅓ RPM. Record carrying compartment built-in. Model UP16 has single transcription arm with superb QT3-J cartridge. Model LP16 is equipped with two arms — transcription arm plus LP arm.

SPECIFICATIONS

POWER OUTPUT: 10 watts at less than 5%.
PEAK POWER: 14 watts.
FREQUENCY RESPONSE: 40-15,000 cps ±1 db.
GAIN: Phono channel: 68 db; Microphone channel: 115 db.
HUM: Phono channel: —75 db (referred to rated output) in flat response. Microphone channel: —58 db.
INPUT IMPEDANCE: Phono channel: 500,000 ohms. Microphone channel: 2 megohms.
OUTPUT IMPEDANCE: 8 ohms.
POWER CONSUMPTION: 85 watts — 117 V 60 cycle AC (with motor).
TUBES: Total 5: 1-6SJ7, 1-6SL7GT, 2-6V6GT, 1-5Y3GT.
DIMENSIONS: 20¼" deep, 18½" wide, 12¼" high.
MODEL UP16—Complete with tubes, speaker.
List Price........$160.00
MODEL LP16—Complete with tubes, speaker.
List Price........$175.00

WRITE FOR DESCRIPTIVE HIGH FIDELITY FOLDER LISTING ADDITIONAL UNITS.

PRICES IN ZONE 2 ARE APPROXIMATELY 5% HIGHER • ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

DAVID BOGEN CO., INC., NEW YORK 12, N. Y.

BOGEN CENTRALIZED SOUND SYSTEMS AND COMMUNO-PHONES

BOGEN CENTRALIZED SCHOOL SOUND SYSTEMS: The entirely new Bogen centralized school systems now make available to progressive educators an instructional tool for which they have long sought. Simple—yet versatile—the new systems provide for radio and record program transmission selectively to any or all classrooms. Skillful design, which embodies many exclusive features, enables the entire school body to participate in dramatic presentations, school debates and similar activities where the audience was previously limited to the seating capacity of the auditorium.

Bogen Centralized School Sound Systems are designed to meet every requirement of the modern educational institution, regardless of size. They comply fully with requirements of the U. S. Office of Education and the RMA. Simplicity of operation enables the administrator to reduce confusion and thus to assure efficient effective work in all departments. Versatility of the systems speed learning, provide instant communication for fire drills and supplement the general routine.

Write for Complete Descriptive Catalog C9-49S.

BOGEN CUSTOM DIVISION: The Custom Division of the David Bogen Co. is maintained for the express purpose of offering engineering consultation on custom built requirements. This technical service covers initial design and layout of electrical specifications of any sound installation, large or small.

Although the David Bogen Co. manufactures the largest and most complete line of standard and De Luxe sound equipment, very often a customer's problem requires the design and construction of special equipment to meet particular requirements.

We invite you to submit your sound problems, technical inquiries, or request for quotations on special equipment to our Custom Division. If no specifications are available for your particular problem, merely send a description and pencilled sketch of the intended installation to our Custom Division. Its Engineering Staff is equipped with the finest facilities in the country and they will be glad to aid you in the solution of your particular problem, without obligation.

NEW BOGEN DELUXE COMMUNO-PHONE SYSTEMS

THREE VERSATILE MODELS TO SOLVE EVERY INTERCOMMUNICATION PROBLEM

MODEL "X"—Universal Deluxe Series for 115V 60 cycle AC

1. BOGEN MODEL "X" IS COMPLETELY UNIVERSAL. The one model will serve installations requiring a single master and several remote stations — installations requiring several master stations — or installations requiring several master stations and several remote stations. Remote stations are available to permit selective initiation of calls to master stations.
2. HAND-RUBBED FURNITURE-FINISHED CABINETS to complement the furnishings of the nation's best offices.
3. TYPEWRITER KEYBOARD ACTION for push button selection of stations.
4. TYPEWRITER BAR PRESS-TO-TALK SWITCH.
5. AUTOMATIC BUSY SIGNAL.
6. 3 WATTS AUDIO OUTPUT — reserve power to take noisy installations in stride.
7. PROVISION FOR PLUG-IN CONNECTION OF HANDSETS — permitting complete privacy of conversation, without need to operate the press-to-talk bar.
8. PROVISION FOR QUICK DISCONNECT OF MASTER STATIONS for ease of installation or transfer.
9. BALANCED LINES: 50 ohms.
10. UNDERWRITERS' LABORATORIES APPROVED.

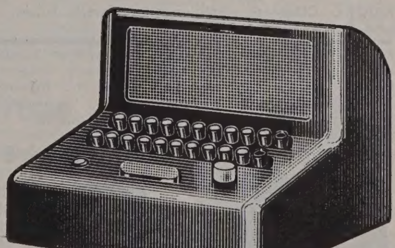
MODEL "U"—Universal Standard Series for 115V AC-DC

The new — completely universal Model "U" Communo-Phone is the AC-DC version of the Model "X." It incorporates most of the functional and style features of the deluxe unit. Hand-rubbed cabinets — typewriter keyboard action for push button station selection — typewriter bar press-to-talk switch — provision for plug-in handset — provision for quick disconnect of the master station — 50 ohm balanced lines — Output Power is 1½ watts — no busy signal — Underwriters' Laboratories approved.

MODEL "D"—Moderately Priced Dual-Function Units for 115V AC-DC

The new Model "D" Communo-Phone is designed to serve installations requiring either a single master and several remote stations or several master stations only. It will not serve systems requiring a combination of several master and several remote stations, and it operates on voice coil lines. In all other respects the Model "D" is the equivalent of the Model "U." Underwriters' Laboratories approved.

	List Price
MODEL 11X—MASTER can select up to 10 stations (masters or remotes in any combination)	$ 94.50
MODEL 21X—MASTER can select up to 20 stations (masters or remotes in any combination)	118.10
MODEL 11U—MASTER can select up to 10 stations (masters or remotes in any combination)	78.75
MODEL 21U—MASTER can select up to 20 stations (masters or remotes in any combination)	103.75
MODEL RS50—REMOTE can reply when called by master and can also initiate calls to one X or U Master	21.75
MODEL RS30—REMOTE can reply when called by master and can also initiate calls to three X or U Masters	24.75
MODEL RS110—REMOTE can reply when called by master and can also initiate calls to ten X or U Masters	40.00
MODEL UX—HANDSET plugs into any X, U or D master	30.00
MODEL JU—JUNCTION BOX is used in all X, U or D systems	7.25
MODEL 11D—MASTER can select up to 10 stations (exclusively masters or remotes)	64.35
MODEL 21D—MASTER can select up to 20 stations (exclusively masters or remotes)	86.60
MODEL RS5—REMOTE can reply when called by master and can also initiate calls to master (for use with 11D or 21D masters)	18.50
MODEL UX—HANDSET plugs into any master	30.00
MODEL JU—JUNCTION BOX	7.25



Illustrated: Model 21X, 21U, 21D Master

PRICES APPROXIMATELY 5% HIGHER IN ZONE 2 • ASK FOR LATEST BOGEN COMMUNO-PHONE CATALOG

DAVID BOGEN CO., INC., NEW YORK 12, N. Y.

CHALLENGER SOUND EQUIPMENT

8 WATT AMPLIFIER

Model CC8

- Individual controls for microphone, phonograph, selectone.
- Plug in connection for speaker line.
- Inverse feedback for better response and regulation.

SPECIFICATIONS

Power Output: 8 watts.
Response: 80-12,000 c.p.s. ±2 db.
Gain: Mic.: 108 db. Phono: 71 db.
Output Impedances: 4, 8 and 16 ohms.
Tone Control: SelecTone.
Tubes: 1—6SF5, 1—6SJ7, 1—6L6GA, 1—5Y3GT.
Dimensions (with cage): 11″ Wide x 7″ Deep x 7$\frac{5}{16}$″ High.

MODEL CC8—8 watt amplifier with tubes, less cage.
List Price **$45.00**

18 WATT UNIVERSAL 115V AC-6V DC AMPLIFIER

- Individual controls for microphone, phonograph, selectone.
- Inverse feedback for better response and regulation.
- Built-in constant speed phonograph.

Model CC618

SPECIFICATIONS

Response: 30-12,000 c.p.s. ±2 db.
Gain: Mic.: 118 db. Phono: 78 db.
Output Impedances: 4, 8, 15 ohms, 70 volts.
Tone Control: SelecTone.
Tubes: 2—6SF5, 1—6SL7GT, 2—6V6GT, 1—7Z4.
Dimensions: 15″ Wide x 10″ Deep x 10″ High.

MODEL CC618—18 watt universal amplifier and tubes, Cage, AC and DC cable and built-in phono. top.
List Price **$132.50**

MODEL CC18—18 WATT AMPLIFIER

Features individual controls for microphone, phono, SelecTone; inverse feedback for better regulation and frequency response; two speaker plug-in sockets; constant voltage output for easy speaker matching. Amplifier with tubes and Cage.
List Price **$67.00**

SPECIFICATIONS

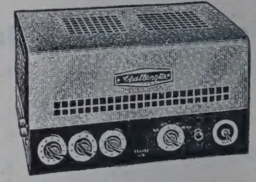
Power Output: 18 watts.
Response: 30-12,000 c.p.s. ±2 db.
Gain: Mic.: 118 db.. Phono: 78 db.
Output Impedances: 4, 8, 15 ohms, 70 volts.
Tone Control: SelecTone.
Tubes: 2—6SF5, 1—6SL7GT, 2—6V6GT, 1—5Y3GT.
Dimensions: 14″ Wide x 8″ Deep x 8″ High.

30 WATT AMPLIFIER

Model CC30X

FEATURES

- Individual controls for two microphones, phonograph, selectone.
- Terminal strip and 2 speaker plug-in sockets for connection of speaker lines.
- Moulded bakelite sockets throughout.
- Inverse feedback for better response and regulation.
- Extractor type fuse.
- Recessed carrying handles.



Model CC30

SPECIFICATIONS

Power Output: 30 watts.
Response: 30-12,000 c.p.s. ±2 db.
Gain: Mic. No. 1: 118 db. Mic. No. 2: 118 db. Phono: 85 db.
Output Impedances: 4, 8, 15 ohms, 70 volts.
Tubes: 2-6SC7, 1-6SL7GT, 2-6L6G, 1-5U4G.
Tone Control: SelecTone.
Dimensions: CC30: 15″ W. x 10″ D. x 8″ High.

MODEL CC30X—30 watt amplifier, tubes and built-in phono. top. **List Price**.............................**$105.00**

MODEL CC30X-P—Complete portable system containing 1-CC30X amplifier with tubes; 2-12″ Alnico V PM speakers, each with 25 ft. cable and plug, mounted in split portable case which also carries amplifier; 1-Astatic JT30 microphone with handle, base, 15 ft. cable, plug. **List Price**..............**$181.00**

MODEL CC30—30 watt amplifier, tubes and cage.
List Price **$83.75**

MODEL CC30P—Complete portable system containing 1-CC30 amplifier with tubes, cage; 2-12″ Alnico V PM speakers, each with 25 ft. cable and plug, mounted in split portable case which also carries amplifier; 1-Astatic JT30 microphone with handle, base, 15 ft. cable, plug. **List Price**................**$157.75**

6 WATT MOBILE AMPLIFIER

- Universal mounting permits 4 alternate mounting positions.
- Remote control of standby to reduce current drain.
- Vibrator replaceable from front without dismounting amplifier or removing cage.
- Complete chassis, removable for service by removing 4 screws.
- Fused DC power cable built in.
- Primary power circuit physically isolated from high gain circuit for minimum hum.

SPECIFICATIONS

Power Output: 6 watts.
Gain: 109 db.
Output Impedances: 4, 8, 15 ohms.
Tubes: 2—6SF5, 1—6L6GA, 1—6X5GT.
Dimensions: 3¼″ Wide x 8″ Deep x 7″ High.

MODEL CD6—6 watt amplifier with tubes, cage and DC cable.
List Price **$53.75**

60 WATT AMPLIFIER

FEATURES

- 2 Micro., 1 phono. input.
- PP 807 output.
- Inverse feedback.
- Two oil filled filter capacitators.
- Constant voltage output.

Model CC60

SPECIFICATIONS

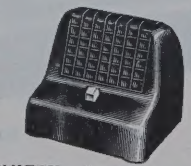
Response: 30-12,000 c.p.s. ±2 db.
Gain: Mic. 1: 120 db; Mic. 2: 120 db; Phono: 85 db.
Output Impedances: 4, 8, 15 ohms, 70 volt, 140 volt.
Tubes: 2—6SL7GT, 1—6V6GT, 2—807, 1—5Y3GT, 1—5R4GY.
Dimensions: 17″ Wide x 11½″ Deep x 9¼″ High.

MODEL CC60—60 watt amplifier, tubes.
List Price **$135.00**

SELECTONE tone corrector is a unique feature of CHALLENGER amplifiers. Four distinctive frequency responses, judged best by critical audience preference tests, are instantly available: "Deep Bass"—ideal for old records; "Mellow"—useful for tuners; "Crisp"—best for speech; "Brilliant"—for hi-fidelity.

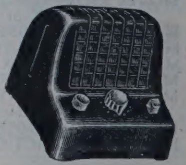
COMPLETE SYSTEMS—CHALLENGER amplifiers may be purchased as part of complete systems consisting of amplifier, one or more speakers (in baffles for indoor use—trumpets for outdoors), speaker cables and plugs, microphone (with handle, interlocking base and cable), portable carrying case. Write for Catalog No. C1048.

CHALLENGER INTERCOMM SYSTEMS



CHALLENGER 200 is a complete system—a master, a remote station and 50 ft. of cable. Operates 117V. AC-DC. Dual-Duty volume control keeps remote "alive" or permits master to silence it. Excellent for nursery, restaurant, business use.

CHALLENGER 200 SYSTEM—Complete with 50 ft. of cable and plugs.
List Price **$39.95**



CHALLENGER 600 Master may be used in one of two systems: (1) A single master with up to five remote stations; (2) An all master system of six stations. Operates 117 V AC-DC. In sturdy beautiful polystyrene cabinet. Remote can initiate calls also.

CHALLENGER 600 MASTER with tubes. **List Price** **$33.75**
CHALLENGER 60R REMOTE STATION.
List Price **$11.25**

For further information on CHALLENGER Amplifiers, Systems and Intercomms, ask for latest CHALLENGER catalog.
PRICES APROXIMATELY 5% HIGHER IN ZONE 2.

CHALLENGER AMPLIFIER CO., NEW YORK 12, N. Y.

Newcomb CUSTOM K SERIES AMPLIFIERS

Designed and Built To The
Very Highest Standards of
Quality In The Entire Industry

KX-25

KX-50

KX-6A

K-50B

Without equal at any price. The best examples why the name Newcomb is so revered by Engineers and Owners alike. Will improve any system. A **must** when using the new 2-way wide range speakers. Check these important features and specifications.

- ★ **20—20,000 cycles ± 1 db**
- ★ **Less than 3% distortion**
- ★ **90% of rating at less than 1%**
- ★ **Full power any output tap**
- ★ **Audio bandwidth selectors**
- ★ **Hum and noise level—80 db.**
- ★ **Remote control provision—all inputs**
- ★ **U/L approved**
- ★ **Continuous duty—longer life parts**
- ★ **Key locked control cover**
- ★ **Sensitive volume and overload indicators**
- ★ **Wired for plug-in input transformers**

Full audio power, 50 to 5000 cycles (region of all major power requirements) within ± ¼ db, less than 5% distortion. Separate tone controls for Bass and Treble Boost or Attenuation of advanced design for better curve shape, greater range. Feedback controlled, 2 stage mike pre-amplifiers. Hum balancing control, all models but booster. Linear mixer frequency response. All but Pre-Amplifier have output impedance of 4, 8, 16, 250, 500 ohms, PLUS a 70 volt "constant voltage" tap, with convenient, simple, impedance selector. Multistage inverse feedback. Large, heavy duty power and output transformers thoroughly impregnated against moisture. Rear connections avoid unsightly wires, simplify rack installation. A. C. convenience outlet in rear, all models except booster. Cabinets: Heavy gauge welded steel beautifully styled. Finish: Silver Grey Hammertone Baked Enamel. Panels: Etched metal, illuminated. Knobs: Round, large, skirted type, for easy operation. Additional specifications given under specific model numbers.

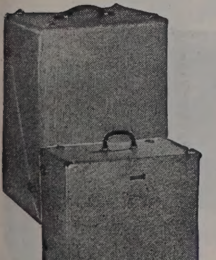
KX-25 POWER OUTPUT: 25 watts design center rating, 30 watts max. at less than 3% distortion any output tap. PEAK POWER: 40 watts design center, 48 watts max. INPUTS (6): 5 mike (2 meg.), gain 123 db; 1 phono either Magnetic input gain 99 db based on 27,000 ohm input, bass equalization + 10 db or Crystal input ½ meg. gain 90 db REMOTE CONTROL: Use RC-6 remote control unit. BASS TONE CONTROL: Range —16 to +25 db. TREBLE TONE CONTROL: Range —30 to +20 db. HUM: —80 db controls off, —75 db crystal phono, —65 db mike and magnetic pickup inputs (Referred to rated output). CONTROLS (15): 5 mike, 1 phono, 1 bass, 1 treble, 4 bandwidth, 1 master, 1 volume indicator (all under keylocked control cover) A.C. power switch. TUBES (15): 6—6SC7, 2—6J5, 1—6J7, 1—6SQ7, 1—6SN7, 2—6L6G, 1—6AF6G, 1—5U4G. POWER CONSUMPTION: 135 watts, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9⅜" x 17¾" x 14¾". SHIPPING WEIGHT: 40 lbs. LIST: (with tubes) $325.00. Plug Kit: $5.68.

KX-50 POWER OUTPUT: 50 watts design center rating, 60 watts max. at less than 3% distortion any output tap. PEAK POWER: 80 watts design center, 90 watts, max. BOOSTER COUPLING JACK for connecting K50B Boosters for 100 watts or more. All other characteristics identical with KX-25 except gains, which are all 3 db higher than KX-25. TUBES (18): 6—6SC7, 2—6J5, 1—6SQ7, 1—6J7, 1—6SN7, 4—6L6G, 1—6AF6G, 2—5U4G. POWER CONSUMPTION: 235 watts, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9⅜" x 17¾" x 14¾". SHIPPING WEIGHT: 49 lbs. LIST: (with tubes) $395.00. Plug Kit: $5.76.

KX-6A: A 6 channel mixer pre-amplifier designed to feed broadcast lines or boosters for finest quality. OUTPUT: +31 VU, less than 3% distortion, +30 VU at less than 1%. Has built in power supply and genuine VU meter with meter range extension switch. INPUTS for 5 mikes (2 meg.) gain 97 db and 1 phono either crystal (½ meg.) gain 64 db or magnetic (27,000 ohms) gain 73 db. Requires RC-6 Remote Control Unit. Includes Master Volume Control and same fine Dual Tone Controls and Audio Bandwidth Selectors as in KX-25 and KX-50. BASS TONE CONTROL: Range —16 to +25 db. TREBLE TONE CONTROL: Range —30 to +20 db. HUM: —80 db controls off, —80 db crystal —75 db mike and magnetic. CONTROLS (12): 5 mike, 1 phono, 1 bass, 1 treble, 1 master, 1 four position bandwidth (all under key locked cover), 1 A.C. power switch, 1 VU meter range switch (in rear). TUBES (12): 6—6SC7, 4—6J5, 1—6J7, 1—6X5. POWER CONSUMPTION 35 WATTS, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9⅜" x 17¾" x 14¾". SHIPPING WEIGHT: 32 lbs. LIST: (with tubes) $295.00. Plug Kit: $4.34.

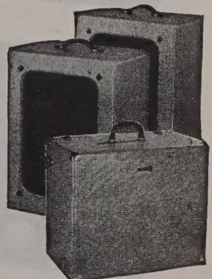
K50B: Booster Amplifier. Performance, power and output impedance same as KX-50 with but one input of ½ meg. impedance, gain 71 db. Provision for plug-in bridging or low impedance transformer. Built for continuous duty with long life parts, separate plate, and filament power transformers, individually fused, permits dependable plate power switching. Includes volume and overload indicators as in KX-50. Ample multistage feedback to minimize effects of speaker load variations. Etched metal panel. TUBES (10): 1—6SJ7, 1—6SN7, 1—6SQ7, 4—6L6G, 1—6AF6G, 2—5U4G. POWER CONSTRUCTION: 230 watts 117 volts 60 cycles. 129 volts max. DIMENSIONS: 9⅜" x 17¾" x 12¼". SHIPPING WEIGHT: 45 lbs. LIST: (with tubes) $179.50. Plug Kit: $2.05.

NEWCOMB CUSTOM PORTABLE SYSTEMS



KX-2512N: Portable Sound System with KX-25 amplifier and two heavy duty, extremely efficient, speakers—each with 50 ft. of cable. System is carried in two cases, one for amplifier and one for two speakers as illustrated. Speakers face inside for maximum protection when carried. Mikes or mountings not included in price as requirements vary. SHIPPING WEIGHT: 98 lbs. LIST: (with tubes and plugs) $512.85.

KX-25R12N: Portable System identical to KX-2512N but is carried in three cases. Each speaker is mounted in an individual portable reflex baffle for utmost tone quality. Mikes or mountings not included. SHIPPING WEIGHT: 125 lbs. LIST: (with tubes and plugs) $586.85.



A-25 Amplifier case only. Fits all "K" Series model amplifiers. SIZE: 19" x 11¾" x 16⅞". SHIPPING WEIGHT: 15 lbs. LIST: $27.50.

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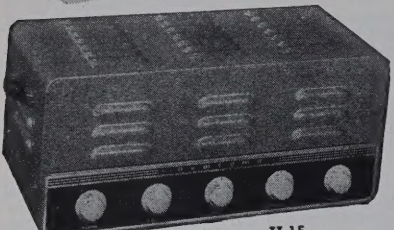
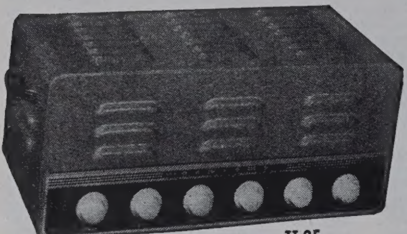
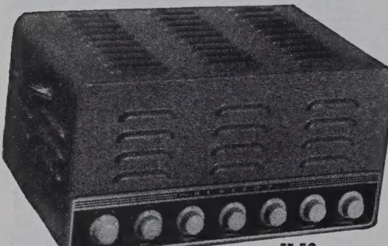
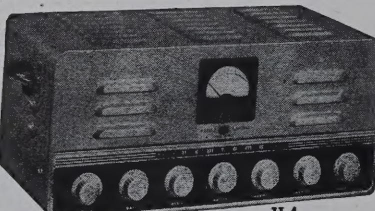
DELUXE H SERIES AMPLIFIERS

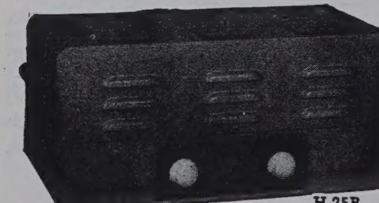
Compare These Deluxe
Amplifiers with Any
Other Brand at Any Price


H-15


H-25


H-50


H-4


H-25B

H-50B

For Performance, Dependability and Value check these features and specifications:

- ★ **20-20,000 cycles ± 2 db**
- ★ **Full Power any output tap**
- ★ **Less than 5% distortion**
- ★ **90% of rated power at less than 2%**
- ★ **Remote Control provision—all mikes**
- ★ **U/L approval**
- ★ **Continuous duty—longer life parts**
- ★ **Wired for plug-in input transformers**

Full Audio Power, 50 to 5000 cycles (region of all major power requirements) within ± ½ db, less than 5% distortion. Individual boost and attenuate type bass and treble tone controls in new distortion free circuit. Linear mixer frequency response. All models but pre-amplifier have output impedances of 4, 8, 16, 250, and 500 ohms PLUS a 70 volt "constant voltage" tap, with easily-operated impedance selector. Multi-stage inverse feedback. Large heavy duty power and output transformers thoroughly impregnated against moisture. Rear connections avoid unsightly wires, simplify rack installations. A. C. convenience outlet in rear, all models except boosters. Cabinets: Heavy gauge welded steel beautifully styled in modern functional simplicity that endures. Finish: Silver Grey Hammertone Baked Enamel. Panel: Etched metal, illuminated. Knobs: large, round, skirted type, for ease of operation. Additional specifications under specific model numbers.

H-15 POWER OUTPUT: 17 watts design center rating, 20 watts max. at less than 5% distortion, **any** output tap. PEAK POWER: 26 watts design center, 31 watts max. INPUTS (3): 2 mike (2 meg.), gain 120 db; 1 phonograph (½ meg.), gain 80 db. BASS TONE CONTROL: Range —16 to +14 db. TREBLE TONE CONTROL: —34 to +13 db. HUM: — 72 db phono input, —62 db mike inputs (referred to rated output). CONTROLS (5): 1 mike-phono, 1 mike, 1 bass, 1 treble, 1 A.C. power switch. REMOTE CONTROL: Use RC-2 remote control unit. TUBES (7): 2-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, 1-5Z4. POWER CONSUMPTION: 85 watts, 117 volts 60 cycles A.C. Max. input 129 volts. DIMENSIONS: 8¼" x 19" x 10⅛". SHIPPING WEIGHT: 23 lbs. LIST: (with tubes) $129.50. Plug Kit: $3.36.

H-25 POWER OUTPUT: 25 watts design center rating, 30 watts max. at less than 5% distortion, **any** output tap. PEAK POWER: 40 watts design center, 48 watts maximum. INPUTS (4): 3 mike (2 meg.), gain 124 db; 1 phonograph (½ meg.), gain 80 db. BASS TONE CONTROL: —18 to +15 db. TREBLE TONE CONTROL: Range —27 to +10 db. HUM: —72 db phono input, —62 db mike inputs (referred to rated output). CONTROLS (6): 2 mike, 1 mike-phono, 1 bass, 1 treble, 1 A.C. power switch. REMOTE CONTROL: Use RC-3 remote control unit. TUBES (8): 3-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, 1-5U6G. POWER CONSUMPTION: 125 watts, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 8½" x 19" x 10⅛". SHIPPING WEIGHT: 27 lbs. LIST: (with tubes) $159.50. Plug Kit: $4.12.

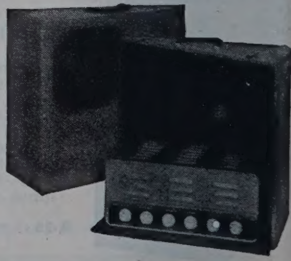
H-50 POWER OUTPUT: 50 watts design center rating, 60 watts max. at less than 5% distortion, **any** output tap. PEAK POWER: 80 watts design center, 90 watts max. INPUTS (5): 4 mike (2 meg.), gain 124 db. 1 phono (½ meg.), gain 81 db. BOOSTER COULPING JACK for connecting H-25B or H-50B Boosters for 75 to 100 watts or more. BASS TONE CONTROL: Range —21 to +16 db. TREBLE TONE CONTROL: Range —27 to +10 db. HUM: —72 db phono input, —62 db mike inputs (referred to rated output). CONTROLS (7): 3 mike, 1 mike-phono, 1 bass, 1 treble, 1 A.C. power switch. REMOTE CONTROL: Use RC-4 remote control. TUBES (12): 4-6SF5, 1-6SJ7, 1-6SN7, 4-6L6G, 2-5U4G. POWER CONSUMPTION: 225 watts, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9¼" x 19" x 12½". SHIPPING WEIGHT: 42 lbs. LIST: (with tubes) $215.00. Plug Kit: $5.00.

H-4 Mixer Pre-Amplifier with built-in power supply. Extremely low hum. Suitable for feeding telephone lines or booster amplifiers such as the H-25B or H-50B. Output +22 db at less than 5% distortion. +21 db at less than 2%. INPUTS for three mikes (2 mg.), gain 90 db. 1 phono (½ meg.), gain 51 db. HUM: Better than, —80 db from phono input or —75 db, mike inputs. Requires RC-3 remote control unit. Includes master control and genuine VU meter with meter range extension switch. BASS TONE CONTROL: Range —16 to +14 db. TREBLE TONE CONTROL: Range —27 to +13 db. TUBES (7): 3-6SF5, 1-6SJ7, 1-6SN7, 1-6J5, 1-6X5. POWER CONSUMPTION: 30 watts, 117 volts 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 8⅛" x 19" x 10⅛". SHIPPING WEIGHT: 21 lbs. LIST: (with tubes) $129.50. With VU Meter Cover: $165.00. Plug Kit: $2.82.

H-25B Booster Amplifier — Performance Power and Output Impedances same as H-25 with but one input of ½ meg. impedance, gain 68 db. Provision for plug-in bridging or low impedance transformer. Etched metal panel with pilot light, A.C. power switch and volume control. Ideal for use with H-4 Pre-amplifier. Built for long life. TUBES (5): 1-6SJ7, 1-6J5, 2-6L6G, 1-5U4G. POWER CONSUMPTION: 120 watts, 117 volts, 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 8⅛" x 19" x 10⅛". SHIPPING WEIGHT: 25 lbs. LIST: (with tubes) $109.50. Plug Kit: $1.39.

H50B Booster Amplifier — Performance, Power and Output Impedances are same as H-50 with but ont input of ½ meg. impedance, gain 71 db. Provision for plug-in bridging or low impedance transformer. Etched metal panel with pilot light, A.C. switch and volume control. Built for long life. Ideal for use with H-4 Pre-Amp. TUBES (8) 1-6SJ7, 1-6J5, 4-6L6G, 2-5U4G. POWER CONSUMPTION: 220 watts, 117 volts, 60 cycles A.C. Max. Input 129 volts. DIMENSIONS: 9¼" x 19" x 12½". SHIPPING WEIGHT: 38 lbs. LIST: (with tubes) $139.50. Plug Kit: $1.39.

Newcomb Deluxe Portable Systems



H-1512S Portable sound system with H-15 amp. and two 12" speakers, each with 50 ft. cables, in split case 11⅛" x 20½" x 21" of sturdy plywood covered with airplane type fabric. Kickproof grills protect speakers. Mikes or mountings not included as requirements vary. SHIPPING WEIGHT: 54 lbs. LIST: (with tubes and plugs) $222.00.

H-2512Q Portable sound system with H-25 amp. and two heavy duty 12" speakers, each with 50 ft. cable, in split case 11⅛" x 20½" x 21" of sturdy plywood covered with airplane type fabric. Kickproof grill protects speakers. Mikes or mountings not included. SHIPPING WEIGHT: 61 lbs. LIST: (with tubes and plugs) $275.25.

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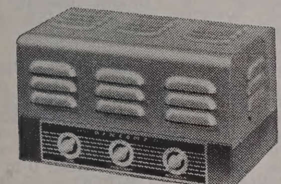
E SERIES AMPLIFIERS

A Low Priced Line of Superior Utility Amplifiers

E-1010S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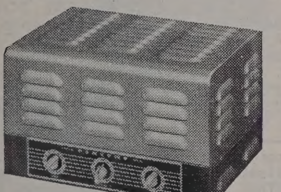
E-25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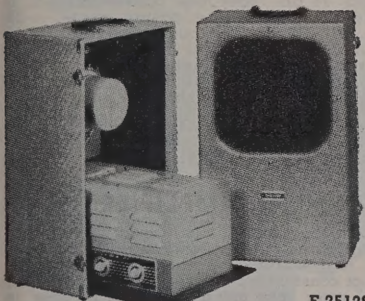
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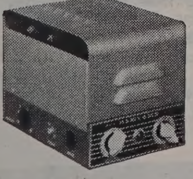
E-1712S
E-2512Q


E-10M

E-25MP

The same fine workmanship and materials as the incomparable KX- and H-Series. Designed to lead the low-price field. For performance, dependability and economy the E-Series is today's best combination of high quality and low cost. All models U/L approved.

E-10 AMPLIFIER . . . Delivers full 10 watts from push-pull 6V6 tubes. Inputs for mike and phono. **SPECIFICATIONS** . . . POWER OUTPUT: 10 watts at less than 5% distortion. FREQUENCY RESPONSE: 40 to 15,000 cycles ±2 db. Inputs (2): 1 mike (2 meg.), gain 116 db; 1 phono (½ meg.), gain 77 db. TONE CONTROL: Range 0 to —24 db. MULTI-STAGE INVERSE FEEDBACK CIRCUIT. OUTPUT IMPEDANCES: 4, 8 and 16 ohms to octal socket. TUBES (5): 1-6SC7, 1-6SF5, 2-6V6GT and 1-6X5GT. FINISH: Two-tone gray hammertone baked enamel. PANEL: Genuine etched metal. DIMENSIONS (Incl. cover): 5¾" x 10⅜" x 6¾" high. POWER CONSUMPTION: 60 watts at 117 volts; 60 cycles A.C. SHIPPING WEIGHT: Amplifier only, less cover, 9 lbs. Including cover, 10½ lbs. LIST: (with tubes) $49.50. Cover: $4.50. Plug Kit: $1.35.

E-17 AMPLIFIER . . . For medium power applications, 17 watts of undistorted audio to easily selected impedances for matching various speakers. Mixer controls for one mike and a phono input. **SPECIFICATIONS** . . . POWER OUTPUT: 17 watts at less than 5% distortion. FREQUENCY RESPONSE: ±2 db, 40 to 15,000 cycles. INPUTS: 1 mike (2 meg.) gain 117 db; 1 phono (½ meg.), gain 79 db. TONE CONTROL: Range 0 to —29 db. OUTPUT IMPEDANCES: 4, 8, 16 and 500 ohms. MULTI-STAGE INVERSE FEEDBACK CIRCUIT: TUBES (5): 1-6SC7, 1-6SJ7, 2-6L6G, 1-5Z4. PANEL: Etched metal, illuminated. FINISH: Two-tone gray hammertone baked enamel. DIMENSIONS: (Incl. cover): 8⅜" x 14⅛" x 8" high. POWER CONSUMPTION: 75 watts at 117 volts, 60 cycles A.C. SHIPPING Wt. 18 lbs. LIST (with tubes less cover) $74.00. Cover $5.50. Phono Cover $28.50*. Changer Cover $75.00*. Plug Kit: $1.80. (*Plus Excise Tax.)

E-25 AMPLIFIER . . . Delivers a full 25 watts. Multi-stage inverse feedback assures low distortion. Provision for two mikes to be mixed together, or one mike and one phono, with easy matching to various speakers. **SPECIFICATIONS** . . . POWER OUTPUT: 25 watts at less than 5% distortion. FREQUENCY RESPONSE: ±2 db, 40 to 15,000 cycles. INPUTS (3): 2 mike (2 meg.), gain 119 db; and 1 phono (½ meg.), gain 78 db. TONE CONTROL: Range 0 to —30 db. OUTPUT IMPEDANCES: 4, 8, 16 and 500 ohms. TUBES (6): 1-6SJ7, 1-6SC7, 1-6J5, 2-6L6G and 1-5Z4. FINISH: Two-tone hammertone baked enamel. PANEL: Etched metal, illuminated. POWER CONSUMPTION: 90 watts at 117 volts; 60 cycles A.C. SHIPPING WEIGHT: 19 lbs. LIST (with tubes less cover) $94.00. Cover $5.50. Phono Cover $28.50*. Changer Cover $75.00*. Plug Kit: $2.56. (*Plus Excise Tax.)

E-50 . . . AMPLIFIER . . . The 50 watt leader in its price class. Multi-stage inverse feedback and push-pull paralleled 6L6 tubes assure low distortion. Two mikes may be mixed, or one mike and one phono. Impedance selector simplifies speaker matching. **SPECIFICATIONS** . . . same as E-25 except as following: POWER OUTPUT: 50 watts at less than 5% distortion. Mike gain 122 db.; phono gain 81 db. OUTPUT IMPEDANCES: 4, 8, 16 and 250 ohms. TUBES (6): 1-6SJ7, 1-6SC7, 1-6J5, 4-6L6G and 2-5Z4. DIMENSIONS (including cover): 11¼" x 14¾". POWER CONSUMPTION: 170 watts at 117 volts; 60 cycles A.C. SHIPPING WT.: 31 lbs. LIST: (with tubes) $154.50. Plug Kit: $2.56.

E-10M MOBILE AMPLIFIER . . . The Model E-10-M is a particularly rugged, dependable, low cost 10 watt mobile amplifier, designed for use on 6 V.D.C. or 117 volts, 60 cycles A.C. power. Features push-pull beam power output tubes with inverse feedback for low distortion; Standby battery saver switch; New freedom from vibrator hash; Special mounting to simplify removal of chassis for servicing; Inputs for mike and phono; Sturdy Jones connectors for battery and A.C. cables. **SPECIFICATIONS** . . . POWER OUTPUT: 10 watts at less than 5% distortion. FREQUENCY RESPONSE: 50 to 15,000 cycles ±2 db. Mike Input (2 megs.), gain 115 db; Phono Input (½ meg.), gain 75 db. OUTPUT IMPEDANCES: 4, 8, and 16 ohms. Jewelled pilot lamp. Etched metal panel. Two-toned gray, baked enamel hammertone finish. TUBES (5): 1-6SC7, 1-6SF5, 2-6V6GT, 1-6X5GT. POWER CONSUMPTION: 60 watts at 117 volts A.C. 8 amps at 6 V.D.C. SHIPPING WEIGHT: 13½ lbs. LIST: (with tubes) $69.50. Plug Kit: $1.10.

E-25MP PHONO TOP MOBILE AMPLIFIER . . . A full 25 watts from either 6 V. Storage Battery or 117 V. A.C. at new low price. Ideal for sound trucks, political gatherings, picnics, missionary work, camps, resorts, beaches, carnivals, parades, etc. Ruggedly built to stand hard usage. Consumes least possible current per watt output. "Standby" switch reduces battery consumption, keeps tubes warm for instant use. Separate A.C. power and turntable switches. Heavy duty Jones plugs and receptacles provide dependable connections to battery or A.C. power source. **SPECIFICATIONS** . . . POWER OUTPUT: A full 25 watts at less than 5% distortion from either 117 volts A.C. or 6-volt storage battery. RESPONSE: ±2 db, 50-15,000 cycles. INPUTS for two mikes (2 meg.) gain 119 db; and one phono (½ meg.), gain 78 db. HIGH FREQUENCY ATTENUATOR range, 28 db. CIRCUIT FEATURES: Multi-stage inverse feedback, resistance capacity coupling, phase correction for phono motor, 2000 volt Hermetically sealed oil buffer condenser. OUTPUT IMPEDANCES: 4, 8, 16 and 500 ohms to two octal speaker sockets and impedance selector. PHONOGRAPH MOTOR: Constant speed 78 R.P.M. PICKUP: Crystal. TUBES (7): 1-6SC7, 1-6SJ7, 1-6J5, 2-6L6, 2-6X5GT. POWER CONSUMPTION: 107 watts at 117 volts, 60 cycles A.C. or 20.5 amps. including phono motor from 6-volt storage battery. FINISH: Two-tone gray hammertone baked enamel. PANEL: Etched metal, illuminated. DIMENSIONS (including cover): 8¾" x 14⅛" x 10" high overall. SHIPPING WT.: 30 lbs. LIST: (with tubes and phono cover) $169.50. Plug Kit: $2.50 (Excise Tax on cover).

E-25M . . . Same as E-25MP, Mobile Amplifier, with cover, tubes, less phono unit. Power consumption: 91 watts A.C. or 17 amps. from 6 V.D.C. Dimensions: 8⅜" x 14⅛" x 8" high. SHIPPING WT.: 27 lbs. LIST: (with tubes and plain cover) $154.50. Plug Kit: $2.56.

NEWCOMB UTILITY PORTABLE SYSTEMS

E-1010S . . . 10-watt basic port. system with 10" speaker, 25 ft. cable and plug; and 1 E-10 Amplifier. Mike and stand not included in price as requirements vary. Size: 12¼" x 15¾" x 8¾". Shipping Wt.: 25 lbs. LIST: $99.95

E-1712S . . . 17-watt dual 12" speaker port. system with 2 efficient speakers, each with 25 ft. cable and plug, and 1 E-17 amplifier. Mikes and stands not incl. Size: 12⅛" x 17¼" x 13". Shipping Wt.: 48 lbs. LIST: $163.00

E-2512Q . . . 25-watt basic port. system with two heavy duty 12" speakers, each with 25 ft. cable and plug and 1 E-25 amplifier. Mikes and stand not included. Size: 21⅛" x 17¼" x 13". Shipping Wt.: 58 lbs. LIST: $206.00

E-2512S . . . 25-watt dual speaker basic port. system, similar to E-2512Q, but with medium weight speakers. Shipping Wt.: 49 lbs. LIST: $183.60

Newcomb AUDIO PRODUCTS COMPANY
6824 LEXINGTON AVENUE • LOS ANGELES 38, CALIFORNIA

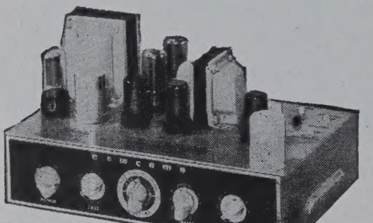
Newcomb

PHONO AMPLIFIERS

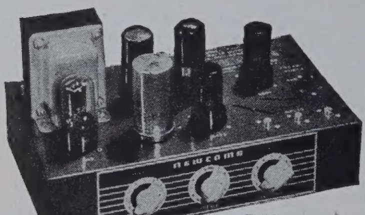
For the Finest Phonograph
Performance Ever Achieved

KXLP-30

KXLP-30 A phonograph amplifier unsurpassed by any other in the field, regardless of price. Ample power permits use of KX Series dual tone control circuit. Provides tonal range and balance unattainable in less costly circuits, and controlled emphasis of desirable but power-consuming fundamental bass tones, avoiding emphasis of harmonic bass—the "Boomy" or one-tone bass so unacceptable to true music lovers. U/L approved. Features "Magic Red Knob" Record Condition Compensator and built in magnetic pick-up pre-amplifier.
SPECIFICATIONS: POWER OUTPUT: 30 watts at less than 5% distortion with flat power output versus frequency curve. FREQUENCY RESPONSE: 20 to 20,000 cycles ±1 db. Response of magnetic and variable reluctance inputs corrected for requirements of these pickups. INPUTS: For radio and choice of crystal or variable reluctance pickup inputs. GAIN: Crystal input, 90 db. at ½ meg. input impedance. Magnetic or variable reluctance input, 112 db. at ½ meg., input impedance of 95 db. at 10,000 ohms. Signal required at radio input for full output is 6.6 volts. BASS TONE CONTROL: 0 to +22 db. with special curve shape for maximum emphasis of fundamental bass tones and minimum emphasis of harmonic bass. TREBLE TONE CONTROL: —25 db. to +25 db. RECORD CONDITION COMPENSATOR: Five positions: #1, radio #2, records, condition "A" (Perfect); #3, records, condition "B"; #4, records, condition "C"; #5, records, condition "D" (badly worn, very noisy). HUM BALANCER CONTROL: To correct variation in tubes. OUTPUT IMPEDANCES: 3, 4, 6, 8, 16 and 500 ohms to octal socket. POWER CONSUMPTION: 150 watts, 129 volts, 60 cycles A.C. for use on 105-129 volts. TUBES (7): 1-6SC7, 3-6J5, 2-6L6G, 1-5U4G. DIMENSIONS: Chassis: 13½" x 9½" x 3". Height overall, 7⅞". SHIPPING WEIGHT: 26 lbs. LIST: (with tubes) $225.00. Plug Kit: $.68.


HLP-14

HLP-14 Brings to music lovers new listening pleasure in a unit less expensive than the KXLP-30. It, too, features the "Magic Red Knob" record condition compensator. Built-in pre-amplification and equalization, required for new low level pickups, make the HLP-14 ideal for the lower cost home installation. Exceptional tonal balance at whisper volumes is an outstanding feature. U/L approved.
SPECIFICATIONS: POWER OUTPUT: 14 watts at less than 5% distortion with wide flat power output versus frequency curve. PEAK POWER OUTPUT: 19 watts. FREQUENCY RESPONSE: 30 to 15,000 cycles ±1 db for crystal pickup and radio inputs. Magnetic and variable reluctance inputs have response adjusted to requirements of these pickups. INPUTS: Same as KXLP-30. GAIN: Crystal input 90 db. at ½ meg. input impedance. Magnetic or variable reluctance input 109 db. at ½ meg. or 92 db. at 10,000 ohms impedance. Signal from radio required for full output is 4.2 volts. Variable. BASS TONE CONTROL: 0 to +16 db. TREBLE TONE CONTROL: —29 lb. to +12.5 db. RECORD CONDITION COMPENSATOR: (Same as KXLP-30). OUTPUT IMPEDANCES: 3, 4, 6, 8, 16 and 500. POWER CONSUMPTION: 75 watts, 129 volts, 60 cycles A.C. for use on 105-129 volts. TUBES (6): 1-6SC7, 1-6SJ7, 1-6J5, 2-6V6GT and 1-5Y3LT. DIMENSIONS: Chassis, 13⅛" x 8 1/16" x 3". Height overall, 6¾". SHIPPING WEIGHT: 14½ lbs. LIST: (with tubes) $139.50. Plug Kit: $.68.


P-10

MODEL P10 This remarkable new amplifier has a frequency response with ±1 db from 30 to 15,000 cycles and delivers a full clean 10 watts. Includes distortion free, individual bass and treble tone controls for bass boost and treble boost or attenuation; PLUS three individual inputs for any three of the following: Standard Crystal Pick-up Long Playing Crystal Pick-up, Magnetic Pick-up Pre-Amplifier Output, A.M. Radio, F.M. Radio, or Television, without need of special switching; PLUS a power socket for connection of a G.E. or similar Pre-Amplifier if desired. All connections are clearly marked. Circuit includes multi-stage inverse feedback. The low hum level achieved is of utmost importance when used with modern efficient speakers in bass reflex cabinets operated in quiet rooms. The low price makes it the truly outstanding buy in the field. U/L Approved.
SPECIFICATIONS: INPUTS: (3 ½ meg.; Gain, 75 db. Bass tone control range 0 to +16 db. Treble tone control range: —25 db. to +15 db. Output Impedances: 4, 8 and 16 ohms. Etched metal panel, grey baked enamel hammertone finish. Tubes (5): 1-6SC7, 1-6SF5, 2-6V6GT and 1-6X5GT. Dimensions: 11⅛" x 6¼" x 5¾" high. Power consumption: 60 watts at 117 volts, 60 cycles A.C. Shipping Weight: 10½ lbs. LIST: (with tubes) $59.50. Plug Kit: $.90.

PROFESSIONAL MUSICAL INSTRUMENT AMPLIFIER

G-12 Gives full, clear true tones at any desired volume. Lightness and beautiful appearance. Plus exceptional ruggedness and dependability characterize the Model G-12. There are three inputs with ample gain for Musical Instruments, plus an additional higher gain input for a microphone. Entire unit weighs only 20½ lbs. for easy carrying. The amplifier frequency response is 30 to 15,000 cycles. Special circuit designed for musical instruments, provides a full 12 watts power at less than 5% distortion (over 90% of full output at less than 2% distortion). Exceptionally efficient big full 12" Alnico V permanent magnet speaker in an acoustically designed enclosure. A kickproof grill gives real protection for speaker. Case construction gives needed rigidity for best tone and freedom from rattles and strength necessary to stand the abuse of constant traveling. Amplifier mounting screws enter into metal inserts. The case is covered in durable, washable, airplane type fabric. Truly a professional instrument. Built for years of trouble free service under the most rugged conditions. U/L Approved.

SPECIFICATIONS: Power Consumption: 65 watts at 117 volts, 60 cycles A.C. Tubes (5): 1-6SC7, 1-6SF5, 2-6V6GT, and 1-5Y3GT. Size: 9¼" deep x 14⅞" x 18⅜" high. SHIPPING WEIGHT: 25 lbs. LIST: (with tubes) $99.50.

RESTAURANT AMPLIFIER

PM-10 PM-10 differs from usual phono or P.A. Amplifiers in that a switch on the panel cuts music and selects area to be paged. When paging, tonal adjustments set for music are automatically cut and flat response is substituted for proper voice quality. Paging Switch returns to music and music response when released. Operator has choice of paging "All" or a selected area. Bass boost tone control and separate high frequency tone control for boost or attenuation give desired response for music. Ideal for use with Long Playing Microgroove Changers for good music at lowest cost with added feature of paging. U/L Approved.

SPECIFICATIONS: POWER OUTPUT: 10 watts at less than 5% distortion. Frequency Response: ±1 db., 40 to 15,000 cycles. Mike Input (2 meg.) gain 105 db. Phono Input (½ meg.) gain 77 db. Bass tone control range: 0 to +14 db. Treble Tone Control Range: +15 db. to —22 db. Output Impedances: .7, 1.4, 4, 8, and 16 ohms. Etched metal illuminated panel. Two-toned, grey, baked enamel hammertone finish. Tubes (5): 1-6SC7, 1-6SN7, 2-6V6GT, 1-6X5GT. Dimensions: 11⅛" x 6¼" x 6⅝" high. Shipping Weight: 12 lbs. LIST: (with tubes and cover) $79.50. Plug Kit: $1.63.

Newcomb AUDIO PRODUCTS COMPANY
6824 LEXINGTON AVENUE • LOS ANGELES 38, CALIFORNIA

COMBINATION TRANSCRIPTION PLAYERS—P. A. SYSTEMS

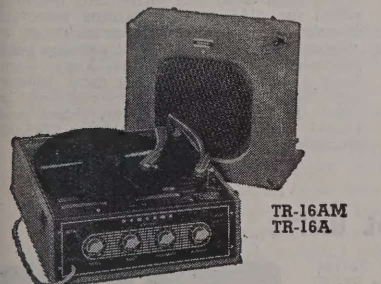
Never Before has so Much Distortion-Free Volume, Quality of Tone, Ruggedness and Versatility Been Built into Such Convenient Units

The NEWCOMB TR-16 Series sets new standards in the field of portable record-playing. They are truly economical, yet characteristically Newcomb in quality of workmanship, performance and fresh originality of design. Also they serve as splendid P.A. systems when microphones are attached to inputs provided for the purpose. . . . Every attempt has been made to make these units foolproof in operation, with emphasis on rugged dependability, tone quality, light weight and serviceability.

These features, applying to all models of the TR-16 Series, indicate the unsurpassed value of Newcomb built Transcription Players.

All models play standard 78 RPM records as well as 33⅓ RPM transcriptions. "A" models also play LP Microgroove records.

POWER: 10 full watts, from push-pull 6V6's, inverse feedback, low distortion amplifier. Response within ±2 db. from 50 to 10,000 cycles. More actual distortion-free volume of sound than ever before available in a unit this size. VARIABLE SPEED: (Except TR-16B and BM MODELS which use a constant speed motor). Handy vernier speed adjustment lever varies basic speed to meet pitch or tempo requirements. Heavy General Industries governor controlled, two-speed motor. EXTRA LARGE SPEAKER: Fine quality 12" Alnico V permanent magnet dynamic speaker with 25 foot cable for convenient placing and best coverage. FLEXIBILITY: Separate mike and phono volume controls permit mixing of speech with records. Individual record bass boost tone control and separate high frequency tone control give effective control of all tonal requirements. Special circuit avoids bass emphasis of voice when bass is emphasized on records. Retains excellent bass even at low volumes. RUGGEDNESS: Kick-proof punched metal grill protects speaker. Sturdy plywood case, finished in airplane type fabricoid, features metal corners and glue blocks for extra strength. Heavy gauge welded steel chassis panel and motor board. **All models U/L approved.** POWER CONSUMPTION: 60 watts, 117 volts, 60 cycles A.C. SIZE: 16¼" x 16¼" x 12". SHIPPING WEIGHT: 44 lbs.



TR-16AM
TR-16A

TR-16AM This deluxe, dual-speed portable transcription player and P.A. system plays 33⅓ RPM LP-Microgroove Records as well as 78 RPM Standard Records and 33⅓ RPM Electrical Transcriptions up to 17¼" in diameter. Utilizes to the utmost the splendid reproducing qualities of the new variable reluctance type magnetic pickups. Incorporates an effective scratch suppressor. Unlike other attempts to play both LP Microgroove Records and the large Transcriptions, the TR-16AM plays LP Records on a standard size arm, thus achieving a definite saving in space and weight and with less tendency to groove skipping. The LP Arm may simply be depressed out of the way when not in use. Placing LP Arm in operation automatically corrects response as necessary for best reproduction of LP Records. Input for microphone permits mixing of speech and records. Weighs only 38½ lbs. TUBES (6): 2-6SC7, 1-6SJ7, 2-6V6GT, 1-6X5GT. LIST: $199.50.

TR-16A This is a Crystal Pickup version of the TR-16AM for those desiring a unit of somewhat lower cost without a scratch suppressor. Identical in all other essential respects to the TR-16AM, this Model TR-16A utilizes the latest Featherweight Crystal Pickups with Semi-Permanent, easily replaceable needles of new design eliminate direct needle talk, avoid nuisance of constant needle replacement, and lengthen life of records. TUBES (5): 1-6SC7, 1-6SJ7, 2-6V6GT, 1-6X5GT. LIST: $174.50.

TR-16BM
TR-16B

TR-16BM A deluxe 3-speed portable player which combines for the first time in one device the ability to play all types of records. Plays 45 RPM, 33⅓ LP Microgroove Records, 33⅓ Broadcast Type Transcriptions up to 17¼" in diameter, plus regular 78 RPM Standard Recordings. Incorporates a constant speed rim drive motor for wow free performance with simple speed change lever. Exclusive depressable arm feature used in TR-16A and TR-16AM models give best results with each type of record and reduces space requirements. Includes variable reluctance pickup-scratch filter, microphone input, bass and treble tone controls, A.C. power receptacle and radio input jack. Weight only 34 lbs. LIST: $179.50.

TR-16B This is a crystal pickup version of the TR-16BM for those desiring a similar unit at somewhat lower cost without special scratch suppressor. Identical in all other respects to TR-16BM, this model utilizes Featherweight crystal pickups with semi-permanent easily replaceable needles similar to TR-16A. An outstanding value. Weight only 34 lbs. LIST: $159.50.

TR-16M
TR-16

TR-16M When LP records are no consideration, the TR-16M is unequalled for performance and long term dependability. It plays standard records and electrical transcriptions up to 17¼" in diameter, and includes the variable reluctance magnetic pickup, and desirable scratch suppressor, which can be cut in or out at will. Featuring the same added microphone input as the other models, the TR-16M can be used with the greatest efficiency by lecturers, teachers, dancing instructors, for community square dancing groups and in a host of other applications requiring best tone quality and performance. Rubber pad protects pickup if accidentally dropped. Weighs 38 lbs. TUBES: (Same as Model TR-16AM). LIST: $179.50.

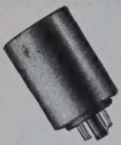
TR-16 This is one of the most popular players ever offered the trade. Identical in all essential respects to the TR-16M but utilizes a fine quality Featherweight Crystal Pickup for those desiring a lower cost unit than the TR-16M without scratch suppressor. New Semi-Permanent, easily replaceable needle of new design prevents direct needle talk and assures long record life and low distortion. A popular favorite with educators throughout the nation for utility applications where economy in initial cost and maintenance is important. Weighs only 38 lbs. TUBES: (Same as TR-16A). LIST: $159.50.

(ALL Transcription Players Subject to Excise Tax)

Newcomb AUDIO PRODUCTS COMPANY
6824 LEXINGTON AVENUE • LOS ANGELES 38, CALIFORNIA

TRANSFORMERS

INDUSTRIAL SOUND SYSTEM



TR-91: A distinct contribution to high quality P.A. systems. Features sextuple alloy and copper shielding for quiet operation right in amp. proper; alloy core and specially designed windings for extended frequency response from 20 to 20,000 cycles; plug base for easy installation without tools in any H or K series Newcomb amp. For use between 30-50 or 200-250 ohm mikes and grid. Shipping weight, 1¼ lbs. LIST: $23.50.

TR-92: Input impedance 5,000 ohms to grid for bridging a 500-600 ohm line. Alloy shielded for minimum hum. When plugged into the socket provided on K50B, H50B, H25B, it converts these amps for use as bridging amps. Shipping weight, 1¼ lbs. LIST: $19.50.

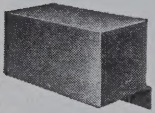
TR-100: Identical to TR-91 but designed for use between 125-150 or 500-600 ohm microphone and grid. LIST: $23.50.

LS-4

LS-5

LS-2: (not shown) High Power Impedance matching auto-transformer having 28 impedance from 580 ohms to 1.21 ohms. Capacity 100 watts. Shipping weight, 5¼ lbs. LIST: $19.50.

LS-4: Multi-winding general purpose transformer. Range of impedance from 3,000 to 18,000 ohms in steps of 1,500 ohms. Capacity 8 watts. LIST: $8.50.

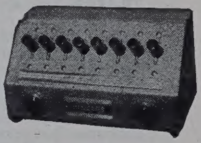


TC

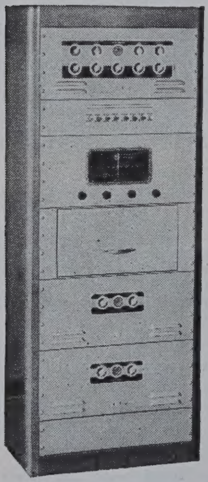
LS-5: Transformer: Similar to LS-4 with range of impedances from 500 to 3,000 ohms in steps of 250 ohms. Capacity 20 watts. LIST: $10.50.

TC-: Weatherproof housing for use with all three transformers. Box size: 3¼" x 4" x 5¾". LIST: $5.00.

MODEL 4151: Designed to furnish phonograph, A.M. Radio, or Wired Music, plus paging facilities to 6 selected areas. A 50 watt amplifier supplies ample power for the majority of applications. Operating controls include a monitor key, monitor volume control, an "all" key, and a program selector. Provides inputs for two microphones. Construction is by individual panels permitting future modifications to fit changing needs. Phono is enclosed in a ball bearing slide drawer. Radio is a dependable, full A.C., A.M. Radio. For detailed amplifier specifications refer to Model E-50. Special sockets permit use of plug-in type input transformers for low impedance mike input and balanced line wired music input when desired. Includes a monitor speaker wired to permit checking of program before connecting to various areas. Amplifier plate supply is relay operated. Model 4151-C same as above but wired for intercom.



RCT-6 remote control turret and adapter panel for 4151 system permits selection of any one or all of six areas from a remote point. Remote turret settings take precedence over 4151 panel keys. Contains 2 pilot lamps, one for main power and the other indicating microphone is "on." LIST: Model 4151 (with Tubes and Plugs) $695.00. Model 4151C $745.00. (Subject to excise tax.)



RACK ASSEMBLIES

For all the varied sound applications of schools, industry, churches, fairs, stadiums, Newcomb offers the basic elements for custom cabinet type rack systems. Designed for flexibility, the Newcomb rack equipment enables the engineer to assemble and install public address equipment of the highest quality, tailored to each customer's exact needs. Write for literature.

REMOTE CONTROL UNITS

Permit mixing and fading from a remote point all "H" Series microphone inputs. On "K" Series, all microphone inputs PLUS phonograph may be controlled. Up to 2000 ft. cable may be used. No inductive pickup. Models required for various amplifiers as follows:

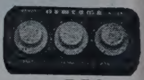
RC-2 for H-15 amp. Requires ordinary 3 wire cable. Dimensions: 2¾" x 6" x 2⅛". Shipping weight: 1 lb. LIST: $9.00.

RC-3 for H-25 or H-4 amplifiers. Requires ordinary 4 wire cable. Dimensions: 2¾" x 6" x 2⅛". Shipping weight: 1 lb. LIST: $13.50.

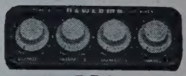
RC-4 for H-50 amp. Requires ordinary 5 wire cable. Dimensions: 2¾" x 7⅝" x 2⅛". Shipping weight: 1¼ lbs. LIST: $17.00.

RC-6 for KX-25, KX-50, KX-6A amplifiers. Requires ordinary 7 wire cable. Dimensions: 2¾" x 11¼" x 2⅛". Shipping weight: 2 lbs. LIST: $24.00.

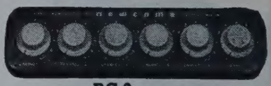
RC-2



RC-3



RC-4



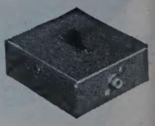
RC-6

LP-1 SCRATCH FILTER

Another contribution by Newcomb to improved record response for the most critical and demanding listener. Simple to install in commercial or professional systems or home phonographs. Can be connected easily by any serviceman. Wired between a crystal pickup and an amplifier, it greatly improves the response of the pickup and provides a remarkably effective control of needle scratch. Unlike other methods the LP-1 retains excellent brilliance of response. Four steps of adjustment provide adequate control for all records, regardless of quality. LIST: $25.00.

MA-1 MAGNETIC PICKUP ADAPTER

MA-1 provides an inexpensive means of connecting variable reluctance pickups such as the new G.E., to any mike input. Added feature is incorporation of an effective scratch filter which may be cut in or out with a convenient switch. Initial wiring is for G.E. Pickup. Simple jumper charge quickly adapts the MA-1 for others such as Pickering, Lear, Astatic, etc. Size: 3" x 3¼" x 1¼". Shipping weight: 1 lb. LIST: $5.00.



Newcomb AUDIO PRODUCTS COMPANY
6824 LEXINGTON AVENUE • LOS ANGELES 38, CALIFORNIA

TALK-A-PHONE

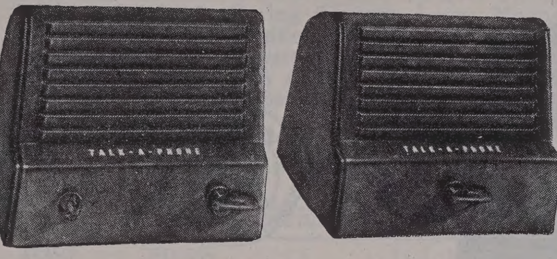
The Worlds Most Complete Line of INTER-COMMUNICATION *Has Everything*

"*Elsie*"

(LC-2)

"*Has Everything*"

TWO-STATION INTER-COMMUNICATION SYSTEM



Complete with tubes, easy to follow instructions and 50 ft of cable.

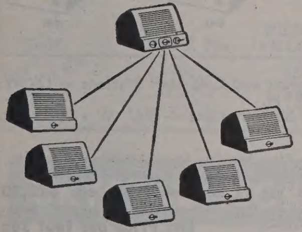
List Price each system complete

$39.95

"Take It Easy—Tell It to '*Elsie*'"

- "Elsie" carries messages with the speed of sound.
- An eager little helper that gives and gets information quicker than you can say "scat."
- Always ready to serve you instantly.
- Works willingly for a fraction of a cent a day.
- Simple to install — As easy as hanging a picture.
- "Elsie's" house is a handsome Bakelite cabinet of walnut hue, streamlined with that stunning "new look."
- Guranteed by the makers of the world's most complete and highly perfected line of inter-communication.

Perfect for the home, office, farm, store, etc.—wherever two-way communication is needed between two points. Consists of one Master unit and one Sub-Station. System can be used either **"Privately"** or **"Non-Privately."** If "Non-Privately," the Talk-Listen control is not required to be used by persons at Sub-Station, and they are permitted to answer from distances even up to forty feet. Ideal for the nursery—you can keep tuned to baby's slighest move—no more getting up to see if baby is all right. Smartly styled matching cabinets of molded walnut Bakelite. Operates **universally** on 110-115 volts, AC or DC. The Sub-Station does not consume current and can be installed most anywhere. Cabinets measure 8¼" x 6¼" x 7½". Weight packed, 12 lbs.



LM-5; LM-10 MASTER SELECTIVE SYSTEMS

Consists of one Master Unit which can be connected with one or more (up to ten) Sub-Stations. The Master Station can talk "privately" to any one of the Sub-Stations or to all at one time. Sub-Stations can be connected "privately" or "non-privately". Has the TALK-A-PHONE "Silent Feature". Sub-Stations, whether connected "privately" or "non-privately", can originate calls to the Master Station. The Sub-Stations can be at considerable distances from the Master unit. Once a conversation has been initiated, with a "non-private" system, persons at Sub-Station locations need operate no controls and can reply from a distance. The Sub-Stations do not consume electric current and can be installed most anywhere. Cabinets measure 8¼" x 6¼" x 7½". Weight packed — Master, 8 lbs., Sub-Stations, 5 lbs. Master Station operates universally on 110-115 volts, AC-DC.

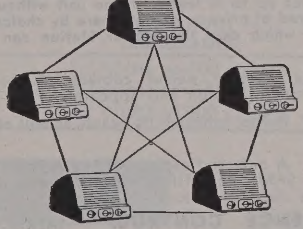
Ordering LM-5; LM-10 Master Selective Systems

MODEL LM-5 Master Selective Station for five Sub-Stations, complete with tubes and easy-to-follow instructions........**List Price ea. $38.00**

MODEL LM-10 Master Selective Station for ten Sub-Stations, complete with tubes and easy-to-follow instructions........**List Price ea. $51.00**

MODEL LR-3 Sub-Station unit for LM-5 or LM-10 Master Station. **List Price ea. $12.75**

No. 5303 (three-conductor) Cable. For use between each LR-3 Sub-Station and the LM-5 or LM-10 Master unit........**List Price per foot 5c**



LS-5; LS-10 SUPER SELECTIVE SYSTEMS

Consists of all Master units. Extreme flexibility of inter-communication whereby any station in the system can call any other and carry on a two-way conversation. You can begin with two Masters and add up to a total of five in the case of the LS-5 units, or up to a total of ten in the case of the LS-10 units. As many as five private two-way conversations can be held at the same time with ten LS-10 Masters. Two private two-way conversations can be accommodated at the same time with the LS-5 system. All Master Stations are private. Stations cannot listen in on each other, nor can a third unit listen in on a conversation of two others. Variable volume, adjustable at each unit, provides for the incoming voice to be adjusted from a bare whisper to full volume that can be heard easily at a considerable distance. Stations can be located even 1000 or 2000 feet apart. Six-conductor cable providing for a total of five units is used with the LS-5 system and is run from the first unit to the second only, from the second to the third only, etc., until the last unit in the system is reached. Similarly, an eleven-conductor cable, providing for a total of ten units, is used for inter-connecting the LS-10 system. It is not necessary to run cable between the first and last units in the system. Cabinets measure 8¼" x 6¼" x 7½". Weight packed, 8 lbs. Operates Universally on 110-115 volts, AC-DC.

Ordering LS-5; LS-10 Super Selective Systems

MODEL LS-5 Super Selective unit for five stations, complete with tubes and easy-to-follow instructions........**List Price ea. $38.00**

MODEL LS-10 Super Selective unit for ten stations, complete with tubes and easy-to-follow instructions........**List Price ea. $51.00**

No. 5506 (six-conductor) Cable. For inter-connecting LS-5 units as outlined above........**List Price per foot 17c**

No. 9911 (eleven-conductor) Cable. For inter-connecting LS-10 units as outlined above........**List Price per foot 34c**

HOW TO DETERMINE CABLE NEEDS: (A) For Master Selective Systems: Measure from Master to each Sub-Station to determine total cable needed. (B) For Super Selective Systems: Measure from first Master to second, to third, etc. Six-conductor cable is required for five-station system and eleven-conductor cable for ten-station system. (C) For two-station (LC-2) system use three-conductor cable.

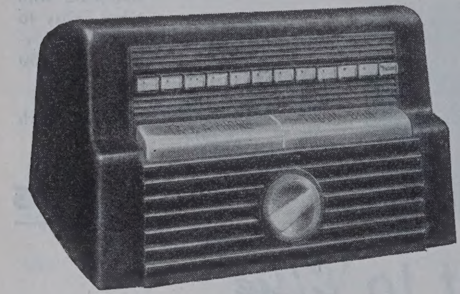
Prices and Specifications Subject to Change Without Notice

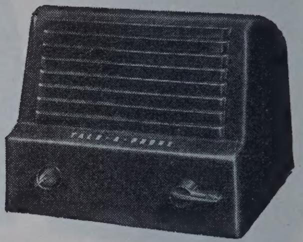
CHICAGO *TALK-A-PHONE CO.* ILLINOIS

TALK-A-PHONE "Chief Forty Niner"

DOES EVERYTHING—HAS EVERYTHING
THE FINEST IN INTER-COMMUNICATION

***Work faster, more efficiently, more economically* — use the "*Chief Forty-Niner.*" Eliminate "*getting up and down,*" "*going through*" a busy switchboard, "*waiting*" to see your man. Touch of button gives you *instant* and *direct* two-way communication with sales, engineering, stockroom, shipping — without anyone leaving work. Direct that non-productive effort into productive results — add 20% to your day.**





ONE MODEL DOES EVERYTHING

TALK-A-PHONE's patented, exclusive **"DYNASONIC"** features gives you one model that "Does Everything." The same unit can be used for every type of application, whether it be as all Master Stations, or a Master and Staff Stations, or a number of Masters inter-mixed with Staff Stations. The Master Stations may talk with any other Master in the system as well as with all Staff Stations. Six, twelve, twenty and thirty capacity Master Stations can be used within the same system. The Staff Station may answer Master Stations and originate calls to one, two or six Master Stations, depending on its capacity. Staff Stations converse with Master Stations only. Staff Stations are not connected to electrical outlet.

Through its **"DIFFERENTIAL STAFF"** feature, TALK-A-PHONE permits any Staff Station to be used as either "Private" or "Non-Private", and also permits some Staff Stations to be "Private" and others "Non-Private" in the same system. "Private" Staff Stations have complete privacy, and no other station can "listen-in". Persons at "Non-Private" Staff Stations can answer from a distance up to 50 feet from the unit without leaving work. All Master and Staff Stations are assured of privacy, except where by choice, Staff Stations are designated as "Non-Private", in which case the Master Station can "listen-in" on the "Non-Private" Staff Stations.

BEAUTIFULLY STYLED: The Bakelite walnut cabinet of the "CHIEF FORTY-NINER" is unsurpassed in simplicity of design and appearance.

TRANSLUCENT LIGHTING further enhances its beauty as well as indicating whether the unit is "on" or "off."

MULTI-MATIC SELECTOR: A patented exclusive TALK-A-PHONE feature. Twelve, twenty, thirty station capacity in SAME BEAUTIFUL CABINET with only TWELVE PUSH BUTTONS. Six-station Master has six push buttons.

HOLD-A-MATIC CONFERENCE CONTROL: TALK-A-PHONE "HOLD-A-MATIC" feature ALLOWS CONFERENCE between THREE or a GROUP OF STATIONS by merely selecting desired buttons.

UNI-TRANS: Gives you "DICTATION CONTROL."

VOICE RANGE POWER: The powerful, rugged amplifier gives you amazing, brilliant "voice range" power. Stations may be up to 3000 feet apart.

DEPENDABILITY: PROVED IN BILLIONS OF HOURS OF ACTUAL USE.

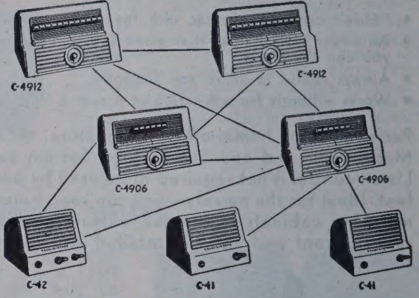
PRIVACY EARPHONE: Optional equipment on Master Stations. Provides listening privacy; and conversation with other Masters without continuous operation of touch bar.

POWER PAGING: Optional Booster for high power paging. May be added at any time.

UNIVERSAL UNFAILING OPERATION: Designed to withstand continuous day and night use. Operates anywhere on 110-120 volts, alternating current, 60, 50, 40 and 25 cycles; and 110-120 volts, direct current, at a cost of but a fraction of a cent a day.

UNDERWRITERS' LABORATORIES APPROVED!

COMPLETE PACKAGE UNIT: The "CHIEF FORTY-NINER" is complete with junction box — ready to plug in. Easy-to-follow instructions permit "anybody" to install TALK-A-PHONE.



All Master Stations and C-46 Staff Stations — 12" W x 9" D x 7" H.
C-41 and C-42 Staff Stations — 8¼" W x 7½" D x 6¼" H.

C-4906 Push button Master for six-station capacity, complete with tubes, junction box, and easy-to-follow instructions. Wt. 13 lbs. **List Price ea. $72.50**

6212 CABLE — For inter-connecting C-4906. **List Price per foot 30c**

C-4912 Push button Master for twelve-station capacity, complete with tubes, junction box, and easy-to-follow instructions. Wt. 13 lbs. **List Price ea. $89.50**

C-4912X Same as C-4912 except equipped with privacy earphone. Wt. 13 lbs. **List Price ea. $109.50**

6224 CABLE — For inter-connecting **C-4912; C-4920;** and **C-4930**.......... **List Price per foot 60c**

C-41 Staff Station for origination of call to one Master. Wt. 5 lbs.......... **List Price ea. $18.70**

C-42 Staff Station for origination of calls to two Masters. Wt. 5 lbs.......... **List Price ea. $28.00**

C-46 Push button Staff Station for origination of calls to six Masters. Wt. 9 lbs. **List Price ea. $51.00**

6204 CABLE — For connecting C-41, C-42 and C-46 Staff Stations.......... **List Price per foot 10c**

Master Stations also available for twenty and thirty station capacities. Write for full details.

HOW TO DETERMINE CABLE REQUIREMENTS: To interconnect Master Stations, measure from first Master to second Master only, from second to third Master only, etc., and total. For **C-4920** use two lengths of **6224** Cable, and for **C-4930** use three lengths of **6224** Cable. To connect **C-41** Staff Station, measure from Staff Station to the one Master to which Staff Station originates calls. To connect **C-42** and **C-46** Staff Stations, measure a separate length of cable from Staff Station to each Master Station to which Staff Station originates calls (for each **C-42** or **C-46**, follow same procedure).

Manufactured under exclusive **TALK-A-PHONE** *Patents. Licensed under U. S. Patents of A. T. & T. Co. and Western Electric Co. Inc.*

Prices and Specifications Subject to Change Without Notice

CHICAGO *TALK-A-PHONE CO.* ILLINOIS

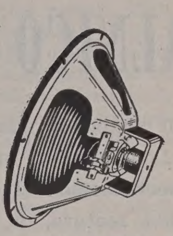
RCA ELECTRONIC COMPONENTS

SPEAKERS — PICKUPS

PM LOUDSPEAKERS

QUALITY ENGINEERED TO INSURE DEPENDABLE PERFORMANCE

- Mounting Designed to RMA Standards.
- Dustproof, Rust-Resistant.
- Universal Transformer Mounting Bracket on All 4″, 4″ x 6″ and 5″ PM's except Type 305S1.
- Felted Cone Gives Uniform Strength, Dependability and Smooth "Flutter-Free" Response.
- Rugged Mechanical Construction with Welded Housing Assembly.
- Exclusive RCA Magnet Clamping Spring Securely Locks Magnet in Position, except Types 423S1 and 304S2.
- Moisture-Resistant Voice-Coil Suspension Assures High Efficiency and Dependability.



RCA 12″ PM Loudspeaker

SPECIFICATIONS

Permanent Magnet Types

SIZE	TYPE No.	RESONANT FREQUENCY	MAGNET WEIGHT	VOICE COIL IMPEDANCE	MAXIMUM POWER HANDL'G CAP. (WATTS)	SUGGST'D LIST PRICE
2″ x 3″	423S1	250-365	1.5	11.8 ohms at 1000 cycles	0.125	$ 4.30
4″ (shallow pot type)	304S2	175-225	1.0	3.2 ohms at 400 cycles	3	3.50
4″	404S2	170-225	1.47	3.2 ohms at 400 cycles	3	3.80
4″ x 6″	246S2	150-200	0.68	3.2 ohms at 400 cycles	3	3.50
4″ x 6″	446S2	150-200	1.47	3.2 ohms at 400 cycles	3	4.00
5″	205S2	150-200	0.68	3.2 ohms at 400 cycles	3	3.40
5″	405S2	150-200	1.47	3.2 ohms at 400 cycles	3	3.90
5″	305S1	150-200	1.0	3.2 ohms at 400 cycles	3	3.60
5″ x 7″	257S1	120-140	1.47	3.2 ohms at 400 cycles	6	5.20
8″	208S2	75-95	2.15	6-8 ohms at 400 cycles	8	6.25
8″	208S4	75-95	2.15	3.2 ohms at 400 cycles	8	6.25
12″	312S1	70-85	2.15	3.2 ohms at 400 cycles	12	9.00
12″	412S1	70-85	6.8	3.2 ohms at 400 cycles	12	11.50
12″	412S4	70-85	6.8	6-8 ohms at 400 cycles	12	12.50

Field Coil Types

SIZE	TYPE No.	RESONANT FREQUENCY	FIELD	VOICE COIL IMPEDANCE	MAXIMUM POWER HANDL'G CAP. (WATTS)	SUGGST'D LIST PRICE
4″ x 6″	746S1	150-200	450 ohms at 65 ma.	3.2 ohms at 400 cycles	3	$ 5.50
5″	705S1	150-200	450 ohms at 65 ma.	3.2 ohms at 400 cycles	3	5.50
12″	712S1	70-85	1000 ohms at 70 ma.	3.2 ohms at 400 cycles	12	11.50

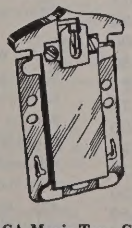
CRYSTAL PICKUPS

MAGIC TONE CELL

Replaces crystals in RCA Victor radio-phonographs and record players (1938 and later). Permanent-type jewel point stylus. At 400 cycles, it has approximate impedance of 200,000 ohms and an output of approximately 1½ volts. When used as replacement for needle-type pickups, slight adjustment of phono input circuit may be required for best tone and volume. Installation data included. Stock No. 211X1. Sugg'd List Price: $7.00.

SILENT SAPPHIRE

Interchangeable with 70 different phonograph crystals. Similar to Magic Tone Cell in design and characteristics, but smaller in size. Comes complete with crystal, mounting plate, screws, and complete electrical and mechanical installation data. (For additional information see RCA Crystal Pickup Data sheet, Form 2F479.) RCA Silent Sapphire, Stock No. 212X1. Sugg'd List Price: $7.00.



RCA Magic Tone Cell

RCA Crystal	Sugg'd List Price
31050	$4.20
31156	4.75
33122	4.20
37158	4.75
38598	7.25
38610	5.55
39919	7.25
70332	7.25
70339	7.00

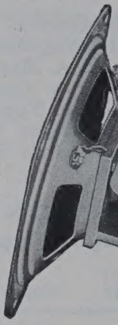
A complete line of Service Parts is available for all RCA apparatus.

All prices in effect 5/15/49.

GENERAL ELECTRIC

ALNICO 5 PM LOUDSPEAKERS

All component parts of the new Alnico 5 Loudspeakers are made to the rigid specifications of G-E quality control. This feature, in addition to highly efficient manufacturing skill, combined with the "know-how" of G-E engineers, has made these new superb speakers possible — unsurpassed in fidelity, dependability and durability.

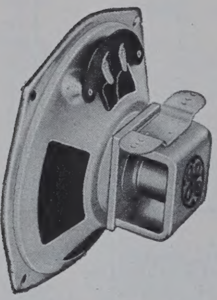


4"

GENERAL ELECTRIC'S new 4-inch speakers are the result of years of intensive engineering research to produce units of reduced size with maximum efficiency for use in small portable and table model receivers. In addition to having the "stay-bright" finish and the aluminum foil base voice coil, the new 4-inch speakers are considerably lighter in weight and more compact. This reduction in weight and space has been accomplished through the use of Alnico 5 magnet material, all-weld construction, and smaller yoke assembly.

5¼"

GENERAL ELECTRIC'S 5¼-IN. PM speakers have all been designed and developed to provide full, true, low notes and excellent high frequency definition for voice or music reproduction. Skillful designing has been applied to all details to assure the best possible results.

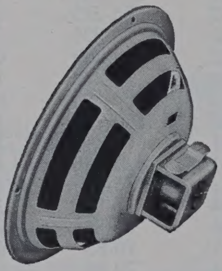


6½"

GENERAL ELECTRIC 6½-inch loudspeakers are the result of years of persistent development to improve performance. Never were ideas introduced and combined with better quality materials. Greater sensitivity and power capacity in more compact space was achieved by these methods.

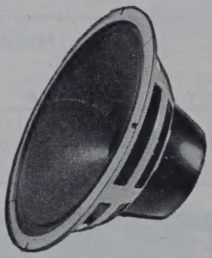
8"

The NEW ALNICO 5 PERMANENT MAGNET material was chiefly responsible for maintaining the excellent performance of the G-E 8-inch speakers and still keeping the overall size smaller. The speakers are capable of handling full audio power with very little distortion. These speakers are recommended for quality in design and faithful reproducing characteristics.



10"

GENERAL ELECTRIC'S new 10-inch P.M. speakers are the result of application of latest developments in scientific laboratory tone reproduction. Especially designed for brilliant reproduction of voice and music. They represent a perfect balance in relative factors of performance ability, cost, and appearance.



12"

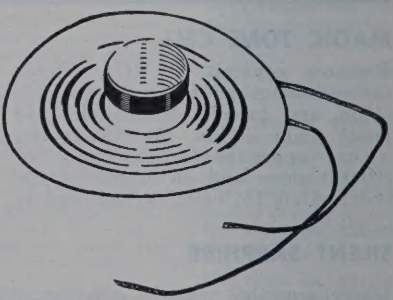
GENERAL ELECTRIC'S powerful 12-inch permanent magnet loudspeakers are designed to provide faithful tone reproduction at high levels. They equal or surpass the performance of electro-dynamic speakers of the same size. All weld construction has minimized distortion at maximum operation levels by eliminating vibration.

SPEAKER CHARACTERISTICS

Cone Size, Inches	Speaker Type	Watts Output	Alnico 5 Mag. Wt. Oz.	VC Imp Ohms	List Price
4	S-400D	4	1.3	3.2	$ 4.25
4	S-402D	4	1.0	3.2	4.00
4	S-403D	4	.68	3.2	3.75
5¼	S-525D	4	1.3	3.2	4.75
5¼	S-526D	4	1.0	3.2	4.35
5¼	S-527D	4	.68	3.2	4.00
6½	S-625D	4	1.3	3.2	5.50
6½	S-626D	4	1.0	3.2	5.00
6½	S-650D	8	2.98	3.2	6.75
8	S-800D	8	2.98	3.2	8.95
8	S-810D	12	6.8	3.2	12.00
8	S-818D	12	6.8	8	12.50
10	S-1000D	12	6.8	3.2	15.25
10	S-1001D	25	14.5	8	24.75
10	S-1003D	25	9.0	8	18.50
10	S-1012D	12	3.16	3.2	10.25
10	S-1018D	12	6.8	8	15.75
12	S-1200D	12	6.8	3.2	16.50
12	S-1201D	25	14.5	8	29.50
12	S-1203D	25	9.0	8	20.50
12	S-1212D	12	3.16	3.2	11.25
12	S-1218D	12	6.8	8	17.00
6 x 9	S-703D	8	1.47	3.2	7.50

G-E LOUDSPEAKER FEATURES

ALNICO 5 MAGNET MATERIAL is one of the great wartime engineering developments. Its energy per unit volume — approximately three times as great as other magnets—has enabled G-E engineers to design a new line of smaller speakers with better performance characteristics.



ALL WELD CONSTRUCTION of the newly designed G-E Alnico 5 Loudspeakers not only reduces the weight and size but also increases the rigidity necessary for perfect alignment of all parts. It also eliminates the possibility of dust and moisture accumulation and simplifies the replacement of damaged cones.

ALUMINUM FOIL BASE VOICE COILS only are used in all G-E permanent magnet speakers. Exact concentric location with the collar of the spider assembly insures excellent alignment. Humidity or excessive temperature variations do not affect the aluminum foil voice coils, making this type of speaker ideal for receivers designed for use in export markets.

PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE

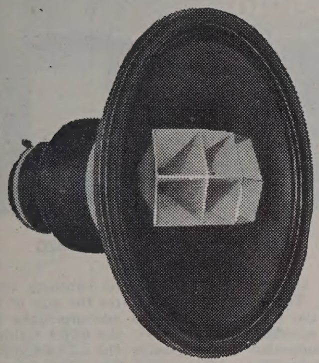
ALTEC
LANSING CORPORATION

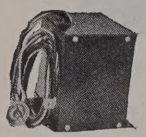
SPEAKERS

1161 N. VINE STREET
HOLLYWOOD 38, CALIF.

161 SIXTH AVENUE
NEW YORK 13, N. Y.

MODEL 604B DUPLEX SPEAKER





N-1000-B
Dividing Network

SPECIFICATIONS—604B DUPLEX SPEAKER

Area of Horizontal Distribution	60°
Area of Vertical Distribution	40°
Voice Coil Impedance	16 ohms
Dividing Network Impedance	16 ohms
Dividing Network Crossover	1000 cycles
Power Rating	30 watts
Weight (including network)	40 lbs.
Diameter	15$\frac{3}{16}$″
Depth	11½″
List Price, less Network	**$166.67**

The N-1000-B network associated with the 604B Duplex must be ordered as a separate item. List Price **$24.00.**

The Altec Lansing Model 604B Duplex and associated N-1000B Network represents the finest loudspeaker on the market. Manufactured by the same company which makes the famous "Voice of the Theatre" loudspeaker systems used by leading motion picture theatres, this compact unit has all of the fine design principles and construction that have heretofore been available only in the most costly loudspeakers offered for professional use and laboratory standards. Price has not been spared to make the Duplex the peer of all loudspeakers.

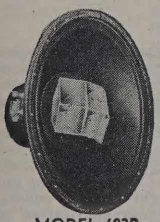
The unusual features are (a) Two-way operation utilizing separate diaphragms and voice coils for high and low frequencies. (b) Multicellular horn to provide uniform sound distribution over a wide area. (c) Alnico No. 5 permanent magnets designed for total absence of external stray fields. (d) Both the high and low frequency voice coils made of edge-wise wound ribbon to provide 22% greater efficiency. (e) Large 3″ low frequency voice coil for high power capacity. (f) Frequency response of 30 to 16,000 cycles more than spans FM range. (g) Low crossover of 1,000 cycles to assure that the cone will operate as a stiff piston. (h) Overall acoustic efficiency 3 to 5 db greater than the ordinary loudspeaker.

The Model 604B Duplex Loudspeaker and associated N-1000B Network are available separately, or can be supplied together in a number of specially constructed baffle cabinets as illustrated. The cabinet combinations are known as Duplex Loudspeaker Systems.

The Duplex Loudspeaker particularly meets the critical requirements of broadcast and recording studio monitoring, high quality public address and music distribution systems, and when used with 16 mm. sound equipment will increase the audience coverage manyfold. Music lovers and discerning people require the Duplex for home use with fine phonograph records and FM reception.

After making acoustic measurements on hundreds of speakers and speaker systems, Altec Lansing makes this unqualified statement: to the best of our knowledge, the frequency response curve of the 604B Duplex cannot be equalled by any speaker unit or speaker system outside the large theatre-type systems!

MODEL 603B MULTICELL DIA-CONE SPEAKER



MODEL 603B
DIA-CONE SPEAKER

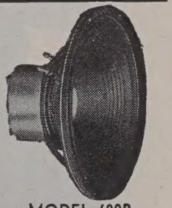
The Altec Lansing 603B Multicell Dia-Cone represents a fundamental improvement over the old 603. These new features make the 603B the unanimous choice of those who require an economical, high-quality speaker. For the sound man it offers high efficiency and wide angle sound distribution; music lovers will delight in its frequency response and freedom from distortion.

In the new 603B the magnets of Alnico V are 30% larger than before and in their massive magnetic circuit with no stray fields provide an almost 100% increase in efficiency (2.5 db over the old 603). An improved cone technique greatly increases the high frequency reproduction and smooths the overall response.

All of the features that contributed to the excellence of the old 603 have been retained. The 3″ voice coil is wound with edge-wound aluminum ribbon, the Dia-Cone principle provides extended frequency response from the aluminum diaphragm over the voice coil, the multicell horn loads the high frequency diaphragm and gives smooth distribution of high frequencies over a wide angle, the large 15″ cone insures full bass reproduction and large power-handling capacity.

SPECIFICATIONS—603B MULTICELL DIA-CONE SPEAKER

Area of Horizontal Distribution	60°
Area of Vertical Distribution	40°
Voice Coil Impedance	8 ohms
Voice Coil Diameter	3″
Power Rating	25 watts
Weight	18 lbs.
Diameter	15$\frac{3}{16}$″
Depth	6⅝″
List Price	**$84.00**



MODEL 600B
DIA-CONE
SPEAKER

The Altec Lansing Model 600B Dia-Cone Speaker is similar in design to the Model 603B Dia-Cone, using the exclusive Dia-Cone principle. It meets the needs of those who do not wish to invest in more expensive speakers, yet whose training, musical education, sound consciousness and discriminating hearing, demand faithful reproduction of sound.

The Model 600B Dia-Cone speaker has an Alnico V permanent magnet and is mounted in a 12″ frame. It uses a 3″ edgewise wound aluminum voice coil to which is mounted a domed aluminum alloy metal diaphragm and a seamless molded paper cone. The cone vibrates with the voice coil as a piston up to approximately 2,000 cycles. Above this frequency, the domed metal diaphragm, with its high mass stiffness, continues to operate as a piston with the voice coil, resulting in true reproduction of the higher frequencies.

Because of its efficiency, small space requirements, light weight and superior quality of reproduction, the Model 600B Dia-Cone Speaker is an ideal unit in the lower priced speaker field.

A completely new cone technique has extended and smoothed out the frequency response of the new 600B Multicell Dia-Cone to the point where this model represents a vast improvement over the earlier 600 model.

SPECIFICATIONS—600B DIA-CONE SPEAKER

Voice Coil Impedance	8 ohms
Voice Coil Diameter	3″
Power Rating	20 watts
Weight	12 lbs.
Diameter	12¼″
Depth	5¼″
List Price	**$50.65**

MODEL 400B
DIA-CONE SPEAKER

The Altec Lansing Model 400B Dia-Cone 8″ speaker has been designed especially for uses where the benefits of a larger speaker can not be taken advantage of because of space and weight limitations.

The Model 400B Dia-Cone is a low-priced, high-quality unit of very high efficiency—a much greater efficiency than is found in the ordinary 8″ speakers. Its light weight and small size make it ideally adaptable for portable uses such as 16MM sound, magnetic recorders, and in installations such as airplanes, buses, etc.

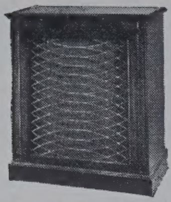
SPECIFICATIONS—MODEL 400B DIA-CONE SPEAKER

Voice Coil Impedance	8 ohms
Voice Coil Diameter	1¾″
Power Rating	12 watts
Required Amplifier Source Impedance	4-8 ohms
Weight	4 lbs.
Speaker Diameter	8¼″
Speaker Depth	3⅝″
List Price	**$24.00**

ALTEC
LANSING CORPORATION

CABINETS MULTICELLULAR HORNS DRIVER UNITS

1161 N. VINE STREET
HOLLYWOOD 38, CALIF.
161 SIXTH AVENUE
NEW YORK 13, N. Y.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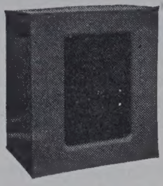
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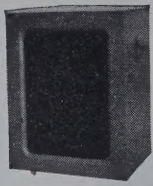
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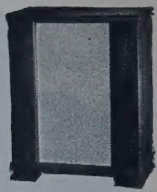
618


620

CABINETS

Altec Lansing offers a variety of baffle cabinets which are engineered for high quality sound reproduction. Construction is of heavy ply-wood, with all joints screwed and glued to eliminate spurious rattles. The interiors of the cabinets are well padded with fibreglass to prevent side reflections.

The following cabinets are available for Altec Lansing speakers listed in this catalogue. Note carefully the code numbers of the cabinets when ordering. The suffix letter indicates the size of the hole in the baffle necessary to accommodate the required speaker. For example: the 620A Cabinet will accommodate a 15″ speaker; the 620B Cabinet will accommodate a 12″ speaker; the 620C Cabinet will accommodate a 8″ speaker. There is no other difference in the three types of cabinet.

604B Duplex	603B Multicell Dia-Cone	600B Dia-Cone	400B Dia-Cone
605A	605A	612B	614C
612A	612A	614B	618C
614A	614A	618B	620C
620A	620A	620B	

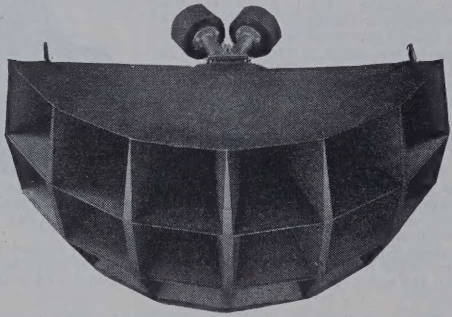
Type 605
Furniture Cabinet. Finish—Walnut or Mahogany. Dimensions: Height 38″. Width 30″. Depth 16″.
List Price $180.00

Type 612
Utility Cabinet. Finish — Blue Gray. Dimensions: Height 29½″. Width 25½″. Depth 17¾″.
List Price $62.00

Type 614
Portable Utility Cabinet. Finish—Blue Gray. Dimensions: Height 24¾″ Width 18¾″. Depth 14¼″.
List Price $56.00

Type 618
Small Portable Utility Cabinet with slanting front. Finish—Blue Gray. Dimensions: Height 22″. Width 17″. Depth 13¼″.
List Price $42.67

Type 620
Small Furniture Cabinet. Finish—Walnut, Mahogany or White Birch. Dimensions: Height 33½″. Width 26½″. Depth 14¼″.
List Price $113.32



MULTICELLULAR HORNS

Altec Lansing multi-cellular horns are constructed from exponential horn cells grouped in different configurations to meet various sound distribution requirements. Each cell is a true exponential horn.

The large multi-cellular horn provides the best way of covering long distances and large areas with high levels of quality acoustic power in the frequency range above 200-300 cycles. By choosing the proper configuration of cells, the sound output can be directed for even distribution over any horizontal and vertical area desired; and conversely, to a large degree the sound can be kept from unwanted areas such as walls and ceiling which might produce echoes, slaps, reverberations, etc. These horns find particular application in large buildings with high noise levels, reverberant cathedrals, ball parks, skating rinks, stadia, race tracks, airports, church carillons, sports arenas, etc.

The chart shows multicellular horns available. Note that a throat is not supplied as part of the multi-cellular horn and must be ordered separately according to the type required.

Horn Code #	Cell Configuration	Sound Distribution		Dimensions *L-W-H	Net Weight (Less Speakers)	LIST PRICE	Code No. Throat Required			Throat Code No.	LIST PRICE
		Horizontal	Vertical				1 Unit	2 Units	4 Units		
H-803	2 x 4	70°	35°	36 x 32 x 18	86	$155.53	30162			30162	$22.20
H-1003	2 x 5	90°	35°	35 x 40 x 18	131	216.67	30210	30170		30166	22.20
H-1203B	2 x 6	105°	35°	36 x 43 x 18	152	216.67	30210	30170		30210	22.20
H-1504	3 x 5	105°	60°	33½ x 40 x 24	160	244.47	No.	No.	(2)30170	30170	44.40
H-1803	3 x 6	105°	53°	35 x 43 x 25	184	255.53	30166	30172		30172	44.40

* Overall length of horn including throat and 288 unit (s).

290 SPEAKER

The Altec Lansing 290 speaker unit is designed to fit on the throats of various Altec Lansing multi-cellular horns. Using Alnico 5 permanent magnet, its efficiency when mounted on a multi-cellular horn is such that a sound level of 98 db (ref. 10^{-16} watts per square centimeter) is produced at five feet distance for an electrical input of 0.1 watt at 1000 cycles.

The use of tangential compliances in the diaphragm and edgewise wound ribbon wire in the voice coil provide maximum power handling capacity and acoustic output. Beryllium copper leads, spot-welded to the voice coil, provide heavy duty connections which will not fatigue under use. The entire diaphragm and voice coil assembly which is mounted in a cast bakelite ring, is field replaceable.

When using the 290 speaker unit for all range reproduction, it is necessary to attenuate the frequencies below 300 cycles which would otherwise damage the diaphragm and voice coil assembly. This attenuation may be accomplished by the proper sized capacitor either in the input or output circuit of the final power amplifier.

290 SPECIFICATIONS

Signal Capacity	—40 watts for frequencies above 300 cps.
V. C. Impedance	—24 ohms when operating under normal horn loading conditions.
Dimensions	—6⅛″ Diameter x 4⅞″ Deep.
Weight	—21 lbs.
List Price	—$200.00

Cinaudagraph Speakers

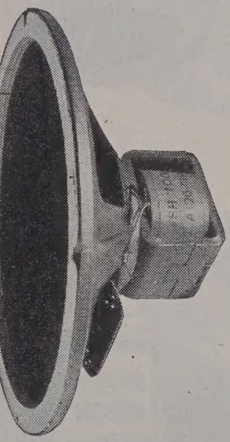
DIVISION OF AIREON MFG. CORP.

SALES OFFICE and FACTORY 1401 FAIRFAX TRAFFICWAY KANSAS CITY, KANSAS

FIELD COIL MODELS

Dustproof, all-welded construction with hum bucking coils or slugs.

		FIELD COIL		VOICE COIL			List
Size	Model	Resistance	Watts	Imped.	Diam.	Watts	Price
3½″	F3B2	450 ohms	3	3.2	9/16″	1.5	$4.35
4″	F4B2	450	3	3.2	9/16	2.	4.35
	F4B3	1000	3	3.2	9/16	2.	4.35
	F4B4	1800 T300	3	3.2	9/16	2.	4.35
	F4B6	2750	3	3.2	9/16	2.	4.35
4″ x 6″	F46B2	450	3	3.2	9/16	2.5	5.00
	F46B60	60	3	3.2	9/16	2.5	5.00
	F46B100	100	3	3.2	9/16	2.5	5.00
	F46B3	1000	3	3.2	9/16	2.5	5.00
	F46B24	1800	3	3.2	9/16	2.5	5.00
5″ Round	F5B1	6-volt	3	3.2	9/16	2.5	4.55
	F5B2	450	3	3.2	9/16	2.5	4.55
	F5B3	1000	3	3.2	9/16	2.5	4.55
	F5B6	2750	3	3.2	9/16	2.5	4.55
	F5B60	60	3	3.2	9/16	2.5	4.55
5″ Pin Cush.	F51B1	6-volt	3	3.2	9/16	2.5	4.55
	F51B2	450	3	3.2	9/16	2.5	4.55
	F51B3	1000	3	3.2	9/16	2.5	4.55
	F51B24	1800	3	3.2	9/16	2.5	4.55
	F51B6	2750	3	3.2	9/16	2.5	4.55
5″ x 7″	F57D2	450	4	3.2	¾	5.	6.50
	F57D3	1000	4	3.2	¾	5.	6.50
	F57D4	1800 T300	4	3.2	¾	5.	6.50
6″	F6B1	6-volt	3	3.2	9/16	3.	5.00
	F6B2	450	3	3.2	9/16	3.	5.00
	F6B3	1000	3	3.2	9/16	3.	5.00
	F6B24	1800	3	3.2	9/16	3.	5.00
	F6B6	2750	3	3.2	9/16	3.	5.00
6″ x 9″	F69D1	6-volt	4	3.2	¾	6.	7.50
	F69D2	450	4	3.2	¾	6.	7.50
	F69D3	1000	4	3.2	¾	6.	7.50
	F69D4	1800 T300	4	3.2	¾	6.	7.50
7″	F7D11	6-volt	4	3.2	¾	6.	6.50
	F7D11A*	6-volt	4	3.2	¾	6.	6.50
7½″	F75D1	6-volt	4	3.2	¾	6.	7.00
8″	F8D3	1000	4	3.2	¾	6.	7.00
	F8D4	1800 T300	4	3.2	¾	6.	7.00
	F8D5	2500	4	3.2	¾	6.	7.00
	F8H8	600	8	8.	1	8.	9.50
	F8H3	1000	8	8.	1	8.	9.50
	F8H24	1800	8	8.	1	8.	9.50
	F8H5	2500	8	8.	1	8.	9.50
10″	F10H8	600	8	8.	1	9.	10.50
	F10H3	1000	8	8.	1	9.	10.50
	F10H24	1800	8	8.	1	9.	10.50
	F10H5	2500	8	8.	1	9.	10.50
12″	F12H8	600	8	8.	1	10.	13.00
	F12H3	1000	8	8.	1	10.	13.00
	F12H24	1800	8	8.	1	10.	13.00
	F12H5	2500	8	8.	1	10.	13.00



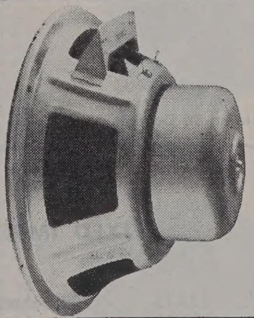
*Pot rotated 90 degrees

PUBLIC ADDRESS SPEAKERS

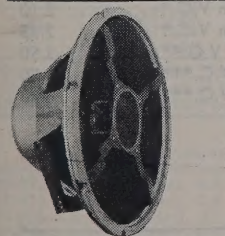
These units are primarily engineered for heavy duty public address service. They are conservatively rated, and are designed to give years of trouble-free service. The efficiency and the tone quality of these units are such that they are recommended for all purposes requiring heavy duty units.

		Magnet	Voice Coil			List
		Alnico-5	Imped.	Diam.	Watts	Price
6″	P6J1	6.8 oz.	8	1″	8	$10.75
8″	P8J1	6.8	8	1	10	12.00
	P8L1†	10.	8	1¼	10	20.00
10″	P10J1	6.8	8	1	10	14.00
	P10L1	10.	8	1¼	12	20.00
12″	P12J1	6.8	8	1	12	15.00
	P12L1	10.	8	1¼	14	21.00
	P12P1 (P12M1)	21.5	8	1½	17	40.00
15″	P15L1	10.	8	1¼	15	30.00
	P15P2 (P15M2)	21.5	8	1½	18	45.00

†Waterproof cone and voice coil



EXTENDED RANGE SPEAKERS



Designed expressly for F.M., television, and all installations requiring good performance to 10,000 c.p.s. and beyond. CINAXIAL models illustrated at left extend to 15,000 c.p.s. Not recommended for general public address use because of limited power handling capacity. Model P8JHF1 and P12JHF1 are single cone speakers; CIN-12A consists of 12″ low frequency speaker and 3″ high frequency speaker. CIN-15B and CIN-15C have 15″ low frequency speaker and 5″ high frequency units. Bridging networks are built-in, require no controls.

		Magnet	Voice Call			List
Size	Model	Alnico-5	Imped.	Diam.	Watts	Price
8″	P8JHF1	6.8	8	1″	7	$13.50
12″	P12JHF1	6.8	8	1	10	17.00
12″ Cinaxial	CIN-12A	4.64	8	1	10	27.50
15″ Cinaxial	CIN-15B	10.0	8	1¼	15	47.50
	CIN-15C	21.5	8	1½	18	62.50

Cinaudagraph Speakers

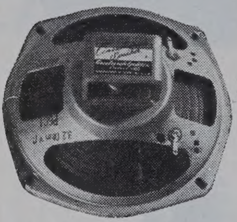
DIVISION OF AIREON MFG. CORP.

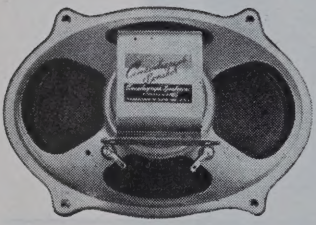
SALES OFFICE and FACTORY 1401 FAIRFAX TRAFFICWAY KANSAS CITY, KANSAS

ALNICO 5—PERMANENT MAGNET SPEAKERS

REPLACEMENT SPEAKERS

For all receivers, from the smallest to the larger models. Dustproof, all-welded construction, all magnets soldered.





Size	Model	Magnet Alnico-5	Voice Coil Imped.	Voice Coil Diam.	Voice Coil Watts	List Price
2½"	P2A1	.68 oz.	3.2 ohms	9/16"	1.	$ 3.65
	P2C1	1.47	3.2	9/16	1.5	4.25
3½"	P3A1	.68	3.2	9/16	1.5	3.65
	P3C2	1.47	3.2	9/16	2.	4.25
	P3A21	.68	45.	9/16	1.5	4.25
4"	P4A1	.68	3.2	9/16	2.	3.90
	P4C1	1.47	3.2	9/16	2.5	4.50
	P4A21	.68	45.	9/16	2.	4.50
4" x 6"	P46A1	.68	3.2	9/16	3.	4.50
	P46C1	1.47	3.2	9/16	3.5	5.10
5" Round	P5A1	.68	3.2	9/16	3.	4.15
	P5C1	1.47	3.2	9/16	3.5	4.75
	P52F1	3.16	3.2	¾	5.	6.50
5" Pin Cush.	P51A1	.68	3.2	9/16	3.	4.15
	P51C1	1.47	3.2	9/16	3.5	4.75
	P51A21	.68	45.	9/16	3.	4.75
5¼" Pin Cush.	P53A1	.68	3.2	9/16	4.	4.65
	P53C1	1.47	3.2	9/16	4.	5.25
5" x 7"	P57C1	1.47	3.2	9/16	4.	5.50
	P57F1	3.16	3.2	¾	6.	7.25
6½" Pin Cush.	P6A1	.68	3.2	9/16	3.	4.65
	P6C1	1.47	3.2	9/16	3.5	5.25
	P6F1	3.16	3.2	¾	5.	7.00
	P6H1	4.64	3.2	1	6.	8.75
6" x 9"	P69F1	3.16	3.2	¾	6.	8.00
	P69H1	4.64	3.2	1	8.	9.75
7" Pin Cush.	P7E2	2.15	3.2	¾	5.	7.50
	P7E2A*	2.15	3.2	¾	5.	7.50
	P7G2	3.16	3.2	1	6.	8.50
	P7H2	4.64	3.2	1	8.	10.00
7½"	P75F1	3.16	3.2	¾	6.	8.00
	P75H1	4.64	3.2	1	8.	10.00
8"	P8D1	1.47	3.2	¾	5.	7.00
	P8G1	3.16	8.	1	7.	8.50
	P8G2	3.16	3.2	1	7.	8.50
	P8H1	4.64	8.	1	8.	10.00
10"	P10G1	3.16	8.	1	8.	10.50
	P10H1	4.64	8.	1	9.	12.00
12"	P12G1	3.16	8.	1	10.	11.50
	P12H1	4.64	8.	1	11.	13.00

*Pot Rotated 90 Degrees

TRANSFORMERS

FIXED IMPEDANCE

			List Price
½"x½"	12A73	7000 ohms to 3.2 ohm V.C.	$1.25
	12A43	4000 ohms to 3.2 ohm V.C.	1.25
	12A23	2000 ohms to 3.2 ohm V.C.	1.25
	12A53L	500 ohms to 3.2 ohm V.C.	1.25
⅝"x⅝"	58A83	8000 ohms to 3.2 ohm V.C.	1.50
¾"x¾"	34C53C	5000 ohms C.T. to 3.2 ohm V.C.	2.00
	34A53	5000 ohms to 3.2 ohm V.C.	2.00

ADJUSTABLE IMPEDANCE

			List Price
½"x½"	12A3UL	Line to 3.2 ohm V.C.***	$2.10
	12A3U	Plate to 3.2 ohm V.C.*	2.10
⅝"x⅝"	58A3U	Plate to 3.2 ohm V.C.*	2.35
¾"x¾"	34A8U	Plate to 8 ohm V.C.**	3.50
	34A8UL	Line to 8 ohm V.C.***	3.50
⅞"x⅞"	78A8UL	Line to 8 ohm V.C.***	4.00

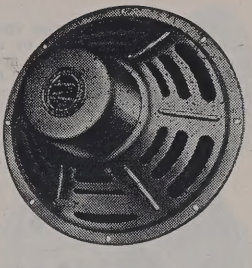
* Plate impedances of 2000, 4500, 7000 and 10,000 ohms (No C.T.)

** Plate impedances of 3000, 5000, 6600, 7000, 10,000 ohms (All C.T.)

*** Plate impedances of 2000, 1500, 1000 and 500 ohms (No C.T.)

Jensen

Standard Series speakers, although moderately priced, are exceptionally good in performance and are highly recommended for use in radio and television receivers, recorders, public address equipment, intercommunication systems and similar applications. Models listed on this page have been completely redesigned in every detail. Magnetic structures have been designed to achieve maximum gap energy, cones selected for uniformity of response, and all speakers are completely dust-proof. Models listed are standard fidelity response only. Standard Series speakers are finished in aluminum.

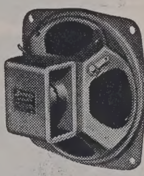


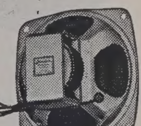
ALNICO 5 PM MODELS

These PM speakers embody the highly efficient Alnico 5 magnets which insure long life and highest efficiency. Because Alnico 5 magnets are many times more powerful, ounce for ounce, than their predecessors, speakers so equipped offer obvious advantages: lighter weight, for savings in shipping costs; and smaller size, for savings in space in cabinet installations.

Nominal Size	Model No.	Stock No.	†Gap Energy Level	DIMENSIONS, Inches O.D.	Depth	Baffle Openg.	VOICE COIL Diam., In.	Imped., Ohms	Power Watts	*Transformer Size	List Price
12"	P12-S	ST-102	1.5	12⅛	6 1/16	10½	1	6-8	10.0	⅞ x ⅞"	$16.50
	P12-T	ST-101	1.1	12⅛	6 1/16	10½	1	6-8	9.0	¾ x ¾"	11.85
10"	P10-S	ST-120	1.5	10⅛	5¼	8¾	1	6-8	9.0	¾ x ¾"	15.25
	P10-T	ST-119	1.1	10⅛	5¼	8¾	1	6-8	8.0	¾ x ¾"	10.65
6x9"	P69-S	ST-812	1.5	6⅜ x 9¼	3 11/16	5⅜ x 8⅛	1	3-4	8.0	¾ x ¾"§	12.50
	P69-T	ST-811	1.1	6⅜ x 9¼	3 11/16	5⅜ x 8⅛	1	3-4	7.5	¾ x ¾"§	9.60
	P69-V	ST-810	.51	6⅜ x 9¼	3¼	5⅜ x 8⅛	¾	3-4	5.0	⅝ x ⅝"§	7.90
8"	P8-S	ST-104	1.5	8⅛	3 13/16	6¾	1	6-8	8.0	¾ x ¾"	12.25
	P8-T	ST-117	1.1	8⅛	3⅝	6¾	¾	3-4	7.0	¾ x ¾"	9.50
	P8-U	ST-116	.74	8⅛	3½	6¾	¾	3-4	6.0	⅝ x ⅝"	8.35
	P8-V	ST-115	.51	8⅛	3⅜	6¾	¾	3-4	5.0	⅝ x ⅝"	7.30
7"	P7-T	ST-804	1.1	7⅝	3 7/16	6	1	3-4	7.0	¾ x ¾"§	9.25
	P7-T	ST-807	1.1	7⅝	3¼	6	¾	3-4	6.5	¾ x ¾"§	8.75
	P7-U	ST-806	.74	7⅝	3¼	6	¾	3-4	5.5	⅝ x ⅝"§	7.95
6"	P6-T	ST-112	1.1	6 11/16	3 3/16	5¼	¾	3-4	6.0	⅝ x ⅝"	7.75
	P6-V	ST-110	.51	6 11/16	2 15/16	5¼	9/16	3-4	4.0	⅝ x ⅝"	6.10
	P6-W	ST-109	.36	6 11/16	2⅞	5¼	9/16	3-4	3.5	½ x ½"	5.65
	P6-X	ST-108	.25	6 11/16	2¾	5¼	9/16	3-4	3.0	½ x ½"	5.00
5¼"	P525-V	ST-803	.51	5¼	2½	4½	9/16	3-4	4.0	⅝ x ⅝"§	5.50
5"	P5-V	ST-107	.51	5	2 7/16	4	9/16	3-4	3.5	½ x ½"	5.40
	P5-X	ST-105	.25	5	2¼	4	9/16	3-4	2.5	½ x ½"	4.30
	P5-X	ST-740	.25	5	2¼	4	9/16	45-50	2.5	½ x ½"	4.95
4"	P4-X	ST-113	.25	5	2	3½	9/16	3-4	2.0	½ x ½"	4.15
	P4-X	ST-739	.25	5	2	3½	9/16	45-50	2.0	½ x ½"	4.85

*Size recommended. See Transformer listing. †Millions of ergs. §No transformer mounting facilities.



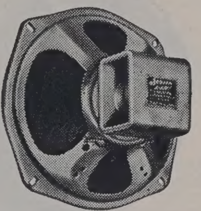


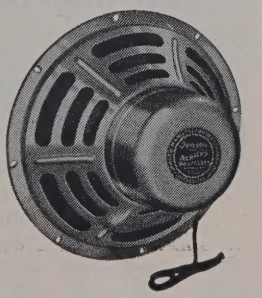
FIELD COIL MODELS

Like their PM counterparts, Standard Series field coil models have been completely redesigned and are equipped with hum neutralizing coils. Finish is aluminum. Models listed on this page are standard fidelity.

Nominal Size	Model No.	Stock No.	†Gap Energy Level	DIMENSIONS, Inches O.D.	Depth	Baffle Opening	VOICE COIL Diam., In.	Imped., Ohms	Pwr. Watts	FIELD Resist., Ohms	Power Watts	*Transformer Size	List Price
12"	F12-S	ST-744	1.5	12⅛	6 7/16	10½	1	3-4	10.0	1000	8.5	⅞ x ⅞"	$14.60
	F12-S	ST-173	1.5	12⅛	6 7/16	10½	1	3-4	10.0	1500	8.5	⅞ x ⅞"	14.60
10"	F10-S	ST-745	1.5	10⅛	5⅝	8¾	1	3-4	9.0	750	8.5	¾ x ¾"	12.25
	F10-S	ST-175	1.5	10⅛	5⅝	8¾	1	3-4	9.0	1500	8.5	¾ x ¾"	12.70
6x9"	F69-T	ST-814	1.1	6⅜ x 9¼	4 1/16	5⅜ x 8⅛	1	3-4	7.5	4	6-volt	¾ x ¾"§	9.25
	F69-U	ST-813	.74	6⅜ x 9¼	3½	5⅜ x 8⅛	¾	3-4	6.0	4	6-volt	⅝ x ⅝"§	7.95
8"	F8-S	ST-746	1.5	8⅛	4 9/16	6¾	1	3-4	8.0	750	8.5	¾ x ¾"	10.65
	F8-S	ST-177	1.5	8⅛	4 9/16	6¾	1	3-4	8.0	1500	8.5	¾ x ¾"	11.10
	F8-T	ST-179	1.1	8⅛	4⅛	6¾	¾	3-4	7.0	1000	7.0	¾ x ¾"	8.85
	F8-T	ST-180	1.1	8⅛	4⅛	6¾	¾	3-4	7.0	‡1800	7.0	¾ x ¾"	8.95
	F8-W	ST-736	.36	8⅛	3⅜	6¾	¾	3-4	4.0	1000	5.0	⅝ x ⅝"	6.65
	F8-W	ST-737	.36	8⅛	3⅜	6¾	¾	3-4	4.0	‡1800	5.0	⅝ x ⅝"	7.00
7"	F7-T	ST-809	1.1	7⅝	3 3/16	6	1	3-4	7.0	4	6-volt	¾ x ¾"§	8.65
	F7-U	ST-808	.74	7⅝	3¼	6	¾	3-4	5.5	4	6-volt	⅝ x ⅝"§	7.45
6"	F6-U	ST-186	.74	6 11/16	3⅜	5¼	¾	3-4	5.0	1000	6.0	⅝ x ⅝"	6.75
	F6-U	ST-187	.74	6 11/16	3⅜	5¼	¾	3-4	5.0	‡1800	6.0	⅝ x ⅝"	6.75
	F6-X	ST-189	.25	6 11/16	2 15/16	5¼	9/16	3-4	3.0	450	4.5	½ x ½"	5.55
	F6-X	ST-166	.25	6 11/16	2 15/16	5¼	9/16	3-4	3.0	1000	4.5	½ x ½"	5.65
	F6-X	ST-168	.25	6 11/16	2 15/16	5¼	9/16	3-4	3.0	‡1800	4.5	½ x ½"	5.90
	F6-X	ST-190	.25	6 11/16	2 15/16	5¼	9/16	3-4	3.0	2800	4.5	½ x ½"	5.80
5"	F5-W	ST-191	.36	5	2½	4	¾	3-4	3.0	1000	5.0	½ x ½"	5.85
	F5-W	ST-192	.36	5	2½	4	¾	3-4	3.0	‡1800	5.0	½ x ½"	6.20
	F5-X	ST-194	.25	5	2 7/16	4	9/16	3-4	2.5	450	4.5	½ x ½"	5.35
	F5-X	ST-165	.25	5	2 7/16	4	9/16	3-4	2.5	1000	4.5	½ x ½"	5.40
	F5-X	ST-167	.25	5	2 7/16	4	9/16	3-4	2.5	‡1800	4.5	½ x ½"	5.65
	F5-X	ST-195	.25	5	2 7/16	4	9/16	3-4	2.5	2800	4.5	½ x ½"	5.60
4"	F4-X	ST-196	.25	5	2¼	3½	9/16	3-4	2.0	450	4.5	½ x ½"	5.15
	F4-X	ST-164	.25	5	2¼	3½	9/16	3-4	2.0	1000	4.5	½ x ½"	5.20
	F4-X	ST-198	.25	5	2¼	3½	9/16	3-4	2.0	2800	4.5	½ x ½"	5.40

*Size recommended. See Transformer listing. †Millions of ergs. ‡Tapped at 300 ohms. 1500-ohm section can be used at full power excitation. Field resistance for full excitation will rise approximately 20%. §No transformer mounting facilities.





VOLUME AND RANGE CONTROLS

These "L Pad" type volume controls are highly satisfactory for use in voice coil circuits. Complete with pointer knob and escutcheons.

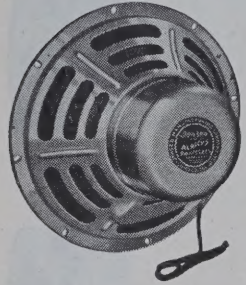
ST-276—Level Control, 6-8 ohms, 5 watts	$2.20
ST-411—Level Control, 6-8 ohms, 15 watts	3.00
ST-606—Range Control, 16 ohms, 15 watts	3.00
ST-760—Level Control, 3-4 ohms, 5 watts	2.20
ST-761—Level Control, 500-600 ohms, 15 watts	3.50

Jensen

Concert SPEAKERS

JENSEN Concert Series speakers have long been known and acclaimed by the trade and by users for their **plus** performance. From the earliest days, Concert speakers have been recognized by such familiar designations as A12-PM, PM8-C and others and have been known as the finest speakers anywhere available for heavy-duty applications. Now, in greatly improved design, they are highly recommended for any purpose where exceptional power handling ability and high-quality performance are essential. Standard fidelity models are listed on this page.

Concert speakers are attractively finished in blue-gray lacquer and completely dustproofed. Field coil models are equipped with hum neutralizing coils.



ALNICO 5 PM MODELS

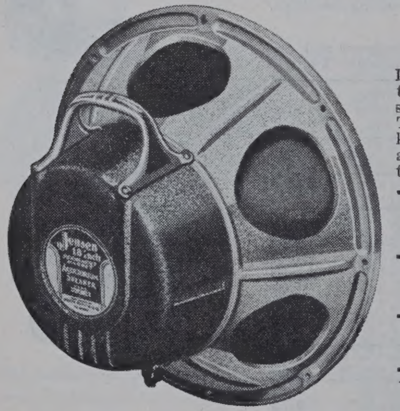
Nominal Size	Model No.	Stock No.	†Gap Energy Level	DIMENSIONS, Inches O.D.	Depth	Baffle Opening	VOICE COIL Diam., In.	Imped., Ohms	Power Watts	*Transformer Size	List Price
15″	P15-N	ST-654	6.6	15⅛	8	13¼	1½	8	20.0	1x1″	$55.00
	P15-P	ST-655	4.6	15⅛	8	13¼	1½	8	18.0	1x1″	47.25
	P15-Q	ST-678	3.2	15⅛	8	13¼	1¼	8	16.0	⅞x⅞″	35.00
12″	P12-N	ST-656	6.6	12$\frac{1}{16}$	7	10½	1½	8	18.0	1x1″	49.00
	P12-P	ST-657	4.6	12⅛	6$\frac{7}{16}$	10½	1½	8	16.0	⅞x⅞″	40.00
	P12-Q	ST-673	3.2	12⅛	6$\frac{1}{16}$	10½	1¼	8	14.0	⅞x⅞″	27.75
	P12-R	ST-103	2.2	12⅛	6$\frac{1}{16}$	10½	1	6-8	12.0	⅞x⅞″	19.50
10″	P10-Q	ST-676	3.2	10⅛	5¼	8¾	1¼	8	12.0	⅞x⅞″	26.30
	P10-R	ST-121	2.2	10⅛	5¼	8¾	1	6-8	10.0	⅞x⅞″	18.50
8″	P8-Q	ST-677	3.2	8⅛	4$\frac{15}{16}$	6¾	1¼	8	10.0	⅞x⅞″	24.20
	P8-R	ST-169	2.2	8⅛	4	6¾	1	6-8	9.0	¾x¾″	15.25

Model P8-Q weatherproof design. No transformer mounting facilities.

FIELD COIL MODELS

Nominal Size	Model No.	Stock No.	†Gap Energy Level	DIMENSIONS, Inches O.D.	Depth	Baffle Opening	VOICE COIL Diam., In.	Imped., Ohms	Pwr. Watts	FIELD Resist., Ohms	Power Watts	*Transformer Size	List Price
15″	F15-N	ST-661	6.6	15⅛	8⅜	12⅛	1½	8	20.0	4000	17.5	1x1″	$44.00
	F15-N	ST-662	6.6	15⅛	8⅜	12⅛	1½	8	20.0	5300	17.5	1x1″	44.00
	F15-Q	ST-663	3.2	15⅛	8⅜	12⅛	1¼	8	16.0	1000	12.0	⅞x⅞″	28.50
12″	F12-N	ST-666	6.6	12$\frac{1}{16}$	7$\frac{13}{16}$	10½	1½	8	18.0	4000	17.5	1x1″	36.50
	F12-N	ST-667	6.6	12$\frac{1}{16}$	7$\frac{13}{16}$	10½	1½	8	18.0	5300	17.5	1x1″	36.50
	F12-Q	ST-668	3.2	12⅛	7$\frac{13}{16}$	10½	1¼	8	14.0	1000	12.0	⅞x⅞″	21.00

*Size recommended. See Transformer listing. †Millions of ergs. Field resistance for full excitation will rise approximately 20%.



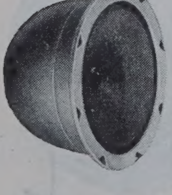
AUDITORIUM SPEAKERS‡

The first highly-efficient large-size speaker was designed and produced by JENSEN in 1928. It was named the "Auditorium" and never were critics more consistent in its endorsement as the utmost in heavy-duty speakers. For more than 20 years JENSEN Auditorium speakers have set the highest standards for efficiency, response characteristics and faithful performance. Today, the Auditorium line has been completely redesigned and comprises undeniably the best known and most highly respected speakers available, second only to JENSEN Coaxials. They are recommended for theatres, public address systems, fine electronic musical instruments, where the utmost in quality reproduction and power handling ability are required.

Nominal Size	Model No.	Stock No.	†Gap Energy Levels	DIMENSIONS, Inches O.D.	Depth	Baffle Opening	VOICE COIL Diam., In.	Imped., Ohms	Pwr. Watts	*Transformer Size	List Price
18″	PMJ-18	ST-541	28.1	18	9¾	15¾	2½	8	30	1x1¼″	$264.50
15″	P15-L	ST-758	13.6	15⅛	8	13¼	2	8	25	1x1¼″	108.60

*Size recommended. See Tranformer listing. †Millions of ergs.

Q8P HIGH-FREQUENCY SPEAKER

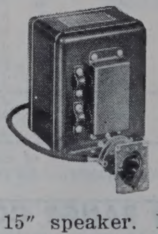


Designed to reproduce the high frequencies from 4,000 to 15,000 cps., when used with dividing network (such as A40-1) and suitable low frequency speaker. Impedance, 16 ohms. Overall diameter, 5½″. Depth, 3⅝″. P.M. design.

Q8P—H.F. Speaker. ST-589. List Price................**$14.65**

ST-605—Mounting Arms. Set of 4. List Price........**$1.60**

A40-1 NETWORK



This uniquely designed two-channel network is offered to those who wish to assemble their own two-way speaker systems, or add a high-frequency speaker to an existing single speaker. Frequency division is at 4,000 cps., with an attenuation outside pass band of 10-12 db per octave. Low frequency channel will accommodate any suitable 8 ohm 12″ or 15″ speaker. High channel takes one to four Q8P High Frequency Speakers (16, 8 and 4 ohm taps). Input, 500 ohms. High Frequency Range Control Switch feature included. Specify

ST-604—List Price..**$39.40**

Jensen

JENSEN HYPEX PROJECTORS

VH-24
VH-20
VH-15

Because of the Hypex formula (Patent 2,388,262) giving wider sound distribution and greatly improved acoustical performance, JENSEN Hypex projectors are superior to the usual "exponential" type horns. The Alnico 5 unit is entirely enclosed within the one-piece rigid horn yet easily removed and replaced. Stainless steel and other corrosion-resistant materials and specially treated steel parts insure against weather exposure. **Models VH-24, VH-20** and **VH-15** have mounting brackets with clutch-type heavy "U" trunnions which afford complete flexibility of adjustment with positive locking into desired position. Weatherproof terminal boxes provide easy, solderless connections with no exposed terminals. **Model VH-91** has a universal mounting bracket which permits pointing in any direction and secure locking by a single wing nut.

VH-91

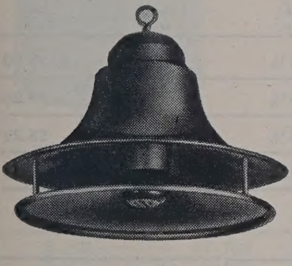
V-21

SPECIFICATIONS

Model No.	Stock No.	Cut-Off, CPS	Acoust. Path, In.	Coverage Angle Degrees	Power Rating Watts	Voice Coil Imped. Ohms	Diam. In.	Length, In.	Trans.* Core Size	List Price
VH-24	**ST-685**	110	58	75	25	16	25	22⅜	1x1¼	**$74.50**
VH-20	**ST-684**	140	52	80	25	16	21	20¼	1x1¼	**63.00**
VH-15	**ST-757**	180	36	90	15	8	16	15	¾x¾	**47.00**
VH-91	**ST-171**	300	16	100	15	8	8⅞	7⅝	⅝x⅝	**32.50**

*Not included.

HYPEX "*Three-sixty*" PROJECTORS


VR-11

Designed for the reproduction of speech and music signals at high efficiency where high noise levels exist. The Hypex formula, made famous by JENSEN Hypex projectors, is incorporated in their design giving greatly improved acoustical performance. With the sound distributed over a circle, they are especially suitable for installations where coverage of relatively large areas and suspension from the ceiling are desired. **Model VR-11** is recommended for speech reproduction while **Model VR-241**, of larger size, is intended for speech and music reinforcement. Driver unit has phenolic diaphragm; **VR-241** uses same diaphragm as VH-24 and VH-20; **VR-11** uses same diaphragm as VH-15 and VH-91. **VR-241** is equipped with weatherproof terminal box with connecting cable passing through rubber grommet and leads attached to screw terminals provided. VR-11 has two-conductor rubber-covered cable for connections. Both equipped with heavy eyebolt at top for suspension.

VR-241

SPECIFICATIONS

Model No.	Stock No.	Cut-Off, CPS	Acoust. Path, In.	Coverage Angle Degrees	Power Rating Watts	Voice Coil Imped. Ohms	Diam. In.	Length, In.	Trans.* Core Size	List Price
VR-241	**ST-789**	140	54	360	25	16	25	22	1x1	**$79.00**
VR-11	**ST-791**	280	18	360	15	8	11	10⅜	⅝x⅝	**40.00**

*Not included.

MODEL V-21 DRIVER UNIT

This driver unit incorporates the driver element used in the new Hypex projectors and is electrically and mechanically interchangeable with the former U-20 ST-630 and U-201 ST-732 Driver units. It is designed for replacement service on former Models H-20 ST-726, H-201 ST-733 and H-Y4 ST-727 Hypex horns. Unit is PM type and equipped with internal screw terminals. Flange is deisgned for ¼" bolt attachment, with three $\frac{17}{64}$" holes spaced 120 degrees apart on a radius of 2¾". Voice coil input 16 ohms and power rating 25 watts.

Model V-21 Driver Unit, ST-787................................List Price $32.50

TYPE "S" PROJECTOR

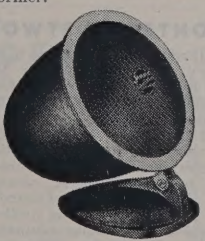
SPH-81

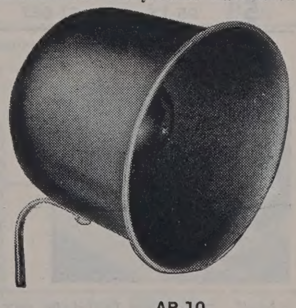
These projectors are complete assemblies of specially designed driver unit and acoustic system, utilizing the Peri-Dynamic principle and correctly engineered projector horn. Response is unusually good in the 100-cycle region and good efficiency is maintained to 5500 cycles, thus qualifying the projector for music and speech reproduction. Projector is suitable for use indoors or out because it is completely weatherproofed. Complete with plugs but without stand.

	List Price
Model SPH-81 Projector, ST-633	**$82.50**
EA-5 Adjustable Stand, ST-730	**5.00**

SPEECH MASTER PROJECTORS

Sturdy construction, overall mechanical protection, double dust-proofing, streamline design and exceptional acoustical performance recommend these projectors for paging and intercommunication. PM design. Good talk-back performance in PA systems. Hammered gray finsh; chrome trim. RC 36" cord. Space within case for ½" x ½" transformer.


AR-10


AP-10

Model No.	Stock No.	V.C. Imped. Ohms	Power Watts	Diam. In.	Depth In.	List Price
AP-10	**ST-590**	3-4	5	5	4½	**$16.50**
AP-10	**ST-591**	45-50	5	5	4½	**17.00**
AP-11	**ST-592**	3-4	5	5	4½	**13.90**
AP-11	**ST-593**	45-50	5	5	4½	**14.35**
AR-10	**ST-643**	3-4	6	10	8	**20.00**
AR-10	**ST-644**	45-50	6	10	8	**20.75**

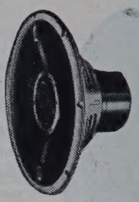
Jensen

H-510

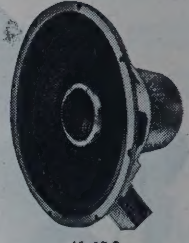
GENUINE JENSEN WIDE-RANGE SERIES

No longer is truly good listening ruled out by cost or size restrictions. Now music can come to life for everyone, for Genuine JENSEN Wide Range loudspeakers include **small sizes** as well as large . . . **low-cost units** as well as more expensive models.

The four new JENSEN Coaxial speakers which replace all previous models embody the latest developments in loudspeaker design: the Wide-Range ACOUSTIC LENS for h-f dispersion **(in Model H-510)**, annular Diaplane radiators, and new Hypex contour h-f horns. As a result these speakers achieve thrillingly realistic instrumental and vocal tone quality and subtly satisfying "presence" low in cost in comparison with previous highest-quality systems. The term "high-fidelity" applied to these Coaxial systems connotes wider frequency range, greater response uniformity and better polar characteristics.



K-210



K-410
K-310

Typical of JENSEN leadership is the ACOUSTIC LENS used on Model H-510 Coaxial. This lens acts in conjunction with the h-f horn to distribute h-f radiation uniformly over a wide angle, insuring constant balance and high quality reproduction throughout the whole room.

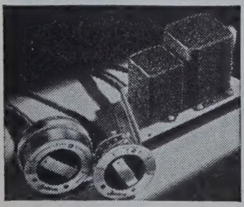
COAXIAL SPEAKERS

Nominal Size	Model No.	Stock No.	Input Imped. Ohms	Power Watts	Freq. Range Rating	Baffle Opening In.	O.D. In.	Depth In.	List Price
15″	H-510	ST-828	16	25	+7	13½	15⅛	$9\frac{9}{16}$	**$135.00**
15″	K-410	ST-829	16	20	+7	13¼	15⅛	9	**94.25**
15″	K-310	ST-830	16	16	+7	13¼	15⅛	8⅛	**56.25**
12″	K-210	ST-831	8	12	+7	10½	12⅛	$6\frac{5}{16}$	**33.40**

EXTENDED-RANGE LOUDSPEAKERS (+6 LIM)

Nominal Size	Model No.	Stock No.	*Gap Energy Level	Dimensions, Inches O.D.	Dimensions, Inches Depth	Dimensions, Inches Baffle Open	Voice Coil Diam. In.	Voice Coil Imped. Ohms	Voice Coil Pwr. Watts	Transformer Size†	List Price
15″	P15-NX	ST-817	6.6	15⅛	8	13¼	1½	8	18.0	1″x1″	**$57.25**
12″	P12-NX	ST-819	6.6	$12\frac{1}{16}$	7	10½	1½	8	16.0	1″x1″	**51.00**
	P12-RX	ST-885	2.2	12⅛	$6\frac{1}{16}$	10½	1	6-8	11.0	⅞″x⅞″	**21.50**
	P12-SX	ST-821	1.5	12⅛	$6\frac{1}{16}$	10½	1	6-8	9.0	⅞″x⅞″	**18.00**
10″	P10-RX	ST-886	2.2	10⅛	5¼	8¾	1	6-8	9.0	⅞″x⅞″	**20.50**
	P10-SX	ST-823	1.5	10⅛	5¼	8¾	1	6-8	8.0	¾″x¾″	**16.75**
8″	P8-RX	ST-887	2.2	8⅛	4	6¾	1	6-8	8.0	¾″x¾″	**17.75**
	P8-SX	ST-825	1.5	8⅛	$3\frac{13}{16}$	6¾	1	6-8	7.0	¾″x¾″	**14.20**
6″	P6-TX	ST-826	1.1	$6\frac{11}{16}$	$3\frac{3}{16}$	5¼	¾	3-4	5.0	⅝″x⅝″	**9.00**
5″	P5-TX	ST-827	1.1	$5\frac{1}{16}$	2⅝	$4\frac{5}{16}$	¾	3-4	4.0	½″x½″	**8.00**

*Millions of ergs. †Size recommended.



CONTROL NETWORK

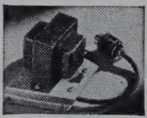
Adjustable level and high-frequency range controls for Models H-510, K-410 and K-310 Coaxial speakers. Mounts directly on speaker housing. Plug-in connections. Input impedance 16 ohms. May be used with Impedance-Adjusting Transformers. Chassis complete with network, speaker connection cord and plug, Level Control and H-F Range Control on individual 30″ cables for remote mounting on cabinet, satin brass flush-type escutcheons, bar knobs and mounting screws.

A-110 Control Network, ST-832. **List Price $26.50**

H-F CONTROL

"L"-type variable control for "shelving" high-frequency response of Model K-210 Coaxial. Impedance 16 ohms. Complete with flush-type satin brass escutcheon and bar knob.

ST-836 Control **List Price $4.85**



IMPEDANCE-ADJUSTING TRANSFORMERS

Designed to provide alternative input impedances for Models H-510, K-410 and K-310 Coaxial speakers. High-fidelity. Switch on chassis gives choice of two impedance values. No wiring necessary, connecting plug inserted in socket on speaker terminal panel. May be used with Model A-110 Control Network.

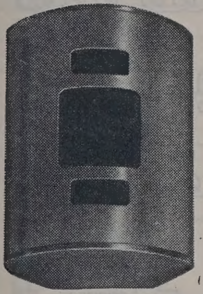
Model T-101 Transformer Assembly, ST-833. Impedance 4 and 8 ohms. List Price $12.00 **Net Each $7.20**

Model T-102 Transformer Assembly, ST-834. Impedances 500-600 and 250 ohms. List Price $12.00.

Model T-103 Transformer Assembly, ST-835. Impedances 10,000 and 5,000 ohms, center tapped. For plate or high-impedance line coupling. List Price $12.00.

Jensen

Type D


Type H

BASS REFLEX CABINETS

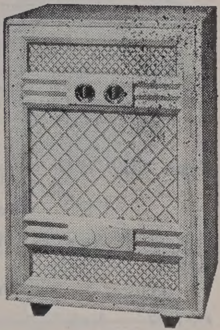
TYPE "M" **CUSTOMODE** cabinets bring new beauty and utility to the loudspeaker enclosures. Embodying the famous **JENSEN** Bass Reflex principle, they are designed to house 15" speakers. Although a basic **CUSTOMODE** unit, Type "M" cabinet may be used alone as a separate speaker cabinet. Four concealed cut-outs provided, any two of which may be removed for insertion of flush-type H-F and Level Controls. Foot Assembly furnished, loose, so cabinet may be placed on end or side as desired. Ample space atop cabinet for large receiver.

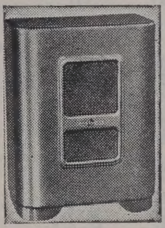
TYPE "D" Bass Reflex cabinets are handsomely styled, and are well constructed of beautifully striped satin finish veneer walnut, with interlaced bronze strip grille over matching fabric.

TYPE "B" cabinets, inexpensive but durably built enclosures, are well constructed of impregnated composition board and finished in hammered brown lacquer.

TYPE "H" cabinets are sturdily built and incorporate the famous Bass Reflex principle. With front curved to a 14⅛ inch radius, they are admirably shaped to fit into corners but may be placed in any number of positions as suggested. Type "H" cabinets are finished in brown opaque lacquer but may be refinished by the purchaser to match the locale of the installation. Brackets are furnished for mounting on wall or post. Only one size is offered—for 8-inch speakers—and JENSEN Model P-8-SH speaker is recommended for optimum performance although any 8-inch speaker may be used.

TYPE "J" cabinets incorporate the Peri-dynamic principle and are designed for wall or post mounting. These cabinets are finished in simulated brown leather with grained effect, with chrome-trimmed grille. JENSEN Model P6-TH speaker is recommended with this cabinet although any 6-inch speaker may be used. Furnished with brackets for mounting.


Type M


Type B

Type "M"

Model No.	Stock No.	Speaker Size	Finish	Dimensions			Shipping Lbs.	List Price*
				Height	Width	Depth		
M-252	**ST-768**	15"	Blonde	36"	24"	18"	—	
M-352	**ST-788**	15"	Cordovan	36"	24"	18"	—	

Type "D"

Model No.	Stock No.	Speaker Size	Finish	Height	Width	Depth	Shipping Lbs.	List Price*
D-121	**ST-156**	12"	Walnut	31"	27¾"	13⅜"	50	$77.50
D-151	**ST-157**	15"	Walnut	31"	27¾"	13⅜"	50	77.50
D-251	**ST-763**	15"	Blonde	31"	27¾"	13⅜"	50	79.50
D-221	**ST-762**	12"	Blonde	31"	27¾"	13⅜"	50	79.50

Type "B"

Model No.	Stock No.	Speaker Size	Finish	Height	Width	Depth	Shipping Lbs.	List Price*
B-81	**ST-741**	8"		24"	18"	9¼"	19	31.50
B-121	**ST-742**	12"		27"	24¾"	13½"	31	44.50
B-151	**ST-743**	15"		32⅜"	27⅜"	13½"	50	52.75

Type "H"

Model No.	Stock No.	Speaker Size	Finish	Height	Width	Depth	Shipping Lbs.	List Price*
H-81	**ST-141**	8"		22½"	17¾"	8½"	—	22.50

Type "J"

Model No.	Stock No.	Speaker Size	Finish	Height	Width	Depth	Shipping Lbs.	List Price*
J-61	**ST-751**	6"		16¾"	12¾"	6¼"	—	14.50

REPRODUCERS

Speakers not installed. Cabinets and speakers shipped separately.

Model No.	Stock No.	Cabinet	Size	Model	List Price†
RM-255	**ST-872**	M-252	15"	H-510	
RM-256	**ST-873**	M-252	15"	K-410	
RM-257	**ST-874**	M-252	15"	K-310	
RM-355	**ST-876**	M-352	15"	H-510	
RM-356	**ST-877**	M-352	15"	K-410	
RM-357	**ST-878**	M-352	15"	K-310	
RD-155	**ST-856**	D-151	15"	H-510	$187.75
RD-156	**ST-857**	D-151	15"	K-410	171.75
RD-157	**ST-858**	D-151	15"	K-310	133.75
RD-255	**ST-860**	D-251	15"	H-510	214.50
RD-256	**ST-861**	D-251	15"	K-410	173.75
RD-257	**ST-862**	D-251	15"	K-310	135.75
RD-123	**ST-853**	D-121	12"	K-210	110.90
RD-223	**ST-854**	D-221	12"	K-210	112.90
RB-157	**ST-852**	B-151	15"	H-510	$187.75
RB-155	**ST-850**	B-151	15"	K-410	147.00
RB-156	**ST-851**	B-151	15"	K-310	109.00
RB-123	**ST-848**	B-121	12"	K-210	77.90

*33⅓ †Special

Jensen FINE ACOUSTIC EQUIPMENT

Jensen

Jensen FINE ACOUSTIC EQUIPMENT

IMPEDANCE MATCHING TRANSFORMERS

Loudspeakers are relatively low-impedance devices with voice coil impedance values ranging from 3 to 50 ohms. Vacuum tube power output stages on the other hand, are high-impedance devices with impedance load rated anywhere from 1,000 to 14,000 ohms. To reconcile these widely differing impedances, output or impedance matching transformers must be inserted between the signal output and the loudspeaker voice coil. To determine which transformer is to be used in any given case, first of all find out the impedance of the loudspeaker in question and then locate for that speaker the transformer which will match nearest the impedance of the signal source. Differences of the order of 10% are usually of no importance but if a close match cannot be obtained, it is best to select an impedance value which will present a higher rather than lower-than-rated impedance to the output tubes. Thus where a 5,000-to-16 ohm transformer is needed, it would be better to select a 6,000-to-16 ohm unit than a 4,000-to-16 ohm unit. For full and complete treatise on impedance matching, consult Jensen Technical Monograph No. 2. (Price 25c).

ADJUSTABLE IMPEDANCE

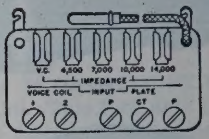
Type "ZX" For matching conventional "plate" impedance values. Adjustments are easily made with flexible lead and pin-tip jack. Impedance values: voice coil, 4,500, 7,000, 10,000 and 14,000 ohms. All except voice coil are center-taped for push-pull tubes.

Cased Type. Pin-Tip Adjustment. Not Mountable on Speaker.

Stock No.	Core Size	Impedance	Mtg. Ctrs., Inches	Power Watts	For Use With:	List Price
ZX-3000	1x1¼"	8	1 11/16x3 15/16	35.0	PLJ-18, PMJ-18, P15-L, P15-LL	**$17.15**
ZX-3001	1x1¼"	16	1 11/16x3 15/16	35.0	VH-20, VH-24, VR-241, H-510	**17.15**

Uncased Type. Pin-Tip Adjustment. Mountable on Speaker.

ZX-1002	¾x¾"	6-8	2 13/16	10.0	P12-T, P10-S, P10-SX, P10-T, P8-R, P8-S, P8-SX, P8-RX, VH-15, VR-11	**5.00**
ZX-1005	⅞x⅞"	6-8	3⅛	16.0	P15-Q, P12-P, P12-Q, P12-R, P12-RX, P12-S, P12-SX, P10-Q, P10-R, P10-RX, P8-P, P8-Q, P8-RX, K-210	**7.20**
ZX-1007	1x1"	8	3⅛	25.0	P15-N, P15-NX, P15-P, P12-N, P12-NX	**9.75**



TYPE "ZX"

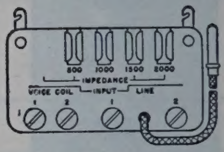
Type "ZY" Same as Type "ZX" except for matching "line" impedance values. Impedances: 500, 1,000, 1,500, 2,000 and voice coil. No center tap available.

Cased Type. Pin-Tip Adjustment. Not Mounted on Speaker.

ZY-4000	1x1¼"	8	1 11/16x3 15/16	35.0	PLJ-18, PMJ-18, P15-L, P15-LL	**$17.15**
ZY-4001	1x1¼"	16	1 11/16x3 15/16	35.0	VH-20, VH-24, VR-241, H-510	**17.15**

Type "ZY" **Pin-Tip Adjustment. Mountable on Speaker.**

ZY-2005	1x1"	8	3⅛	25.0	P15-N, P15-NX, P15-P, P12-N, P12-NX	**9.75**
ZY-2003	⅞x⅞"	6-8	3⅛	16.0	P15-Q, P12-P, P12-Q, P12-R, P12-S, P12-SX, P10-Q, P10-R, P8-P, P8-Q, K-210	**7.20**
ZY-4004	¾x¾"	3-4	2 13/16	10.0	P8-T	**5.00**
ZY-2002	¾x¾"	6-8	2 13/16	10.0	P12-T, P10-S, P10-SX, P10-T, P8-R, P8-S, P8-SX, VH-15, VR-11	**5.00**
ZY-4002	⅝x⅝"	3-4	2⅜	6.5	P8-U, P8-V, P6-T, P6-X, P6-V	**3.35**
ZY-4005	⅝x⅝"	6-8	2⅜	6.5	VH-91	**3.35**

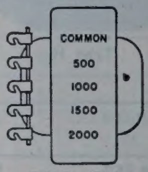


TYPE "ZY"

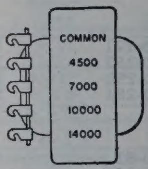
Types "ZP" and "ZL" Lower priced than "ZX" or "ZY" Types but perfectly satisfactory when used in proper application. Soldering iron required for making adjustments on terminal block. "ZP" for "plate," "ZL" for line.

Solder Lug Terminals. Mountable on Speaker.

ZP-1023	½x½"	4500/3-4 7000/3-4 10000/3-4 14000/3-4	2	3.5	P6-X, P5-V, P5-X, P4-X, P5-TX	**2.15**
ZP-1025	½x½"	1500/3-4 2000/3-4 2500/3-4	2	3.5	P6-X, P5-V, P5-X, P4-X, P5-TX	**2.15**
ZL-2021	½x½"	500/3-4 1000/3-4 1500/3-4 2000/3-4	2	3.5	P6-X, P5-V, P5-X, P4-X, P5-TX	**2.15**
***ZP-1024**	⅝x⅝"	4500/3-4 7000/3-4 10000/3-4 14000/3-4	2⅜	6.5	P8-U, P8-V, P6-T, P6-TX, P6-V	**2.50**
***ZP-1026**	⅝x⅝"	4500/6-8 7000/6-8 10000/6-8 14000/6-8	2⅜	6.5	VH-91	**2.50**
ZL-2022	⅝x⅝"	500/6-8 1000/6-8 1500/6-8 2000/6-8	2⅜	6.5	VH-91	**2.50**



TYPE "ZL"



TYPE "ZP"

Type "Z"

FIXED IMPEDANCE

Cased Type, Screw Terminals. Not Mountable on Speaker.

Stock No.	Impedance	For Use With:	List Price
Z-2731	500/16 or 8	PLJ-18, PMJ-18, P15-L, P15-LL, P15-NL, VH-20, VH-24	**$21.40**
Z-2732	16/8	PLJ-18, PMJ-18, P15-L, P15-NL, VH-20, VH-24	**20.25**
Z-2733	16/8	XP-101	**12.00**

Cased Type, Solder Lug Terminals. Not Mountable on Speaker.

Stock No.	Impedance	For Use With:	List Price
Z-3344	500/8 or 4	PMJ-18, P15-L, P15-N, P15-NX	**$13.50**
Z-3342	500/16 or 8	P15-N, P15-NX, P15-P, P12-N, P12-NX, VH-20, VH-24, VR-241	**10.25**
Z-3343	500/8 or 4		

Uncased, Pig-tail Leads. Mountable on Speaker.

Z-1888	500/6-8	P15-N, P15-NX, P15-P, P12-N, P12-NX, F15-N, F12-N	**$6.00**
Z-2386	*3000/6-8		
Z-2387	*5000/6-8		
Z-3341	*6000/6-8		
Z-1891	*10000/6-8		
Z-2241	*14000/6-8		
Z-3346	500/16	VH-20, VH-24, VR-241	**6.00**
Z-3319	500/6-8	P15-QX, P12-P, P12-SX, P12-R, P12-S, P12-SX, P10-Q, P10-R, P10-RX, P8-Q, P8-RX, F15-Q, F12-Q, P12-R, P12-RX, K-210	**4.00**
Z-3320	*3000/6-8		
Z-3321	*5000/6-8		
Z-3318	*6000/6-8		
Z-3322	*10000/6-8		
Z-3323	*14000/6-8		
Z-3329	500/3-4	F12-S	**4.00**
Z-3330	*3000/3-4		
Z-3331	*5000/3-4		
Z-3332	*6000/3-4		
Z-3333	*10000/3-4		
Z-3334	*14000/3-4		
Z-3324	500/6-8	P12-T, P10-S, P10-SX, P10-RX, P10-T, P8-R, P8-S, P8-SX, VH-15, VR-11	**2.75**
Z-3325	*3000/6-8		
Z-3326	*4500/6-8		
Z-3309	*7000/6-8		
Z-3327	*10000/6-8		
Z-3328	*14000/6-8		

Z-3335	500/3-4	P8-T, F10-S, F8-S, F8-T	**2.75**
Z-3336	*3000/3-4		
Z-3337	*4500/3-4		
Z-3338	*7000/3-4		
Z-3339	*10000/3-4		
Z-3340	*14000/3-4		
Z-3310	500/3-4	P8-U, P8-V, P6-T, P6-TX, P6-V, F8-W, F6-U	**1.90**
Z-3311	1500/3-4		
Z-3312	2000/3-4		
Z-3313	2500/3-4		
Z-3314	*4500/3-4		
Z-3315	*7000/3-4		
Z-3316	*10000/3-4		
Z-3317	*14000/3-4		
Z-3345	45-50/6-8	VH-91, VR-11	**2.10**
Z-3300	500/3-4	AP-10, AP-11, AR-10, P6-X, P5-TX, P5-V, P5-X, P4-X, F6-X, F6-W, F5-W, F5-X, F4-X, RK-51	**1.50**
Z-3301	1500/3-4		
Z-3302	2000/3-4		
Z-3303	2500/3-4		
Z-3304	4500/3-4		
Z-3305	*7500/3-4		
Z-3306	*10000/3-4		
Z-3307	*12000/3-4		
Z-3308	3-4 grid	All 3-4 ohm V.C. speakers	**1.70**

*Center-tapped

ADJUST-A-CONE
QUAM
A radio sounds only as good as it's loudspeaker.

SPEAKERS

These speakers are engineered and manufactured solely for the replacement field for use in home receivers, auto sets, television sets and intercommunication systems. RMA standard dimensions. Fully dustproofed. Baked aluminum enamel finish. RMA service guarantee. QUAM UNIVERSAL MOUNTING BRACKET comes with all 3½" to 6½" speakers and may be attached to any two of the four mounting holes in the U shaped pot.

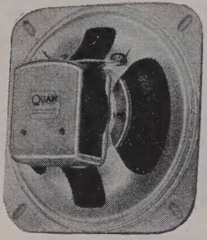
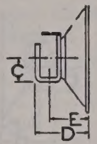


Figure A



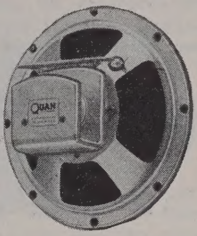


Figure B

ED — *Electro Dynamic Speakers*

PM — *Permanent Magnet Speakers*

TYPE	CAT. No.	SIZE	FIGURE	FIELD	MAX. WATTS INPUT (approx.)	DIMENSIONS IN INCHES C	D	E	SHIP. WT., LBS.	LIST PRICE
ED	3E45	3½"	A	†450 Ohms	2.5	1¼	1⅞	1¼	¾	$ 4.40
PM	3A07	3½"	A	.68 oz. Alnico 5	2.5	¾	1 19/32	1 3/16	½	4.00
ED	4E45	4"	A	†450 Ohms	3	1¼	2	1 7/16	1	4.40
	4E10	4"	A	1000 Ohms	3	1¼	2	1 7/16	1	4.40
	4E27	4"	A	2700 Ohms	3	1¼	2	1 7/16	1	4.40
PM	4A07	4"	A	.68 oz. Alnico 5	3	¾	1 23/32	1 5/16	½	4.00
	4A1	4"	A	1.0 oz. Alnico 5	3	1	2 3/16	1 9/16	¾	4.25
	4A15	4"	A	1.47 oz. Alnico 5	3	1	2 3/16	1 9/16	¾	4.70
ED	5EV6	5"	B	6 Volt	3.5	1¼	2⅛	1 19/32	1¼	4.60
	5E45	5"	B	†450 Ohms	3.5	1¼	2⅛	1 19/32	1	4.60
	5E10	5"	B	1000 Ohms	3.5	1¼	2⅛	1 19/32	1	4.60
	5E18	5"	B	1800 Ohms	3.5	1¼	2⅛	1 19/32	1¼	4.60
	5E27	5"	B	2700 Ohms	3.5	1¼	2⅛	1 19/32	1	4.60
PM	5A07	5"	B	.68 oz. Alnico 5	3.5	¾	1⅞	1 7/16	¾	4.20
	5A1	5"	B	1.0 oz. Alnico 5	3.5	1	2 5/16	1 1/16	1	4.45
	5A15	5"	B	1.47 oz. Alnico 5	3.5	1	2 5/16	1 1/16	1	4.85
ED	52EV6	5¼"	A	6 Volt	4	1¼	2½	1 13/16	1½	5.00
	52E10	5¼"	A	1000 Ohms	4	1¼	2½	1 13/16	1¼	5.00
PM	52A1	5¼"	A	1.0 oz. Alnico 5	4	1	2 23/64	1¾	1	4.65
	52A21	5¼"	A	2.15 oz. Alnico 5	4	1⅛	2⅝	1⅞	1¼	5.70
ED	6EV6	6½"	D	6 Volt	5	1¼	2 23/32	2 1/32	1½	5.40
	6EHV6	6½"	D	6 Volt	6	1 31/64	2 25/32	2 1/16	1¾	6.10
	6E10	6½"	D	1000 Ohms	5	1¼	2 23/32	2 1/32	1½	5.40
	6E18	6½"	D	1800 Ohms	5	1¼	2 23/32	2 1/32	1½	5.40
	6E25	6½"	D	2500 Ohms	5	1¼	2 23/32	2 1/32	1½	5.40
PM	6A1	6½"	D	1.0 oz. Alnico 5	5	1	2⅝	2	1	4.80
	6A15	6½"	D	1.47 oz. Alnico 5	5	1	2⅝	2	1	5.20
	6A21	6½"	D	2.15 oz. Alnico 5	5	1⅛	2⅞	2⅛	1¼	5.85
	6A31	6½"	D	3.16 oz. Alnico 5	6	1⅜	3 11/64	2 9/32	1½	6.75
ED	7EV6	7"	D	6 Volt	7	1 9/32	2¾	—	2	6.75
PM	7A21	7"	D	2.15 oz. Alnico 5	6	⅞	2 21/32	—	1	7.25
	7A31	7"	D	3.16 oz. Alnico 5	9	1¼	3 1/32	—	2	8.50
ED	8EV6	8"	D	6 Volt	7	1¼	3 9/32	—	1¾	6.75
	8E10	8"	D	1000 Ohms	7	1¼	3 9/32	—	1½	6.75
	8EH10	8"	D	1000 Ohms	9	1 11/32	3 13/16	—	2¼	7.75
	8E18	8"	D	1800 Ohms	7	1¼	3 9/32	—	1¾	6.75
	8EH18	8"	D	1800 Ohms	9	1 11/32	3 13/16	—	2¼	7.75
	8E25	8"	D	2500 Ohms	7	1¼	3 9/32	—	1¾	6.75
	8EH25	8"	D	2500 Ohms	9	1 11/32	3 13/16	—	2¼	7.75
PM	8A21	8"	D	2.15 oz. Alnico 5	7	1⅛	3 13/32	—	1½	7.20
	8A31	8"	D	3.16 oz. Alnico 5	9	1⅜	3 21/32	—	2¼	8.50

†450 ohm fields (equipped with hum bucking coils).

3½" speakers — without Adjust-a-Cone suspension.

Voice coil impedance of above speakers is 3.2 ohms ± 10%.

QUAM DESCRIPTIVE PART NUMBERS: Of great convenience in ordering because they convey the specifications of the speaker. First digit indicates size; second letter signifies type, i.e., E: Electro; A: Alnico V Permanent Magnet; last numbers indicate either field resistance or magnet size in ounces. For example: #5E45 is a 5" Electro 450 ohm field; #4A1 is a 4" Alnico V P.M. with 1 oz. magnet.

ADJUST-A-CONE QUAM

A radio sounds only as good as its loudspeaker

SPEAKERS

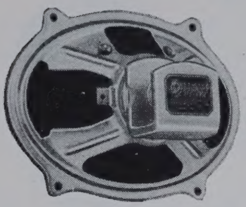
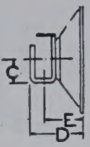


Figure C



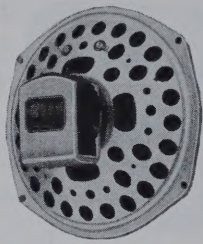


Figure D

QUAM speakers have been produced under the same management since 1923 and are used by leading set and sound manufacturers throughout the world. They are nationally advertised, fully protected by patents and their use insures customer satisfaction. Special field and voice coils are supplied in QUAM speakers to fit both television and intercom replacements upon request.

ED — *Electro Dynamic Speakers*

PM — *Permanent Magnet Speakers*

TYPE	CAT. No.	SIZE	FIGURE	FIELD	MAX. WATTS INPUT (approx.)	DIMENSIONS IN INCHES C	D	E	SHIP. WT., LBS.	LIST PRICE
ED	10E60	10"	B	600 Ohms	10	1 3/4	5 1/16	—	4	$10.50
	10E10	10"	B	1000 Ohms	10	1 3/4	5 1/16	—	4	10.50
	10E15	10"	B	1500 Ohms	10	1 3/4	5 1/16	—	4	10.50
	10E25	10"	B	2500 Ohms	10	1 3/4	5 1/16	—	4	10.50
PM	10A31	10"	B	3.16 oz. Alnico 5	9	1 3/8	4 1/2	—	2 3/4	10.50
	10A4A	10"	B	4.64 oz Alnico 5	10	1 3/8	4 1/2	—	3 1/4	11.70
	10A6A	10"	B	6.8 oz Alnico 5	12	1 7/16	4 5/8	—	3 1/2	13.60
ED	12E60	12"	B	600 Ohms	12	1 3/4	5 5/8	—	5	12.65
	12E10	12"	B	1000 Ohms	12	1 3/4	5 5/8	—	5	12.65
	12E15	12"	B	1500 Ohms	12	1 3/4	5 5/8	—	5	12.65
	12E25	12"	B	2500 Ohms	12	1 3/4	5 5/8	—	5 1/4	12.65
PM	12A31A	12"	B	3.2 oz. Alnico 5	10	1 1/4	4 19/32	—	3 3/4	11.35
	12A4A	12"	B	4.64 oz. Alnico 5	12	1 3/8	5 1/8	—	4	12.65
	12A6A	12"	B	6.8 oz. Alnico 5	14	1 7/16	5 1/4	—	4 3/4	14.50
ED	46E45	4" x 6"	C	†450 Ohms	3.5	1 5/64	2 15/64	1 5/8	1 1/4	5.30
	46E10	4" x 6"	C	1000 Ohms	3.5	1 5/64	2 15/64	1 5/8	1 1/4	5.30
	46E15	4" x 6"	C	1500 Ohms	3.5	1 5/64	2 15/64	1 5/8	1 1/4	5.30
PM	46A07	4" x 6"	C	.68 oz. Alnico 5	3.5	3/4	1 15/16	1 27/64	3/4	4.45
	46A1	4" x 6"	C	1.0 oz. Alnico 5	3.5	1	2 1/4	1 9/16	1	4.75
	46A15	4" x 6"	C	1.47 oz. Alnico 5	3.5	1	2 1/4	1 9/16	1	5.15
ED	57E45	5" x 7"	C	†450 Ohms	5	1 1/4	3 1/64	2 11/32	1 1/2	6.00
	57E10	5" x 7"	C	1000 Ohms	5	1 1/4	3 1/64	2 11/32	1 1/2	6.00
PM	57A1	5" x 7"	C	1.0 oz. Alnico 5	5	1	2 57/64	2 9/32	1	5.40
	57A15	5" x 7"	C	1.47 oz. Alnico 5	5	1	2 57/64	2 9/32	1	5.80
	57A21	5" x 7"	C	2.15 oz. Alnico 5	5	1 1/8	3 9/64	2 13/32	1 1/4	6.45
ED	69EV6	6" x 9"	C	6 Volt	8	1	3 13/16	—	2	7.50
PM	69A2	6" x 9"	C	1.4 oz. Alnico 5	8	7/8	2 15/16	—	1 1/2	7.50
	69A3	6" x 9"	C	3.2 oz. Alnico 5	10	1 1/4	3 5/16	—	1 3/4	8.95

†450 ohm fields (equipped with hum bucking coils).

Voice coil impedance of above speakers is 3.2 ohms ± 10%.

PUBLIC ADDRESS SPEAKERS

PM	8A4	8"	B	4.64 oz. Alnico 5	12	1 3/8	3 3/4	—	2 1/2	$10.20
	8A6	8"	B	6.8 oz. Alnico 5	12	1 7/16	3 7/8	—	3	12.10
PM	10A4	10"	B	4.64 oz. Alnico 5	14	1 3/8	4 1/2	—	3 1/4	11.70
	10A6	10"	B	6.8 oz. Alnico 5	14	1 7/16	4 5/8	—	3 1/2	13.60
	10A10	10"	B	10 oz. Alnico 5	20	1 3/8	4 21/64	—	3 1/2	18.00
PM	12A4	12"	B	4.64 oz. Alnico 5	15	1 3/8	5 1/8	—	4	12.65
	12A6	12"	B	6.8 oz. Alnico 5	15	1 7/16	5 1/4	—	4 3/4	14.50
	12A10	12"	B	10 oz. Alnico 5	25	1 3/8	4 15/16	—	4 3/4	19.00

Voice coil impedance of above speakers is 6-8 ohms.

QUAM ADJUST-A-CONE SUSPENSION

While in other speakers, the spider is cemented in place with no means of accurate final adjustment, the QUAM method permits precision centering of the voice coil in a final production operation.

QUAM U SHAPED COIL POT

A patented feature used throughout the QUAM replacement line, provides an unbroken flux path of sufficient cross section to carry the full energy of the magnetic field.

Permoflux

Coronet
SUPREME HI-FIDELITY SERIES
Pat. Applied For

Never before such quality Hi-Fidelity Wide Range performance for so little money. Surpasses previous single, dual unit or coaxial speakers without the attendant irritation often experienced due to phase and amplitude distortion inherent in the latter type. High level, uniform reproduction.

Advance engineering features include: (1) Stability at low resonance values heretofore unattainable, (2) Resonance and alignment not affected by humidity variations, (3) Strength of cone anulus increased capacity 5 to 10 times. Comparative tests prove that CORONET Series have all desired qualities demanded in wide range Hi-Fidelity speakers . . . and at low cost.

SPECIFICATIONS

Size and Shape		Model No. or Code	Magnet Data		Voice Coil Data			Over all Depth	List Price
			Flux Gauss	Approx. Wt.	Diameter	Impedance	Watts		
12½"	Round	125Z-8	15000	3 lbs.	2"	8 ohms	20	7 35/64	$75.00
15½"	Round	155Z-8	15000	3 lbs.	2"	8 ohms	35	8 5/8	90.00
SUPER DELUXE HIGH FIDELITY MODELS — Extra Heavy Magnets — With Pot Covers The Deluxe speakers listed below incorporate many of the same engineering features of the CORONET Series, unexcelled where frequency response of 50 to 12,000 cycles is desired.									
8"	Round	8WP-8-1	10000	8.0	1¼"	8	10	3 31/32	$22.50
10"	Round	10WP-8-1	10000	8.0	1¼"	8	11	5	25.00
12"	Round	12WP-8-1	10000	8.0	1¼"	8	12	5 7/8	27.50
15"	Round	15WP-8-1	10000	8.0	1¼"	8	15	8 5/8	35.00
DELUXE HIGH FIDELITY MODELS — Heavy Magnets — No Pot Covers									
6"	P.C.	6L-1	10000	3.0	¾"	3.2	5	3 1/32	$ 9.00
8"	Round	8T-8-1	10000	6.0	1"	8	8	4	14.00
10"	Round	10T-8-1	10000	6.0	1"	8	9	4 13/32	16.00
12"	Round	12T-8-1	10000	6.0	1"	8	10	5 3/8	18.00
STANDARD HI-FIDELITY DELUXE P.M. SPEAKERS Extended range for the finest installations requiring ultimate in sound reproduction.									
8"	Round	80SP-8	8500	4.0	1"	8.	8-10	4½	$12.50
10"	Round	10SP-8	8500	4.0	1"	8.	10-13	5	14.50
12"	Round	12SP-8	8500	4.0	1"	8.	12-15	5 7/8	17.50

Permoflux

ELECTRO MAGNET DYNAMIC SPEAKERS

Precision wound, high efficiency field coils and precision engineered hum bucking circuits make Permoflux Electro Magnet Dynamic Speakers the outstanding leaders in electro dynamic sound reproduction.

Size and Shape		Model No. or Code	Field Coil Data		Voice Coil Data			Over-all Depth	List Price
			Resistance	Watts	Diameter	Impedance	Watts		
4"	TV Square	407	60	4	9/16"	3.2	2-4	2 3/8	$ 5.00
	TV	408	100	4	9/16"	3.2	2-4	2 3/8	5.00
		401	450	4	9/16"	3.2	2-4	2 9/32	5.00
4x6"	Elip. TV	4607	60	4	9/16"	3.2	2-4	2 9/16	5.75
	TV	4608	100	4	9/16"	3.2	2-4	2 9/16	5.75
5"	TV	4507	60	4	9/16"	3.2	2-4	2 7/16	5.25
	TV	4508	100	4	9/16"	3.2	2-4	2 7/16	5.25
		4501	450	4	9/16"	3.2	2-4	2 7/16	5.25
		4502	1000	4	9/16"	3.2	2-4	2 7/16	5.25
		4504	1800	4	9/16"	3.2	2-4	2 7/16	5.25
6"		601	450	4	9/16"	3.2	3-6	2 27/32	5.75
		602	1000	4	9/16"	3.2	3-6	2 27/32	5.75
		604	1800	4	9/16"	3.2	3-6	2 27/32	5.75
10"	Round	1049	600	10	1"	3.2	9-12	4 17/32	11.00
		1042	1000	10	1"	3.2	9-12	4 17/32	11.00
12"	Round	1249	600	10	1"	3.2	10-15	5 3/32	13.00
		1242	1000	10	1"	3.2	10-15	5 3/32	13.00

FOR AUTO RADIO SPEAKERS SEE OTHER SIDE IN PM SPECIFICATIONS

Permoflux

PERMANENT MAGNET DYNAMIC SPEAKERS

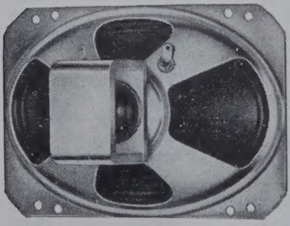
. . . . with Powerful ALNICO 5 Magnets . . . .

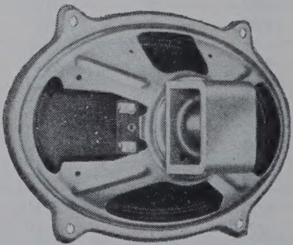
Like all Permoflux electronic and acoustical products, Permoflux PM Speakers, with their powerful, light weight Alnico 5 Magnets, are engineered to the highest performance standards. Their over-all sensitivity, wide frequency response and rugged mechanical design make them favorites wherever fidelity of tone is an important consideration. Because of modern and efficient manufacturing methods and quality control systems which assure remarkable uniformity in production, Permoflux Speakers attain the performance originally engineered into them. The years of development experience behind the perfection achieved in Permoflux Speakers assures the finest sound reproduction in every application.

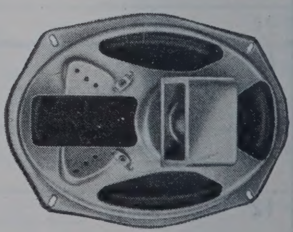
SPECIFICATIONS

Size and Shape		Model No. or Code	Magnet Data		Voice Coil Data			Over-all Depth	List Price
			Flux† Gauss	Approx. Wt.	Diameter	Impedance Ohms	Watts		
2½"	Square	*25A	6000	.5	9/16"	3.2	1-2	1 7/16	$ 4.00
		*25C	9000	1.5	9/16"	3.2	1-2	1 7/8	4.75
3"	Square	*3A	6000	.5	9/16"	3.2	1-2	1 1/2	4.00
		*3C	9000	1.5	9/16"	3.2	1-2	1 29/32	4.75
3¼"	Square	*32A	6000	.5	9/16"	3.2	2-4	1 3/4	4.00
		*32C	9000	1.5	9/16"	3.2	2-4	2	4.75
4"	Square	*4A	6000	.5	9/16"	3.2	2-4	1 25/32	4.00
		*4C	9000	1.5	9/16"	3.2	2-4	2 3/16	4.75
	Intercom.	*4AI	6000	.5	9/16"	45 ohm	2-4	1 25/32	5.00
	Weatherproof	*4CW	9000	1.5	9/16"	3.2	2-4	2 3/16	5.50
4x6"	Ellip.	*46A	6000	.5	9/16"	3.2	2-4	1 7/8	4.75
		*46C	9000	1.5	9/16"	3.2	2-4	2 9/32	5.50
5"	P.C.	*45A	6000	.5	9/16"	3.2	2-4	1 9/32	4.25
		*45C	9000	1.5	9/16"	3.2	2-4	2 5/16	5.00
	Intercom.	*45AI	6000	.5	9/16"	45 ohm	2-4	1 9/32	5.25
	Weatherproof	*45CW	9000	1.5	9/16"	3.2	2-4	2 5/16	5.75
5"	Round	*45AR	6000	.5	9/16"	3.2	2-4	2	4.25
		*45CR	9000	1.5	9/16"	3.2	2-4	2 1/4	5.00
5¼"	Square	*52A	6000	.5	9/16"	3.2	3-5	2 3/16	4.75
	Auto	*52C	9000	1.5	9/16"	3.2	3-5	2 15/32	5.25
	Auto	*52K	8500	2.0	3/4"	3.2	4-6	2 1/2	6.00
5x7"	Ellip.	57C	9000	1.5	9/16"	3.2	4-6	2 15/32	5.75
	Auto	57K	8500	2.0	3/4"	3.2	5-7	3	7.00
	Auto	**57KA	8500	2.0	3/4"	3.2	5-7	3	7.00
6"	P.C.	*6A	6000	.5	9/16"	3.2	4-6	2 3/8	4.75
		*6C	9000	1.5	9/16"	3.2	4-6	2 23/32	5.50
	Auto	*6K	8500	2.0	3/4"	3.2	5-7	2 3/4	6.25
6x9"	Ellip.	69K	8500	2.0	3/4"	3.2	5-7	3 15/32	7.50
	Auto	**69KA	8500	2.0	3/4"	3.2	5-7	3 15/32	7.50
7"	P.C. Auto	7K	8500	2.0	3/4"	3.2	6-8	3 3/16	7.00
	Auto	**7KA	8500	2.0	3/4"	3.2	6-8	3 3/16	7.00
8"	P.C. Auto	75K	8500	2.0	3/4"	3.2	6-8	3 1/32	7.50
		75L	10000	3.0	3/4'	3.2	6-8	3 5/16	8.25
		75S	8500	4.0	1"	3.2	7-9	3 13/16	10.00
10"	Round	10L	10000	3.0	3/4"	3.2	8-10	4 5/16	9.75
		10S	8500	4.0	1"	3.2	9-12	4 17/32	12.50
12"	Round	12L	10000	3.0	3/4"	3.2	9-12	5 3/32	11.50
		12S	8500	4.0	1"	3.2	10-15	5 3/32	14.00

NOTE . . . † The efficiency or sensitivity of a speaker is proportional to the flux density provided by the magnet. When the voice coil diameter is increased to provide greater watts power handling capacity, a larger magnet is required to give same flux density.
* Equipped with Universal Mounting Brackets. ** Pot Rotated 90°.


4" x 6" MODELS


5" x 7" MODELS


6" x 9" MODELS

RACON Speakers Horn Units Horns

RE-ENTRANT TRUMPETS

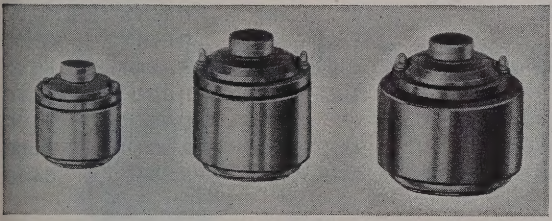
RE-35 RE-50 RE-60

A compact trumpet of the double re-entrant type, made to occupy a small space, yet having a long air column and delivering highly concentrated sound with the greatest efficiency over long distances. **RACON RE-ENTRANT TRUMPETS** have base and inside tone arm made of aluminum castings, outside bell of heavy gauge aluminum spinning; RE-35, RE-50, RE-60 have center of **RACON ACOUSTIC** material to prevent resonant effects prevalent in all large reflecting surfaces. Sturdy construction makes them practically abuse-proof. Supplied with U-bracket mounting (ratchet swivel type on request). RE-60 and RE-50 have wide band frequency characteristics suitable for best musical reproduction. RE-35 and RE-25 most suitable for band music. All have high degree of intelligibility and are excellent for indoor or outdoor use. Chime systems, recreation centres, sound trucks, railroad and bus terminals, arenas, camps, and noisy factories where there is a high noise level to be overridden.

Model No.	Acoustic Length	Bell Diam.	Over-all Length	Cut-off (cycles)	Distrib. Angle	Net Wt., lb.	Code	List Price
RE-60	6′	26″	28″	112	45°	12½	REMOL	$66.00
RE-50	4½′	24½″	23½″	140	50°	11½	REMOY	45.00
RE-35	3½′	19″	16¼″	175	55°	8	REMOX	32.50
RE-25	2½′	13½″	11″	225	60°	5¾	REMOD	25.00

Waterproof Permanent Magnet Driver Units

Latest improvements are incorporated in these driver units. Higher watt-handling capacity, greater efficiency and practically lifetime operation. Finest grade of Alnico V steel magnets and Armco magnetic iron throughout. All steel parts plated to prevent corrosion. Units are magnetized, using an electromagnetic cutout switch which gives the maximum flux density obtainable in the gap. All magnets are measured for flux density and each unit is tested with special apparatus for power handling capacity as well as 300-volt ground-test, making for uniformity and ability to withstand all types of service.



PM-608 PM-615 PM-623

Long life plastic diaphragm and formers. Aluminum wire for voice coil to increase efficiency. Life-time leads. Completely waterproof, yet diaphragm easily removed if necessary.

NEW SUPER X UNITS USING LATEST ALNICO V MAGNETS

Model No.	Weight Net	Weight Ship.	Flux Density per sq. cm.	Frequency Range	Imp.	Diam.	Ht.	Thread	Capacity (watts) Peak	Capacity (watts) Operating	Code	List Price
PM-623	8 lb.	9 lb.	15,500 gausses	80-7000	15	5¼″	4½″	1⅜ x 18	65	35	RETIX	$50.00
PM-615	6½ lb.	7½ lb.	13,500 gausses	90-7000	15	4¼″	4½″	1⅜ x 18	60	30	RETIN	35.00
PM-608	5 lb.	6 lb.	11,000 gausses	90-6500	15	4″	3¼″	1⅜ x 18	50	25	RETIP	25.00

HIGH EFFICIENCY LINE MATCHING TRANSFORMERS

A series of transformers designed to have wide band frequency transmission with minimum loss. Small in size yet able to handle necessary power requirements. All Models vacuum impregnated.

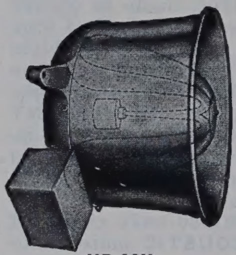
Model No.	Type	Capacity	Impedance Primary	Impedance Secondary	Code	List Price
TR10S	Strapped	10 watt	500 ohm	15	RANFO	$2.45
TR10SV	Strapped	10 watt	250, 500, 1000, 2500	15	RANFT	2.70
TR15C	Cased	15 watt	500 ohm	15	RASHO	4.60
TR25S	Strapped	25 watt	500 ohm	15	RANGO	3.60
TR25SV	Strapped	25 watt	250, 500, 1000, 2500	15	RANGT	4.10

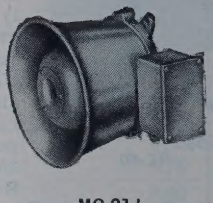
DIAPHRAGM REPLACEMENTS

Model No.	Description	Voice Coil Diameter	*Net Price
RA-400	Large Full Dome Bakelized Diaphragm	2″	$3.60
WE-500	Large Reverse Dome Bakelized Diaphragm	2″	3.60
BA-600	Small Reverse Dome Bakelized Diaphragm	1¼″	1.75
BA-700	Small Reverse Dome Metal Diaphragm	1¼″	1.35
RA-401	Large Head Assembly with Full Dome Bakelized Diaphragm	2″	5.25
WE-501	Large Head Assembly with Reverse Dome Bakelized Diaphragm	2″	5.25
BA-601	Small Head Assembly with Reverse Dome Bakelized Diaphragm	1¼″	2.75
BA-701	Small Head Assembly with Reverse Dome Metal Diaphragm	1¼″	2.35

RACON Speakers Horn Units Horns

DOUBLE RE-ENTRANT MARINE SPEAKERS


MR-30M


MG-21J

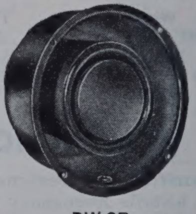
A highly efficient double re-entrant type of horn. The Regular, Midget and Miniature Marine speakers are approved by the U. S. Coast Guard for all Emergency Loudspeaker Systems on ships, under the 53rd Supplement of the Bureau, after tests made by the Bureau of Standards, Washington, D. C. These Marine Speakers are used both as Loudspeakers and as Microphones. The driver Unit and connections are all enclosed, making a completely waterproof speaker not affected by temperature or weather, including use at sea. Made from a heavy aluminum spinning, having a base of heavy aluminum casting. Has special noncorrosive Aluminum casting; baked chromatic Undercoat Finish plus outside lacquer finish. Uses latest type of driver units. Supplied for three-legged flush type rear or U-bracket mounting. All Speakers have waterproof boxes for interior mounting of transformers. Can be used where space is limited, on board ship, on deck, interior or pilot house, rail and bus terminals, in locomotives, railroad yards, police and fire cars, paging systems or anywhere high noise levels are to be overridden. (U-bracket supplied on request at small additional cost.)

Model No.	Frequency Range	Distribution Angle	Bell Diam.	Capacity (watts) Operating	Peak	Imp.	Description	Over-all Length	Net Wt., lb.	Code	List Price
MR-30M	250-6000	50°	14″	30	60	15	Regular	10″	25	REDIX	$130.00
MR-32M	250-6000	50°	14″	60	120	8	2-Unit	18½″	38	REDIT	185.00
MG-21J	350-6000	55°	9½″	25	50	15	Midget with Jr. Unit	6¾″	11½	RASOM	55.00
MG-22J	330-6000	47°	12″	25	40	15	Midget Long Bell	9¾″	12½	RECUT	57.50
MG-21B	350-6000	55°	9½″	20	35	15	Midget with Baby Unit	6¾″	7½	RASOB	40.00
MN-15B	450-6000	65°	6¼″	20	35	15	Miniature	4¾″	4½	REDUP	31.00
MN-16B	440-6000	65°	10¼″	20	35	15	Miniature Long Bell	10¼″	6¼	REDIG	33.50

RE-ENTRANT PAGING SPEAKERS

RE-15 RE-12

MN-16B


DW-9R

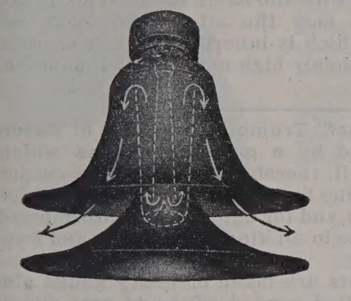
A compact type of double re-entrant speaker to fit all types of paging applications. Some ratchet wall type mountings, others flush wall type or U-bracket. Extremely efficient. Will override high noise levels. Mechanically constructed to be non-resonant so as to transmit all sound through the mouth. In all models but DW-9R driver unit is completely cased. Can be used indoors or outdoors. Excellent sound energy coverage as well as wide angle pick-up when used as a "talkback" from distances unobtainable with microphones. Designed for use where space is limited, but high noise levels are present. Rail and bus stations, on trains, in locomotives, on docks, on police and fire cars, for inter-com systems in schools, hospitals, offices and factories.

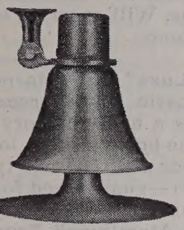
Model No.	Frequency Range	Distribution Angle	Opertg. Capacity	Nominal Imp.	Type Mounting	Bell Diam.	Over-all Length	Net Wt., lb.	Code	List Price
RE-15	350- 8,500	60°	20 watts	15 ohms	Swivel Ratchet & Bracket	9″	9¾″	4¾	REMAC	$34.00
RE-12	450-10,000	65°	10 watts	15 ohms	Swivel Ratchet & Bracket	7″	6½″	2½	REMAB	26.00
MN-16B	440- 6,000	65°	20 watts	15 ohms	U-Bracket	10¼″	10¼″	6¼	REDIG	33.50
DW-9R	750-10,000	80°	8 watts	15 ohms	Flush Mounting	5″	2¼″	1½	REDOX	27.50

RACON

Speakers Horn Units Horns

RADIAL RE-ENTRANT HORNS & SPEAKERS


SR-35R
SR-60R


SR-15R
SR-12R

A weatherproof double re-entrant type horn and speaker designed to project sound over a complete circumference of 360°. These are constructed to be non-resonant and in models SR-35R and SR-60R the centre reflecting surface is of Racon Patented Acoustic Material. The deflectors are aluminum covered with this same material.

The two larger models can be used for the reproduction of music and speech and all models can be used for announcing and paging. The SR-60R is ideal for reproduction of church chimes.

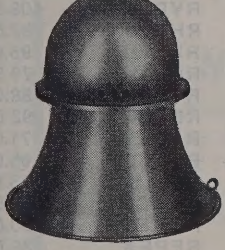
Models SR-35R and SR-60R employ a standard thread and may be used with any Racon driver unit. Models SR-15R and SR-12R are supplied complete with built-in driver unit.

Model No.	Acoustic Length	Width	Length	Cut-off (cycles)	Net Weight	Mounting	Code	List Price
*SR-60R	6½′	36″	34½″	115	35 lb.	U-Bracket	RADAL	$85.00
*SR-35R	4′	17″	16″	175	10½ lb.	U-Bracket	RADAK	40.00
SR-15R	20″	12″	12″	330	5 lb.	Swivel Ratchet & Wall Bracket	RADAS	36.50
SR-12R	15″	9″	9″	440	2¾ lb.	Swivel Ratchet & Wall Bracket	RADAB	28.50

*Re-entrant horn only.

CONE SPEAKER PROJECTORS

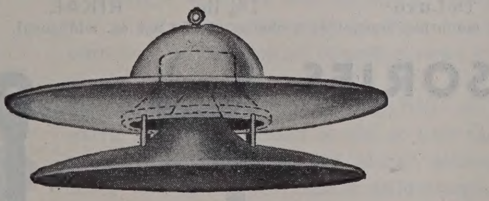
PROJECTOR TYPE


CP-12A

Efficient, rugged, suitable for indoor and outdoor use. All projectors have steel back enclosures and waterproof overlap. Provided with two offset mounting hooks.

Model No.	Cone Size	Bell Diam.	Length	Description	Code	List Price
CP-8A	8″	15″	15″	Aluminum Bell; Steel Back	RUMIX	$11.00
CP-8AW	8″	15″	15″	Aluminum Bell; Steel Back acoustically damped; cone opening protected by wire screening and silk gauze	RIFLE	12.50
CP-12A	12″	17″	20″	Aluminum Bell; Steel Back	RUMID	13.50
CP-12AW	12″	17″	20″	Aluminum Bell; Steel Back acoustically damped; cone opening protected by wire screening and silk gauze	ROBOT	15.50

RADIAL TYPE


CR-6 CR-12

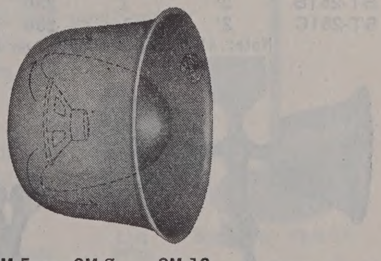
Speaker is designed to project sound over a complete circumference of 360 degrees, distributing the sound with even intensity and emphasizing the high frequency response lacking in direct cone speakers. Particularly adapted for use in factories and in auditoriums where complete coverage is desired. Can be camouflaged to blend with ceiling architecture.

IN ALL RACON RADIAL CONE HOUSINGS the upper deflector is made of heavy gauge steel, back cone cover of steel, and lower deflector of **RACON ACOUSTIC** material to prevent resonant effects prevalent in all metal reflecting surfaces. Stormproofed for all weather conditions. These cone housings are furnished without speakers.

Model No.	Cone Size	Bell Diam.	Depth	Net Weight	Code	List Price
CR-12	12″ or 10″	31″	14″	10 lb.	RADAG	$31.00
CR-6	6″ or 5″	17″	7″	3½ lb.	RADAC	11.50

(Specify size of cone speaker to be installed.)

MARINE TYPE


CM-5 CM-8 CM-12

A re-entrant speaker housing of the Marine type for cone operation. Owing to construction this housing can be used outdoors, as well, in all weather and temperatures without damage. Cone diaphragm is protected not only from direct contact of rain, but also from physical damage. Can be used for voice or music reproduction.

IN ALL RACON CONE MARINE SPEAKER HOUSINGS bell is made of heavy gauge aluminum; cone mounting is made of aluminum casting; centre bullet is made of Patented **RACON ACOUSTIC** material to prevent resonant effects. Material is stormproofed for all weather conditions. Housings are supplied without Cone Speakers.

Model No.	Cone Size	Bell Diam.	Depth	Net Weight	Code	List Price
CM-12	12″	24″	15″	10 lb.	RELIM	$40.50
CM-8	8″	17½″	11½″	4½ lb.	REFIM	21.50
CM-5	5″	10½″	8½″	2¼ lb.	REKIM	12.00

RACON Speakers Horn Units Horns

STRAIGHT TRUMPETS

DT-423
DT-424
DT-425
DT-427

QT-444

ST-414
ST-415
ST-417

The most efficient horns obtainable. Output from any straight trumpet is approximately 2 DB higher than corresponding re-entrant type with the same input. This is because straight trumpets lack the attenuation from resistance and reflection which is inherent in all re-entrant horns. Will override extremely high noise level, indoors or outdoors.

"DeLuxe" and "Stormproof" Trumpets are made of Racon Acoustic Cloth processed by a patented method which gives a non-vibratory wall, thereby increasing the output of the horn without loss due to wall vibration. Supplied for indoor use (DeLuxe type) and for outdoor use (Stormproof type)—guaranteed for life in all kinds of weather and temperature.

"All Aluminum" Trumpets are made of heavy gauge aluminum spinning with rolled beaded edge and cast aluminum throat sections.

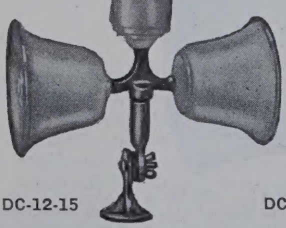
"Unbreakable" Trumpets are made of heavy gauge aluminum spinning reinforced and damped with Patented Racon Acoustic Material to prevent wall vibration.

Larger sizes are useful for chime systems, airports, stadiums, parks, playgrounds, music festivals, for both excellent speech and music. Smaller sizes for railroad and bus terminals, waiting rooms, factories.

Model No.	Air Column (length)	Units Required	Cut-off (cycles)	Distribution Angle	Bell Diam.	Material	Net Weight	Code	List Price
ST-415A	6′	1	115	45°	30″	Unbreakable	21 lb.	REGON	$121.00
DT-425A	6′	2	115	50°	30″	Unbreakable	23 lb.	REGAY	129.50
QT-444A	6′	4	115	50°	30″	Unbreakable	30 lb.	RECUR	200.00
ST-414A	6′	1	115	45°	30″	Stormproof	23 lb.	RIDER	95.00
DT-424A	6′	2	115	50°	30″	Stormproof	25 lb.	RYDOX	103.50
ST-417A	6′	1	115	45°	30″	All Aluminum	19 lb.	RHINO	87.50
DT-427A	6′	2	115	50°	30″	All Aluminum	21 lb.	RHOMB	96.00
ST-414B	6′	1	115	45°	30″	DeLuxe	18 lb.	RHYME	79.50
DT-424B	6′	2	115	50°	30″	DeLuxe	21 lb.	RYPAN	88.00
ST-416A	4½′	1	145	50°	25″	Unbreakable	15 lb.	REFIX	93.50
ST-412A	4½′	1	145	50°	25″	Stormproof	18 lb.	RACEY	71.00
ST-413A	4½′	1	145	50°	25″	All Aluminum	11 lb.	RIANT	65.00
DT-423A	4½′	2	145	55°	25″	All Aluminum	16½ lb.	RIBES	73.50
ST-412B	4½′	1	145	50°	25″	DeLuxe	16 lb.	RANCH	52.50
ST-411A	3½′	1	195	50°	22″	Stormproof	12 lb.	RENEW	50.00
ST-410A	3½′	1	195	50°	22″	All Aluminum	7 lb.	REPEX	35.00
ST-411B	3½′	1	195	50°	22″	DeLuxe	10 lb.	REMIT	35.00
ST-251A	2′	1	250	55°	12″	Stormproof	2¼ lb.	RISAT	17.50
ST-251B	2′	1	250	55°	12″	All Aluminum	2 lb.	RIMAD	15.00
ST-251C	2′	1	250	55°	12″	DeLuxe	1¾ lb.	RIKAL	12.50

Note: All trumpets supplied on request with ratchet swivel mounting bracket at a charge of 35c net ea. additional.

ACCESSORIES



DC-12-15

DC-302A

DC-2U

MULTIPLE HORN CONNECTORS

Connectors made for two straight trumpets to give wide angle coverage from use with one Driver unit. Made of Cast Bronze with loose coupling for unit connection. Also connector for two small Re-entrant Trumpets (RE-12 or RE-15) with one unit for coverage 180° apart; Cast Aluminum; supplied with swivel type wall bracket.

Model No.	Description	Material	Code	List
DC-302A	2 St. Trumpet Connector 75° Dispersion Angle	Bronze	RADIX	$17.00
DC-12-15	2 Re-entrant Trumpet Connector 180° apart	Aluminum	RAMAC	15.00
DC-2U	Dual Unit Connector for all standard thread horns to permit the use of two driver units on one horn	Bronze	RADAX	15.00

RB-150A

TB-150

Steel Swivel Brackets for Cone Projectors

For wall or truck mounting. Has tooth ratchet swivel and pipe connection to give 180° angular movement. Can be used on any Racon Cone Projector.

Model No.	Description	Cone Size	Code	List Price
RB-150	Without Base	8″ or 12″	RAMIS	$3.50
RB-150A	With Base	8″ or 12″	RAMIT	5.00

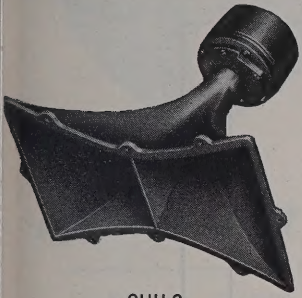
Bronze Swivel Bracket for Re-entrant Trumpets

A three-legged base and ratchet connection for mounting a Re-entrant Trumpet on wall or truck. Made of Cast Bronze. Over-all height 9″.

Model No.	Code	List Price
TB-150	RAMUG	$6.00

RACON Speakers Horn Units Horns

CELLULAR HORNS



CHU-2

This series of tweeters provides an economical and effective method of extending the range of conventional cone speakers. When used in conjunction with any well-designed 12″-15″ cone speaker, a uniform response range is provided, from the lowest frequency of the cone to the limits of present-day program material. Response is essentially flat to 12,000 cycles, with usable output to 15,000 cycles. Cellular horn design permits wide angle distribution. All models **must** be used with a crossover network for optimum performance. The networks listed below are recommended and when employed, any of the tweeter models may be used with amplifiers having an output rating to 25-30 watts.

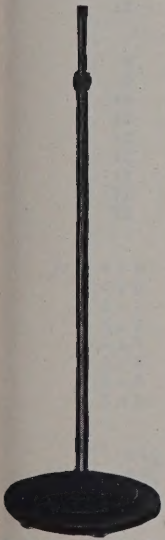
Model No.	High Freq. Speaker	Freq. Range	Dispersion Angle Horizontal	Dispersion Angle Vertical	Material	Code	List Price
CHU-1	Two Cell Horn	900-12000	100°	50°	Cloth & Casting	RACAM	$30.00
CHU-2	Two Cell Horn	900-12000	100°	50°	Casting	RALUX	37.50

CROSSOVER NETWORKS

Model No.	Description	Code	List Price
CON-15R	Variable Audio Taper Resistor Capacitor Network	RAFIR	$11.00
CON-20	Variable Audio Taper Resistor Capacitor Inductive Network	RADUX	22.50

COMPLETE REPRODUCERS

Model No.	Description	Response	Size	List Price
CG-95	Cellular Grand 5-Watt	70-12000	11″ x 15″ x 11″ deep	$ 94.50
CG-115	Cellular Grand 20-Watt	60-12000	15″ x 21″ x 12″ deep	115.00
DHU-1	High Freq. Cellular Tweeter Assembly with boxed network in beautiful metal case	900-12000	12″ x 8″ x 12″ deep	51.00



Model No. FS-10-12

Model No. FS-8-10

NEW! RACON MICROPHONE STANDS

All floor models have heavy cast iron base finished in black crinkle. All tubing of brass with heavy wall thickness and burnished chromium plated finish. Uses ⅝″ inner tubing and ⅞″ outer tubing. Table and banquet models use loaded heavy spun steel bases with special turned-in beading —will not scratch the finest polished table top.

RACON LATEST IMPROVED CLUTCH ACTION

A **TOUCH** to move the extension tubing up or down. Set in any position. No slipping, no wearing of fibre bushings, no turning and tightening of clutches, no turning of thumb screws to hold position of mike.

Special Improved Clutch supplied as part of mike stand or supplied as extra part to be added to old or new microphone stand to convert to latest type; merely remove old clutch arrangement and screw latest device to outer tubing for permanent adjustment.

Model No.	Base	Clutch	Type	Height Adjustment	Net Weight	Code	List Price
FS-10-12	12″	Standard	Adjustable Floor	35″-65″	14 lbs.	REFAL	$11.00
FS-10-12S	12″	*Special	Adjustable Floor	35″-65″	14 lbs.	REFAX	13.50
FS- 8-10	10″	Standard	Adjustable Floor	36″-66″	10 lbs.	RINAL	10.00
FS- 8-10S	10″	*Special	Adjustable Floor	36″-66″	10 lbs.	RINAX	12.50
BS-40	7½″	Standard	Adjustable Banquet	19″-32″	2½ lbs.	RIBET	7.00
TS-20	5½″	Standard	Adjustable Table	7″-10″	1¼ lbs.	RODAT	5.00
TS-18	5½″	Standard	Fixed Table	7″	1 lb.	RODAS	3.25
SC-3	Special Clutch, threaded to fit standard ⅞″-27 threaded tubing			3″		RECAX	3.50

Model No. TS-20

Model No. SC-3

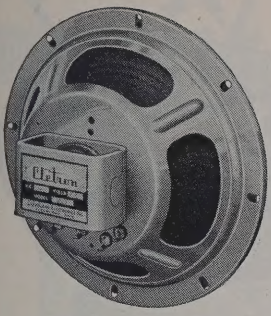
* RACON LATEST IMPROVED CLUTCH ACTION.

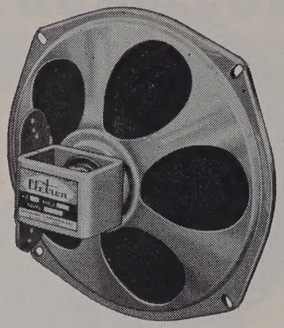
Thank You!

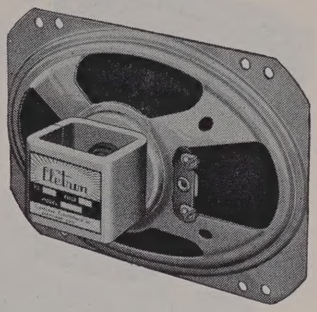
When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

ALUMINUM VOICE COILS ASSURE HIGH FIDELITY


PM-8E


PM-6E


PM-46B

ALNICO V PERMANENT MAGNET SPEAKERS

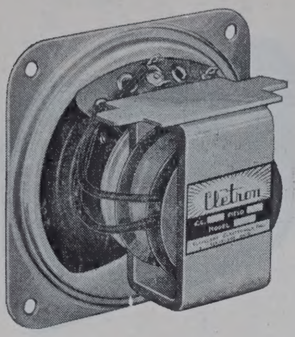
SIZE INCHES	CATALOG NUMBER	MAGNET WEIGHT OUNCES	VOICE COIL SIZE & IMPEDANCE	WATTS	MOUNTING HOLE CENTERS INCHES	DEPTH INCHES	LIST PRICE
			STANDARD GROUP				
3	PM-3A	.68	3.2 ohms 9/16"	2-4	2 13/16 x 2 13/16	1 23/32	$ 3.65
4	PM-4A	.68	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	1 7/8	3.85
4	PM-4B	1.00	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 1/16	4.10
4	PM-4C	1.47	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 1/16	4.50
5	PM-5A	.68	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 5/32	4.10
5	PM-5B	1.00	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 11/32	4.35
5	PM-5C	1.47	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 11/32	4.75
6	PM-6B	1.00	3.2 ohms 9/16"	2-4	4 3/8 x 4 3/8	2 21/32	4.75
6	PM-6C	1.47	3.2 ohms 9/16"	2-4	4 3/8 x 4 3/8	2 21/32	5.10
6	PM-6E	2.15	3.2 ohms 3/4"	4-9	4 3/8 x 4 3/8	2 15/16	5.75
6	PM-6F	3.16	3.2 ohms 3/4"	4-9	4 3/8 x 4 3/8	2 15/16	6.75
8	PM-8D	1.47	3.2 ohms 3/4"	4-9	5 7/16 x 5 7/16	3 3/16	6.85
8	PM-8E	2.15	3.2 ohms 3/4"	4-9	5 7/16 x 5 7/16	3 3/16	7.10
8	PM-8F	3.16	3.2 ohms 3/4"	4-9	5 7/16 x 5 7/16	3 3/16	8.25
10	PM-10G	3.16	3.2 ohms 1"	6-12	6 13/16 x 6 13/16	4 1/8	10.25
10	PM-10H	4.64	3.2 ohms 1"	6-12	6 13/16 x 6 13/16	4 5/8	12.50
12	PM-12G	3.16	3.2 ohms 1"	6-12	8 1/4 x 8 1/4	4 7/8	11.50
12	PM-12H	4.64	3.2 ohms 1"	6-12	8 1/4 x 8 1/4	5 3/8	13.75
			PUBLIC ADDRESS GROUP				
8	PM-8J	6.80	8 ohms 1"	6-12	5 7/16 x 5 7/16	4 3/8	12.00
8	PM-8L	10.00	8 ohms 1 1/4"	12-20	5 7/16 x 5 7/16	4 3/8	14.75
10	PM-10J	6.80	8 ohms 1"	6-12	6 13/16 x 6 13/16	4 5/8	15.00
10	PM-10L	10.00	8 ohms 1 1/4"	12-20	6 13/16 x 6 13/16	4 5/8	17.75
12	PM-12J	6.80	8 ohms 1"	6-12	8 1/4 x 8 1/4	7 3/4	16.00
12	PM-12L	10.00	8 ohms 1 1/4"	12-20	8 1/4 x 8 1/4	7 3/4	19.75
12	PM-12M	14.70	8 ohms 1 1/4"	15-25	8 1/4 x 8 1/4	7 3/4	27.50
12	PM-12P	21.50	8 ohms 1 1/2"	20-30	8 1/4 x 8 1/4	7 3/4	37.50
15	PM-15P	21.50	8 ohms 1 1/2"	20-30	10 1/4 x 10 1/4	8 7/8	45.00
			OVAL GROUP				
4 x 6	PM-46B	1.00	3.2 ohms 9/16"	2-4	3 5/8 x 4 5/8	2 7/32	4.65
4 x 6	PM-46C	1.47	3.2 ohms 9/16"	2-4	3 5/8 x 4 5/8	2 7/32	5.05
5 x 7	PM-57C	1.47	3.2 ohms 9/16"	2-4	4 11/32 x 4 11/32	2 7/8	5.65
5 x 7	PM-57E	2.15	3.2 ohms 3/4"	4-9	4 11/32 x 4 11/32	3 1/4	6.75
5 x 7	PM-57F	3.16	3.2 ohms 3/4"	4-9	4 11/32 x 4 11/32	3 1/4	7.75
6 x 9	PM-69D	1.47	3.2 ohms 3/4"	4-9	4 5/8 x 6 9/16	3 9/16	6.95
6 x 9	PM-69E	2.15	3.2 ohms 3/4"	4-9	4 5/8 x 6 9/16	3 9/16	7.85
6 x 9	PM-69F	3.16	3.2 ohms 1"	4-9	4 5/8 x 6 9/16	3 9/16	8.85
			AUTO REPLACEMENT GROUP				
5 1/4	PM-5CA	1.47	3.2 ohms 9/16"	2-4	4 x 4	2 15/32	5.15
6 1/4	PM-6EA	2.15	3.2 ohms 3/4"	4-9	4 3/4 x 4 3/4	3 3/16	5.85
7	PM-7EA	2.15	3.2 ohms 3/4"	4-9	4 1/4 x 5 3/4	3 1/4	6.95
7	PM-7FA	3.16	3.2 ohms 1"	4-9	4 1/4 x 5 3/4	3 5/16	7.95
			WIDE RANGE GROUP				
8	PM-8JW	6.80	8 ohms 1"	6-12	5 7/16 x 5 7/16	4 3/8	14.25
12	PM-12MW	14.70	8 ohms 1 1/4"	15-25	8 1/4 x 8 1/4	7 3/4	29.50

See notes at bottom of next page.

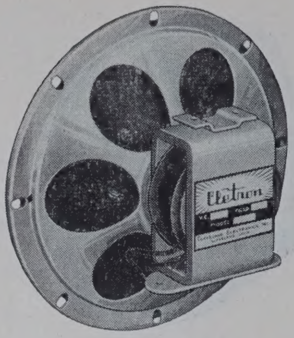
Cletron RADIO SPEAKERS

CLEVELAND ELECTRONICS, INC. CLEVELAND, OHIO

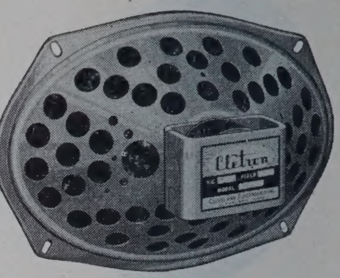
EXTRA STRONG CONSTRUCTION PROVIDES LONGER LIFE



ED-345



ED-810



ED-6945

ELECTRO DYNAMIC SPEAKERS

SIZE INCHES	CATALOG NUMBER	FIELD RESISTANCE	VOICE COIL SIZE & IMPEDANCE	WATTS	MOUNTING HOLE CENTERS INCHES	DEPTH INCHES	LIST PRICE
			STANDARD GROUP				
3	ED-345	450 ohms	3.2 ohms 9/16"	2-4	2 13/16 x 2 13/16	2 1/32	$ 4.35
4	ED-445	450 ohms	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 3/16	4.50
5	ED-545	450 ohms	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 7/16	4.75
5	ED-510	1000 ohms	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 7/16	4.75
5	ED-518	1800 ohms*	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 7/16	4.75
6	ED-645	450 ohms	3.2 ohms 3/4"	4-9	4 3/8 x 4 3/8	2 15/16	5.50
6	ED-610	1000 ohms	3.2 ohms 3/4"	4-9	4 3/8 x 4 3/8	2 15/16	5.50
6	ED-618	1800 ohms*	3.2 ohms 3/4"	4-9	4 3/8 x 4 3/8	2 15/16	5.50
8	ED-810	1000 ohms	3.2 ohms 3/4"	4-9	5 7/16 x 5 7/16	3 3/16	6.85
8	ED-818	1800 ohms*	3.2 ohms 3/4"	4-9	5 7/16 x 5 7/16	3 3/16	6.85
10	ED-1010	1000 ohms	3.2 ohms 1"	6-12	6 13/16 x 6 13/16	4 5/8	10.50
10	ED-1018	1800 ohms*	3.2 ohms 1"	6-12	6 13/16 x 6 13/16	4 5/8	10.65
12	ED-1210	1000 ohms	3.2 ohms 1"	6-12	8 1/4 x 8 1/4	5 3/8	12.75
12	ED-1218	1800 ohms*	3.2 ohms 1"	6-12	8 1/4 x 8 1/4	5 3/8	12.90
			OVAL GROUP				
4 x 6	ED-4645	450 ohms	3.2 ohms 9/16"	2-4	3 5/8 x 4 5/8	2 3/8	5.25
4 x 6	ED-4610	1000 ohms	3.2 ohms 9/16"	2-4	3 5/8 x 4 5/8	2 3/8	5.25
5 x 7	ED-5745	450 ohms	3.2 ohms 3/4"	4-9	4 11/32 x 4 11/32	3 1/4	6.25
5 x 7	ED-5710	1000 ohms	3.2 ohms 3/4"	4-9	4 11/32 x 4 11/32	3 1/4	6.25
6 x 9	ED-6945	450 ohms	3.2 ohms 3/4"	4-9	4 5/8 x 6 9/16	3 9/16	7.35
6 x 9	ED-6910	1000 ohms	3.2 ohms 3/4"	4-9	4 5/8 x 6 9/16	3 9/16	7.35
			TV REPLACEMENT GROUP				
5	ED-5T6	60 ohms	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 7/16	4.75
5	ED-5T10	100 ohms	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 7/16	4.75
4 x 6	ED-46T6	60 ohms	3.2 ohms 9/16"	2-4	3 5/8 x 4 5/8	2 3/8	5.25
4 x 6	ED-46T10	100 ohms	3.2 ohms 9/16"	2-4	3 5/8 x 4 5/8	2 3/8	5.25
			AUTO REPLACEMENT GROUP				
4	ED-4Y6	4 ohms	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 3/16	4.50
5	ED-5Y6	4 ohms	3.2 ohms 9/16"	2-4	3 5/16 x 3 5/16	2 7/16	4.75
5 1/4	ED-5S6	4 ohms	3.2 ohms 9/16"	2-4	4 x 4	2 15/32	5.15
6	ED-6Y6	4 ohms	3.2 ohms 3/4"	4-9	4 3/8 x 4 3/8	3 3/16	5.50
6 1/4	ED-6S6	4 ohms	3.2 ohms 3/4"	4-9	4 3/4 x 4 3/4	3 3/16	5.75
7	ED-7Y6	4 ohms	3.2 ohms 1"	4-9	4 1/4 x 5 3/4	3 5/16	6.75
6 x 9	ED-69Y6	4 ohms	3.2 ohms 1"	4-9	4 5/8 x 6 9/16	3 9/16	7.45

NOTE: *Tapped at 300 ohms.

NOTE: 3 - 4 - 5¼ - 6 - 6¼ inch speakers have square type mountings.

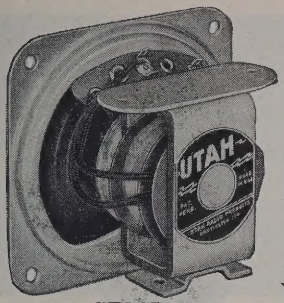
NOTE: 5 - 8 - 10 - 12 - 15 inch speakers have round type mountings.

NOTE: Transformer Mounting Brackets and 2 drilled and tapped holes in Pot are provided on the smaller speakers.

Cletron RADIO SPEAKERS

CLEVELAND ELECTRONICS, INC. CLEVELAND, OHIO

STRONG CONSTRUCTION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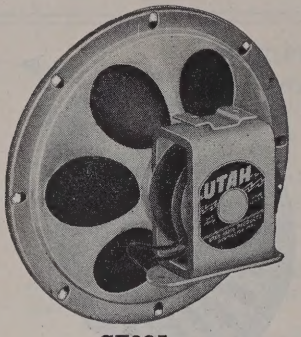
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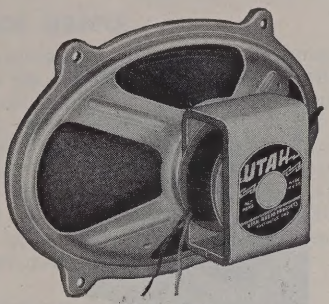

SE5710

ELECTRO DYNAMIC SPEAKERS

AUTO

Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Field Resistance Ohms	List Price Each
SE5Y6	3-4	9/16	2-4	4	$ 5.05
SE5S6	3-4	¾	2-4	4	5.45
SE6S6	3-4	¾	4-9	4	5.45
SE7Y6	3-4	¾	4-9	4	7.45
SE7Y6A	3-4	¾	4-9	4	7.45
SE7Z6	3-4	¾	4-9	4	7.75
SE69Y6	3-4	¾	4-9	4	7.95

OVAL

Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Field Resistance Ohms	List Price Each
SE4645	3-4	9/16	2-4	450	$ 5.45
SE4610	3-4	9/16	2-4	1000	5.55
SE4618	3-4	9/16	2-4	1800	5.55
SE4627	3-4	9/16	2-4	2750	5.55
SE5745	3-4	¾	4-9	450	6.25
SE5710	3-4	¾	4-9	1000	6.50
SE5718	3-4	¾	4-9	1800	6.50
SE5727	3-4	¾	4-9	2750	6.50
SE6945	3-4	¾	4-9	450	7.25
SE6910	3-4	¾	4-9	1000	7.50
SE6918	3-4	¾	4-9	1800	7.50
SE6927	3-4	¾	4-9	2750	7.50

STANDARD

Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Field Resistance Ohms	List Price Each
SE345	3-4	9/16	2-4	450	$ 4.70
SE310	3-4	9/16	2-4	1000	4.75
SE318	3-4	9/16	2-4	1800	4.75
SE327	3-4	9/16	2-4	2750	4.75
SE445	3-4	9/16	2-4	450	4.80
SE410	3-4	9/16	2-4	1000	4.90
SE418	3-4	9/16	2-4	1800	4.90
SE427	3-4	9/16	2-4	2750	4.90
SE545	3-4	9/16	2-4	450	4.90
SE510	3-4	9/16	2-4	1000	5.00
SE518	3-4	9/16	2-4	1800	5.00
SE527	3-4	9/16	2-4	2750	5.00
SE645	3-4	¾	4-9	450	5.85
SE610	3-4	¾	4-9	1000	6.00
SE618	3-4	¾	4-9	1800	6.00
SE625	3-4	¾	4-9	2500	6.00
SE810	3-4	¾	4-9	1000	7.30
SE818	3-4	¾	4-9	1800	7.55
SE825	3-4	¾	4-9	2500	7.55
SE1010	3-4	1	6-12	1000	12.00
SE1015	3-4	1	6-12	1500	12.25
SE1025	3-4	1	6-12	2500	12.25
SE1210	3-4	1	6-12	1000	14.00
SE1215	3-4	1	6-12	1500	14.25
SE1225	3-4	1	6-12	2500	14.25
SE1510	8	1½	20-30	1000	27.00
SE1515	8	1½	20-30	1500	28.00
SE1525	8	1½	20-30	2500	28.00

UNIVERSAL OUTPUT TRANSFORMERS

Mtg. Style	Utah Catalog Number	Impedances Primary	Impedances Secondary	Nominal Wattage	Core Size Inches	Dimensions A Inches	Dimensions B Inches	Dimensions C Inches	Mounting Centers Inches	List Price Each
D	7364	Any tube combination	Any V.C.	8	⅝ x ⅝	1⅝ x	1 15/16 x	1⅜	2⅜	$2.50
E	5999	Any tube combination	Any V.C.	12	¾ x ¾	2 5/16 x	1 15/16 x	1½	2⅜	3.00

UNIVERSAL LINE TRANSFORMERS

Mtg. Style	Utah Catalog Number	Impedances Primary	Impedances Secondary	Nominal Wattage	Core Size Inches	Dimensions A Inches	Dimensions B Inches	Dimensions C Inches	Mounting Centers Inches	List Price Each
D	8747-B	560-1000-1500-2000 ohms	3-4 & 6-8 ohms	8	⅝ x ⅝	1⅝ x	1 15/16 x	1⅜	2⅜	2.50
E	8749-B	500-1000-1500-2000 ohms	3-4 & 6-8 ohms	12	¾ x ¾	2 5/16 x	1 15/16 x	1½	2⅜	3.00

SINGLE OUTPUT TRANSFORMERS

Mtg. Style	Utah Catalog Number	Impedances Primary	Impedances Secondary	Nominal Wattage	Core Size Inches	Dimensions A Inches	Dimensions B Inches	Dimensions C Inches	Mounting Centers Inches	List Price Each
D	8770-A	2500 ohms	3-4 ohms	3.5	½ x ½	1 5/16 x	1 11/16 x	1¼	2	1.45
D	8771-A	5000 ohms	3-4 ohms	3.5	½ x ½	1 5/16 x	1 11/16 x	1¼	2	1.45
D	8772-A	7000 ohms	3-4 ohms	3.5	½ x ½	1 5/16 x	1 11/16 x	1¼	2	1.45
D	8773-A	10000 ohms*	3-4 ohms	6.5	⅝ x ⅝	1⅝ x	1 15/16 x	1⅜	2⅜	1.90

Note: * Center tapped.

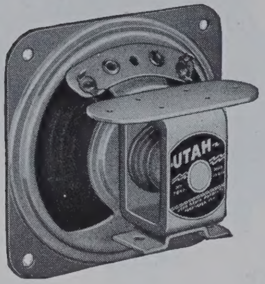
TUBE APPLICATIONS:

8770-A: 25L6, 25B6, 35L6, 35B5, 35A5, 50B5, 50L6; 8771-A: 6V6, 25A6, 6AQ5; 8772-A: 6F6, 6K6, 6AC5; 8773-A: PP6F6, PP6K6, PP6V6, PP6AC5

• See Next Page for Utah's PM Speakers •

UTAH SPEAKERS, HUNTINGTON, INDIANA

ALUMINUM VOICE COILS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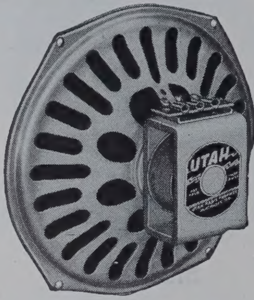

SP7EA

SP12LW

PERMANENT MAGNET SPEAKERS

AUTO

Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	List Price Each
SP5DA	3-4	¾	4-9	2.15	6.95
SP6EA	3-4	¾	2-4	1.47	$ 5.65
SP69D	3-4	¾	4-9	2.15	7.95
SP7EA	3-4	¾	4-9	1.47	7.90

OVAL

Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	List Price Each
SP46B	3-4	9/16	2-4	1.00	$ 4.75
SP46C	3-4	9/16	2-4	1.47	5.70
SP57C	3-4	9/16	2-4	1.47	6.20
SP57E	3-4	¾	4-9	2.15	7.45
SP57F	3-4	¾	4-9	3.16	8.50
SP69D	3-4	¾	4-9	1.47	7.90
SP69E	3-4	¾	4-9	2.15	8.45
SP69F	3-4	¾	4-9	3.16	8.95

WIDE RANGE and PA

Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	List Price Each
SP8JW	8	1	6-12	6.80	$15.10
SP12LW	8	1¼	12-20	10.00	24.25
SP12M	8	1¼	15-25	14.70	29.50
SP12P	8	1½	20-30	21.50	39.50
SP15P	8	1½	20-30	21.50	47.50
SP15R	8	2	30-40	31.80	62.50

OUTDOOR

Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	List Price Each
SP4CO	3-4	9/16	2-4	1.47	$ 5.25
SP5CO	3-4	9/16	2-4	1.47	5.60
SP6EO	3-4	¾	4-9	2.15	7.00

STANDARD

Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	List Price Each
SP2A	3-4	9/16	1-2	.68	$ 3.65
SP3A	3-4	9/16	2-4	.68	3.65
SP3B	3-4	9/16	2-4	1.00	3.95
SP3C	3-4	9/16	2-4	1.47	4.40
SP4A	3-4	9/16	2-4	.68	3.90
SP4B	3-4	9/16	2-4	1.00	4.22
SP4C	3-4	9/16	2-4	1.47	4.58
SP5A	3-4	9/16	2-4	.68	4.16
SP5B	3-4	9/16	2-4	1.00	4.49
SP5C	3-4	9/16	2-4	1.47	4.85
SP6B	3-4	9/16	2-4	1.00	4.95
SP6C	3-4	9/16	2-4	1.47	5.27
SP6D	3-4	¾	4-9	1.47	5.69
SP6E	3-4	¾	4-9	2.15	6.24
SP6F	3-4	¾	4-9	3.16	6.93
SP8D	3-4	¾	4-9	1.47	7.00
SP8E	3-4	¾	4-9	2.15	7.45
SP8F	3-4	¾	4-9	3.16	8.95
SP8J	3-4	1	6-12	6.80	13.32
SP8K	8	1¼	12-20	6.80	14.75
SP10G	3-4	1	6-12	3.16	10.45
SP10H	3-4	1	6-12	4.64	12.50
SP10J	3-4	1	6-12	6.80	15.20
SP10L	8	1¼	12-20	10.00	18.25
SP12G	3-4	1	6-12	3.16	11.75
SP12H	3-4	1	6-12	4.64	14.00
SP12J	3-4	1	6-12	6.80	16.25
SP12K	8	1¼	12-20	6.80	17.50
SP12L	8	1¼	12-20	10.00	20.75

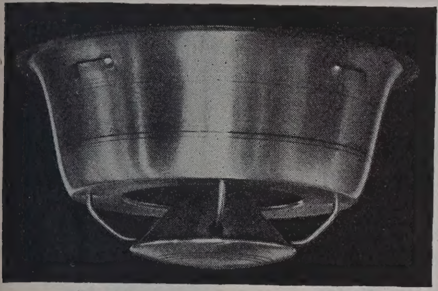
INTER-COMMUNICATION

Utah Catalog Number	Voice Coil Impedance Ohms	Voice Coil Diameter Inches	Optimum Audio Watts	Alnico V Weight Ounces	List Price Each
SP4AI	44	9/16	2-4	.68	$ 4.60
SP5AI	44	9/16	2-4	.68	4.85

• *See Preceding Page for Utah's EM Speakers* •

UTAH SPEAKERS, HUNTINGTON, INDIANA

"Heard Everywhere"
FLUSH MOUNTING CEILING BAFFLES
WITH "FLOATING CONICAL ACTION"



Model Nos.

BL6-A
BL8-A
BL12-A
BL6-C
BL8-C
BL6-PC
BL8-PC

PATENTED
IN THE U.S.A.
AND CANADA

DIMENSIONS OF VARIOUS MODEL BAFFLES

6″ models — 9¾″ at top x 4¼″ deep.
8″ models — 13½″ at top x 4⅞″ deep.
12″ models — 18⅜″ at top x 8 ″ deep.

Model No.	Type	Spkr. Size for Baffle	Material	Finish	List Price
BL6 - A	Flush Mounting	6″	Aluminum	Satin	13.00
BL6 - A	Flush Mounting	6″	Aluminum	Pol'd	13.50
BL8 - A	Flush Mounting	8″	Aluminum	Satin	22.00
BL8 - A	Flush Mounting	8″	Aluminum	Pol'd	24.00
BL12-A	Flush Mounting	12″	Aluminum	Pol'd	29.00
BL12-A	Flush Mounting	12″	Aluminum	Satin	27.00

DESCRIPTION OF BAFFLE

The flush mounting ceiling baffle is designed to mount flush to the ceiling quickly by inserting 4 toggle bolts, completely sealing back of housing to the ceiling. This baffle is recommended for normal ceilings. Uniform sound reproduction at 360° giving CONTROLLED SOUND evenly in all directions. Baffle is made of spun metal, of either 18 or 20 gauge aluminum or copper. Heavy ¾″ jute lines interior with louvres on sides for proper pressure relief.

ARCHITECTS' SPECIFICATIONS

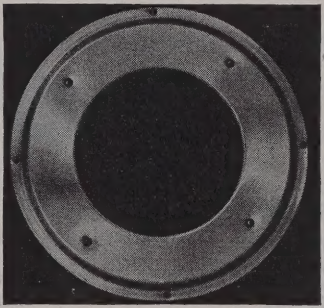
This speaker baffle housing contains a half inch flange at top with 4 holes evenly placed for proper mounting to the ceiling. The lower metal cone is mounted to the housing by 4 one-quarter inch formed metal rods having 4 hard rubber grommets preventing metallic resonance. The upper part of the rods are threaded and mount through a tempered masonite speaker ring. All hardware furnished complete with each baffle.

Recessed Wall Type Directional Speaker Baffles

DESCRIPTION

This speaker trim ring is made of spun metal, 18 or 20 gauge aluminum or copper. Flocked metal color grille cloth protects speaker cone—masonite ring with 4 round head screws mounts through housing for mounting speaker. Housing has a depth of ½″ and a half inch flange for mounting housing to wall.

Model No.	Type	Spkr. Size for Baffle	Material	Finish	List Price
RS6 - A	Recessed Wall	6″	Aluminum	Satin	2.40
RS6 - A	Recessed Wall	6″	Aluminum	Pol'd	2.65
RS8 - A	Recessed Wall	8″	Aluminum	Satin	11.00
RS8 - A	Recessed Wall	8″	Aluminum	Pol'd	14.00
RS12-A	Recessed Wall	12″	Aluminum	Satin	14.00
RS12-A	Recessed Wall	12″	Aluminum	Pol'd	16.00



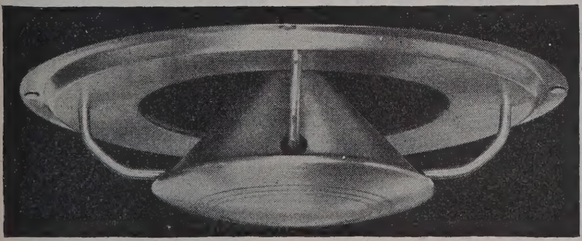
Model Nos.

RS8-C	**RS6-A**
RS8-PC	**RS8-A**
RS12-C	**RS12-A**
RS6-PC	**RS6-C**

FEATURES

Concealment of speakers.
Easily installed.
Finished to match surroundings.

For Low Ceilings



Model Nos: AL12-C AL12-PC AL6-PC AL8-PC AL6-A AL8-A AL12-A AL6-C AL8-C

DIMENSIONS OF VARIOUS MODEL BAFFLES

The overall diameter at top of housing flange:
6″ model — 9⅝″ in diameter, depth ½″
8″ model — 11¾″ in diameter, depth ½″
12″ model — 16½″ in diameter, depth 1″

DESCRIPTION

The false ceiling speaker housing is made of either 18 or 20 gauge aluminum or copper. Housing is spun metal, having a depth of ½″ and a half inch flange for mounting housing to ceiling. The lower metal cone is mounted to the housing by 4 one-quarter inch formed metal rods having 4 hard rubber grommets preventing metallic resonance. The upper part of the rods are threaded and mount through a tempered masonite speaker wing. All hardware furnished complete with each baffle. The sound coverage of this baffle is approximately 360°.

Model No.	Type	Spkr. Size for Baffle	Material	Finish	Price
AL6 - A	False Ceiling	6″	Aluminum	Satin	6.50
AL6 - A	False Ceiling	6″	Aluminum	Pol'd	7.00
AL8 - A	False Ceiling	8″	Aluminum	Satin	13.50
AL8 - A	False Ceiling	8″	Aluminum	Pol'd	15.00
AL12-A	False Ceiling	12″	Aluminum	Satin	17.00
AL12-A	False Ceiling	12″	Aluminum	Pol'd	18.00

LOWELL METAL PRODUCTS CORPORATION • ST. LOUIS, MO., U.S.A.

JIM LANSING SIGNATURE SPEAKERS

JAMES B. LANSING SOUND, Inc.

JIM LANSING SIGNATURE SPEAKERS are engineered and precision fabricated to supply without compromise the finest loud speaker performance possible.

GENERAL PURPOSE SPEAKER SPECIFICATIONS

D-130 — 15 INCH

Power Input	20 Watts
Impedance (nominal)	15 Ohms
Resonant Frequency	55 Cycles
Outside Diameter	15$\frac{3}{16}$ ins.
Depth	5⅝ ins.
Field	Perm. Mag.
Voice Coil Diameter	4 ins.
Mounting Dimen.	R.M.A. Std.
Net Weight	19 pounds

LIST PRICE $77.50

D-131 — 12 INCH

Power Input	12 Watts
Impedance (nominal)	16 Ohms
Resonant Frequency	65 Cycles
Outside Diameter	12⅛ ins.
Depth	5 ins.
Field	Perm. Mag.
Voice Coil Diameter	4 ins.
Mounting Dimen.	R.M.A. Std.
Net Weight	17 pounds

LIST PRICE $69.50

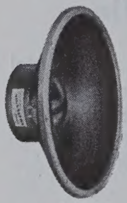
208 — 8 INCH

Power Input	12 Watts
Impedance (nominal)	8 Ohms
Resonant Frequency	90 Cycles
Outside Diameter	8½ ins.
Depth	2⅞ ins.
Field	Perm. Mag.
Voice Coil Diameter	2 ins.
Mounting Dimen.	R.M.A. Std.
Net Weight	4 pounds

LIST PRICE $34.50

All Jim Lansing general purpose speakers utilize exceedingly large Alnico V Permanent Magnets, edge wound aluminum ribbon voice coils, aluminum high frequency center diaphragm vented to the rear to eliminate non-linear compression effects, and heavy, extremely rigid, cast aluminum frames.

TWO-WAY SYSTEMS, COMPONENTS AND SPECIFICATIONS

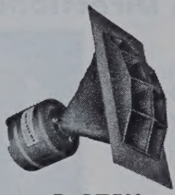


D-130A

15 INCH LOW FREQUENCY UNIT

Power Input	25 Watts
Impedance (nominal)	16 Ohms
Resonant Frequency	40 Cycles
Outside Diameter	15$\frac{3}{16}$ ins.
Depth	5⅝ ins.
Field	Perm. Mag.
Voice Coil Diameter	4 ins.
Mounting Dimen.	R.M.A. Std.
Net Weight	19 pounds

LIST PRICE $97.50



D-175H

HIGH FREQUENCY UNIT AND HORN

Power Input	12 Watts Peak above 1200 C.P.S. —4 db attenuator built into N-1000 Network permits use in 25 Watt system
Impedance (nominal)	16 Ohms
Field	Perm. Mag.
Outside Diameter	4½ ins.
Weight	11 pounds

LIST PRICE $140.00

N-1000

DIVIDING NETWORK

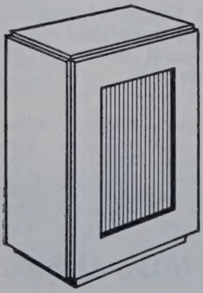
Input Impedance	16 Ohms
Output Impedance	16 Ohms (each section)
Net Weight	6 pounds

LIST PRICE $48.00

D-1001 TWO-WAY KIT INCLUDES THE FOLLOWING UNITS:

ONE D-130A, ONE D-175H AND ONE N-1000 LIST PRICE $275.00

The D-1001 Kit provides the basic Jim Lansing Two-Way system for use where critical listeners demand flawless reproduction of the entire frequency range.



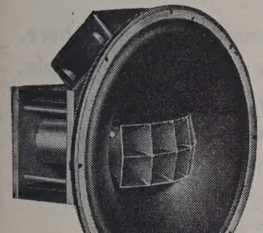
CABINETS

D-1000	Gray utility cabinet with D-1001 components installed	List Price $365.00
D-1002	Dark Mahogany furniture cabinet with D-1001 components installed	List Price 395.00
D-1003	Bleached Mahogany furniture cabinet with D-1001 components installed	List Price 410.00
D-1004	Corner cabinet, dark Mahogany, two D-130A, one D-175H and N-1000 installed	List Price 497.50
D-1005	Corner cabinet, bleached Mahogany, two D-130A, one D-175H and N-1000 installed	List Price 512.50
C-502D	Dark Mahogany furniture cabinet with D-130 speaker installed	List Price 177.00
C-503D	Dark Mahogany furniture cabinet with D-131 speaker installed	List Price 169.00
C-504D	Bleached Mahogany furniture cabinet with D-130 speaker installed	List Price 192.00
C-505D	Bleached Mahogany furniture cabinet with D-131 speaker installed	List Price 184.00

TRU SONIC

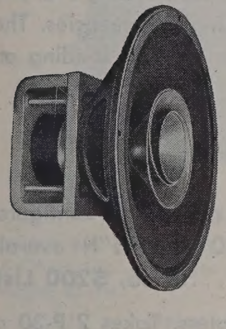
Speaker Systems for Theater and Home

SPEAKERS



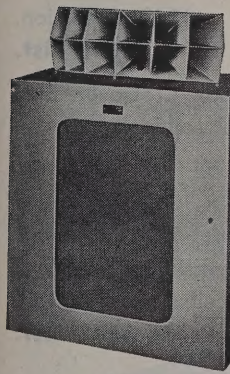
MODEL P-52A Coaxial Speaker

Combines in a single assembly a Low-Frequency unit of the cone type, a High-Frequency unit of the multicellular type and the complementary 2-channel crossover. Ideal for AM and FM reception, broadcast station monitoring and sound-motion picture reproduction. *Electrical Characteristics:* (1) Power input: 20 Watts; (2) Crossover Frequency: 12,000 C.P.S.; (3) High-Frequency distribution: 80° x 40°; (4) Field Excitation: 6½ lb. Alnico 5; (5) Input impedance: 16 Ohms; (6) Frequency response: ± 5 db from 40 to 14,000 C.P.S.; (7) Cone resonance: 41 cycles.
Physical Characteristics: (1) Overall Diameter: 15⅛"; (2) Baffle Opening: 13½"; (3) Depth behind mounting panel 10"; (4) Net Weight: 30 Pounds.
Licensed under Western Electric Patents. . . . . **Price $205 List.**



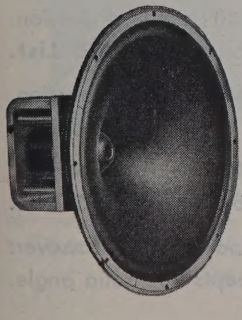
MODEL P-52FR and P-22FR Co-Spiral Speakers

Subdues deficiencies both in the set itself and in source material. Built with the same precision limits and same engineering skill found in all Tru-Sonic units. Especially designed as a replacement speaker . . . Full 15 watts of power handling capacity. Seamless molded curvilinear cone of new design. Two acoustic sections, one for reproducing lowest bass, and one for extended high tones. Reproducing range 40 to 14,000 cycles. Powerful Alnico 5 magnet. Greatest electro-acoustic transfer efficiency and widest range of any speaker utilizing one voice coil. 90° High-Frequency dispersion. Silver Spiral differential diffuser. *Specifications:* (1) Power Input: 15 Watts; (2) 2½ lb. Alnico 5; (3) Input Impedance: 8 or 16 Ohms; (4) Overall Diameter: 15½"; (5) Net Weight: 23 lbs. . . . Licensed under Western Electric Patents.
Price, Model P-52FR, 15" dia. $80; Model P-22FR, 12" dia. $70 List.



MODEL P-52HF Separate 2-Way System

In order to provide a de luxe presentation for the most discriminating audience, Stephens engineers have designed the Tru-Sonic Separate 2-Way Speaker System. Space requirements are greater than for the Tru-Sonic Coaxial unit, for in order to extend the tone range and permit the ultimate in realism, larger physical proportions are necessary. The P-52HF is standard in the Tru-Sonic Model 52U Utility Cabinet. Components consist of a Tru-Sonic Type P-15 High-Frequency Driver, a Model P-52LX Low-Frequency Driver, a Series 800 High-Frequency Cellular Horn and a Model 800X Crossover. *Electrical Characteristics:* (1) Power input: 20 Watts; (2) Crossover frequency: 800 cycles; (3) Number of high-frequency cells: 8, 10 or 12 (See below); (4) 6½ lb. Alnico 5; (5) Input impedance: 16 Ohms; (6) Cone resonance: 41 cycles; (7) Frequency response: ± 5 db from 40 to 14,000 cycles. Weight: 130 lbs. Licensed under Western Electric Patents. . . . . **Price, with 2x4 horn $320, with 2x5 horn $332.50, with 2x6 horn $345, with 2x4 horn in 52SD Cabinet $440 List.**



MODEL P-52LX and P-22L Low-Frequency Drivers

Low-Frequency driver components for Tru-Sonic Separate 2-Way Systems. (Model P-52LX illustrated and described. P-22L same as P-52LX except 12" cone diameter and 2½-lb. magnet.) Powerful 15" speaker with curvilinear-designed, highly efficient seamless moulded and moisture-resistant cone. Suspension compliance has been carefully calculated to promote ideal piston-like action of the diaphragm. Effective driving area is approximately 125 sq. inches. Voice coil is 2" in diameter, treated with a refined temperature-resistant varnish, and wound with highly conductive copper wire. *Electrical Characteristics:* (1) Power Input: 20 Watts; (2) 4 lb. Alnico 5; (3) Input Impedance: 8 or 16 Ohms; (4) Cone Resonance: 41 cycles. *Physical Characteristics:* (1) Overall Diameter: 15⅛"; (2) Baffle Opening: 13½"; (3) Depth behind Mounting Panel: 8⅛"; (4) Net Weight: 25 Pounds; (5) Mounting Dimensions: RMA Standard. Licensed under Western Electric Patents . . **Price, Model P-52LX $80; P-22L $70 List.**

STEPHENS MANUFACTURING CORPORATION

TRU SONIC

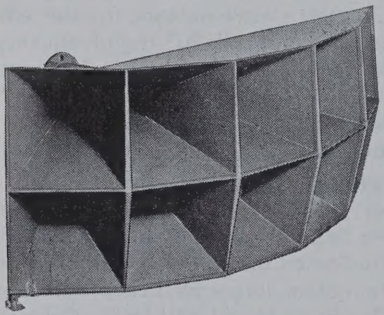
Speaker Systems for Theater and Home

Components for 2-Way Speaker Systems

Several systems of different crossover frequency and size may be assembled from the components shown here. However the same series of horns must be used with crossover networks of the same series number. For example, P-30 and P-40 Drivers should be used only with Series 400 and 600 Horns and Crossovers. The P-15 Driver is used with the Series 800 Horns and Crossovers only. It is desirable to use the lowest crossover and complementary components that the individual's space limitations and economy will permit. On the Series 400-600 Crossovers 2L-F, 8 ohm drivers, preferably Model P-52LX, are recommended.

HIGH-FREQUENCY HORNS

In order for the listener who is off the axis to receive his balanced proportion of high to low tones, the high-frequency beam must be properly deflected. This is accomplished in Tru-Sonic standard High-Frequency Horns by utilizing multiple cells nested together so as to provide coverage through a large horizontal angle and a smaller vertical angle. The normal listening area is entirely served in this manner with high frequencies. The High-Frequency Horn serves an additional important purpose: its design provides proper acoustic loading on the high-frequency unit without which it cannot operate efficiently.

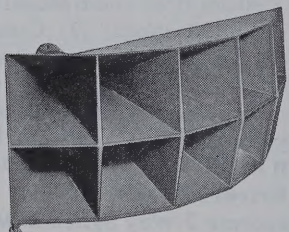


SERIES 400

Model 425H Horn. Takes P-30 or P-40 Driver. 400 cycle, 2 x 5 configuration, 40° x 100° dispersion. 43"W x 17½"D x 31½"H overall. Weight: 65 lbs.............................**Price, $200 List.**

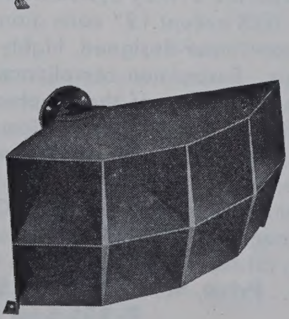
Model 436H Horn and Y Throat. For larger theaters. Takes 2 P-30 or P-40 Drivers. 400 cycle, 3 x 6 configuration, 60° x 120° dispersion. 56"W x 28½"D x 33"H overall. Weight: 135 lbs. **Price, $340 List.**

Both Model 425H and 436H Horns take Model 400X Crossover. Size of each 400 cycle cell: 8" x 8" x 29". Intercepts 20° solid angle.



SERIES 600

Model 625H Horn. Takes P-30 or P-40 Driver and Model 600X Crossover. 600 cycle, 2 x 5 configuration, 40° x 100° dispersion. 23½"W x 16½"D x 11½"H overall. Size of each 600 cycle cell: 5" x 5" x 15". Intercepts 20° solid angle. Weight: 35 lbs.........**Price, $110 List.**



SERIES 800

Model 824H Horn. 800 cycle, 2 x 4 configuration, 40° x 80° dispersion. 16"W x 10"D x 11½"H overall. Weight: 15 lbs. **Price, $50 List.**

Model 825H Horn. 800 cycle, 2 x 5 configuration, 40° x 100° dispersion. 18"W x 10"D x 11½"H overall. Weight: 18 lbs. **Price, $67.50 List.**

Model 826H Horn. 800 cycle, 2 x 6 configuration, 40° x 120° dispersion. 20"W x 10"D x 11½"H overall. Weight: 20 lbs. **Price, $75 List.**

All Series 800 Horns take a P-15 Driver and Model 800X Crossover. Size of each 800 cycle cell: 4" x 4" x 11". Intercepts 20° solid angle.

STEPHENS MANUFACTURING CORPORATION

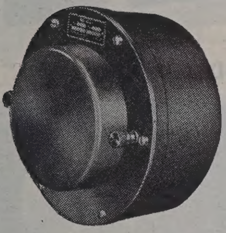
TRU SONIC

Speaker Systems for **Theater and Home**

Components for 2-Way Speaker Systems

HIGH-FREQUENCY DRIVERS

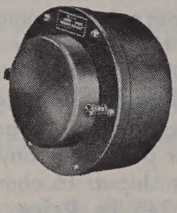
As generators of acoustic power in the upper end of the audible spectrum, the Tru-Sonic High-Frequency units present a perfect blend of sound-engineered design and listener preference. Acoustic response, in combination with Low-Frequency units, has been adjusted to levels picked as being most pleasing to a large majority of selected listeners. Actual listening tests on scores of representative groups of people have dictated the design of the acoustic proportions in the critical compression chamber.



TYPE P-40

40-Watt PM. Range: 350-16000 cycles. 16 Ohms. Dia. 7", Depth overall 5½". Weight: 35 lbs.

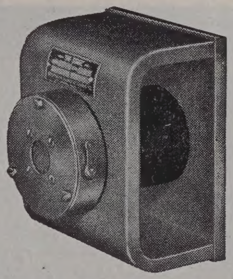
Price, $200 List



TYPE P-30

30-Watt PM. Range: 350-16000 cycles. 16 Ohms. Dia. 6", Depth overall 4". Weight: 25 lbs.

Price, $120 List



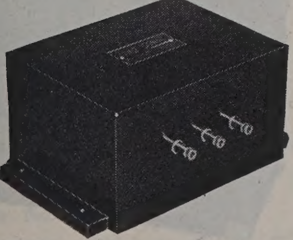
TYPE P-15

20-Watt PM. Range: 500-16000 cycles. 16 Ohms. Dimensions: 4" x 6" x 3¾" overall. Weight: 12 lbs.

Price, $70 List

LOW-LOSS CROSSOVERS

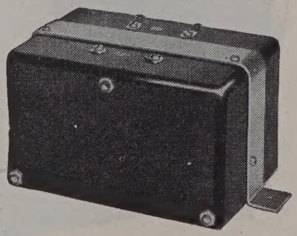
By means of the Tru-Sonic Dividing Network, or electrical crossover, the Low-Frequency reproducer receives the lower portion of the audible spectrum. The High-Frequency reproducer receives the energy carrying the treble tones and distributes them throughout the entire listening area without loss of level. Enclosed in non-metallic containers to eliminate distortion with varying frequency, the design of these crossovers allows 12 db attenuation per octave, the standard in universal practice. Attenuation is 3 db at crossover frequency; phase rotation is 270°. Low insertion loss through perfected construction is ½ db. Input impedance 16 ohms, low output impedance 16 ohms, high output impedance 16 ohms on all models.



MODEL 400X

400 cycle, up to 80 watts. 6"W x 4"D x 4"H overall. Weight: 10 lbs.

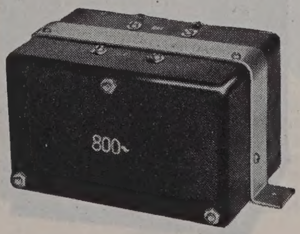
Price, $95 List



MODEL 600X

600 cycles, up to 80 watts. 5"W x 3¾"D x 3¾"H overall. Weight: 8 lbs.

Price, $67.50 List



MODEL 800X

800 cycle, up to 40 watts. 5"W x 3¾"D x 3¾"H overall. Weight 6 lbs.

Price, $45 List

STEPHENS MANUFACTURING CORPORATION

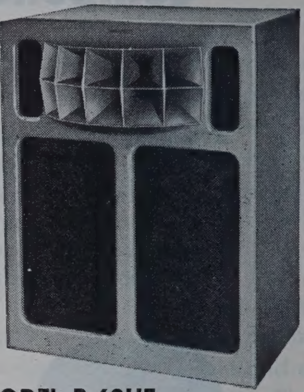
TRU SONIC

Speaker Systems for Theater and Home

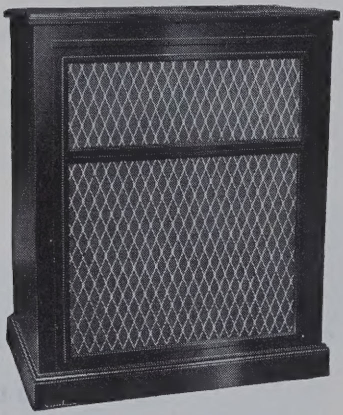
De Luxe 2-Way Systems and Cabinets

MODEL P-63HF: Specially designed for reproduction of the very highest quality source material; ideal for theaters and auditoriums up to 1750 seats. Over-size components make possible low level operation with negligible distortion for the de luxe FM station monitor room.

Conservatively rated at 30 watts to permit full dynamic impact at high levels of operation, it employs a 600 cycle crossover to relieve the two Model P-52LX, 15", 20-watt low frequency drivers of high frequencies and consequent inter-modulation and cone breakup. Radical design permits horn loading down to 60 cycles. Special chamber behind drivers reinforces bass to 30 cycles. 2 x 5, 10 cell, 100° x 40° H-F dispersing horn. Model P-30, 30-watt H-F driver extends range beyond 15,000 cycles with efficiency over 50%. Total Alnico 5 magnet over 11 pounds. Equipped with H-F attenuator to perfectly balance room acoustics. Size, 25" deep by 36" wide by 45" high, allows this unit to be employed under practically any space limitation. Input: 16 ohms.
Wt.: 245 lbs. **Price, $675 List.**



MODEL P-63HF



MODEL P-63HF-SD

2-Way System in Period Cabinet, mahogany or bleached blonde (please specify). 30 cycle, 36"W x 25"D x 45½"H. Wt.: 245 lbs. **Price, $807.50 List.**

MODEL 52SD

Period De Luxe Cabinet, mahogany or bleached blonde (please specify). 8 cu. ft., 37 cycle, 15" baffle. 28¾"W x 19"D x 36½"H. Weight: 80 lbs.

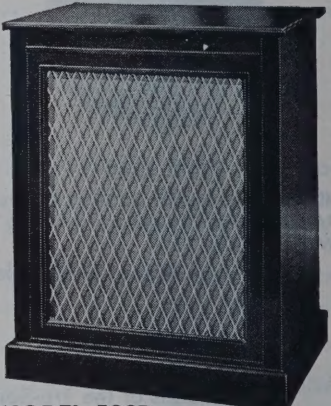
Price, $180 List.

With P-52A Coaxial Speaker,

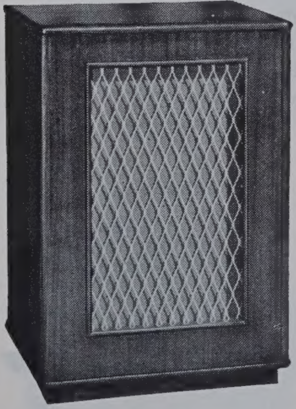
$385 List.

With P-52HF 2-Way System,

$440 List.



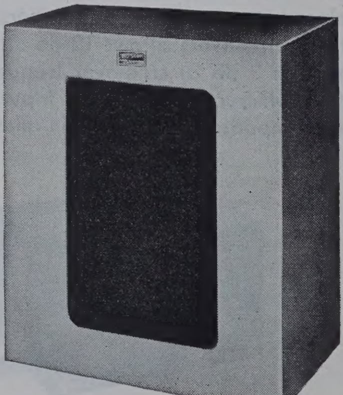
MODEL 52SD



MODEL 52D

De Luxe Cabinet in either mahogany or bleached blonde (please specify). 6 cu. ft., 42 cycle, 15" baffle. 23½"W x 16½"D x 34½"H. Weight: 75 lbs.

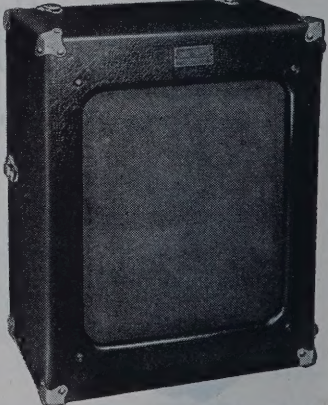
Price, $130 List



MODEL 52U

Gray Utility Cabinet, wine flocked grill, ¾" Pine Plywood, 6 cu. ft., 42 cycle (specify 12" or 15" baffle). 23½"W x 17"D x 32"H. Weight: 70 lbs.

Price, $60 List



MODEL 52P

Portable cabinet in black leatherette with chrome hardware (specify 12" or 15" baffle). 18"W x 12"D x 23¾"H. Weight: 28 lbs.

Price, $75 List

STEPHENS MANUFACTURING CORPORATION

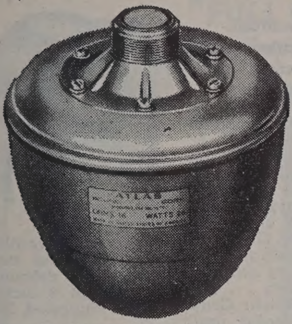
ATLAS SOUND CORPORATION

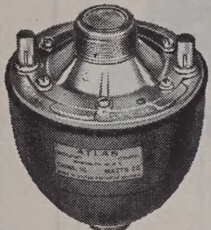
ATLAS
HEARD 'ROUND THE WORLD
SOUND

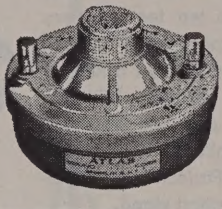
NEW ATLAS "ALNICO-V-PLUS" MAGNETIC CIRCUIT

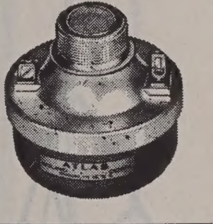
Model PD-V Driver Units (Full-Phenolic Unbreakable Diaphragms)

All models include the new **ATLAS Alnico "V-PLUS"** super-efficient magnetic assembly with its energy per unit volume over three times as great as any used before . . . Magnetically Shielded . . . Hermetically Sealed . . . One piece, unbreakable, high-temperature and fatigue-proof full phenolic diaphragm. All models 1⅜"-18 thread size.









MODEL PD-8V

Power	25 watts
Impedance	16 ohms
Frequency	90 to 10,000
List Price	**$40.00**

MODEL PD-5VH

Power	25 watts
Impedance	16 ohms
Frequency	90 to 9000
List Price	**$32.50**

MODEL PD-4V

Power	25 watts
Impedance	16 ohms
Frequency	90 to 6000
List Price	**$25.00**

MODEL PD-3V

Power	12 watts
Impedance	8 ohms
Frequency	100 to 6000
List Price	**$22.50**

"DR" RE-ENTRANT — REFLEX — PROJECTORS

Non-resonant - Stormproof - Uniform response - Rugged construction

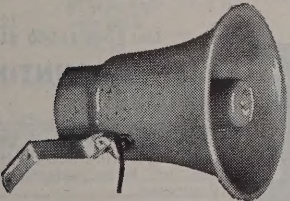
The utmost in performance can be obtained from these new, non-resonant reflex projectors. All resonance is eliminated by fibre gasket seals and special rubber rim which dampens rim vibration. The bracket mounting assembly is securely fastened to a main body steel casting which guarantees long life under extreme conditions of mechanical strain. All spinnings are of weather-resistant, heavy gauge aluminum, finished in a high lustre gray enamel.

MODEL	Air Column	Dispersion	Low Frequency	Length	Diameter	LIST PRICE
DR-32	2½ ft.	75°	175 c.p.s.	12 in.	14 in.	$23.50
DR-42	3½ ft.	80°	135 c.p.s.	15 in.	21 in.	28.00
DR-54	4½ ft.	90°	105 c.p.s.	18 in.	26 in.	40.00
DR-72	6 ft.	100°	85 c.p.s.	25 in.	31 in.	60.00

NEW ATLAS "ALNICO-V-PLUS" PAGING & TALK-BACK SPEAKERS

Complete with unbreakable super-efficient "V-PLUS" Driver Unit

These speakers include the newly developed, unbreakable, hermetically-sealed driver units using the Alnico "V-PLUS" magnetic circuit. They offer a maximum of efficiency as a reproducer, and the utmost in performance as a microphone, in talk-back circuits. The new, improved ball swivel mounting bracket permits quick and simple directional adjustment in every position, horizontal and vertical. All aluminum construction, finished in high lustre gray enamel.



MODEL HU-12

Power	3 watts
Impedance	8 ohms
Frequency	375 to 9000
Length	7½ in.
Diameter	6¼ in.
Air Column	13½ in.
List Price	**$23.00**

MODEL HU-15V

Power	12 watts
Impedance	8 ohms
Frequency	300 to 7000
Length	11 in.
Diameter	8½ in.
Air Column	15 in.
List Price	**$29.75**

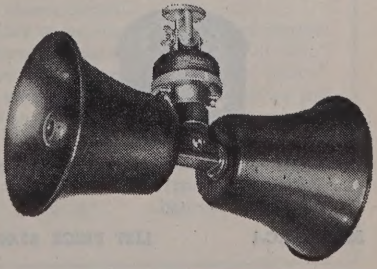
MODEL HU-24V

Power	12 watts
Impedance	8 ohms
Frequency	200 to 7000
Length	15 in.
Diameter	10 in.
Air Column	24 in.
List Price	**$32.75**

NEW ATLAS "ALNICO-V-PLUS" DUAL PROJECTORS

Two-way Projector complete with Driver Unit

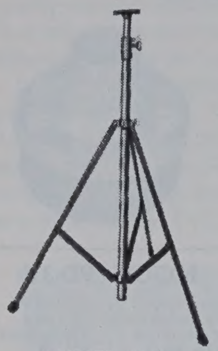
This two-way speaker projects sound of equal intensity in a dual manner. Also excellent for talk-back application. Reduces cost of installation and offers installation advantages when used in critical locations of long corridors, industrial plants, and similar locations. All aluminum construction finished in gray lustre enamel. Universal mounting bracket. Power: 12 watts. Impedance: 8 ohms.



MODEL	Overall Length	Bell Diameter	LIST PRICE
TP-15V	15½ in.	8½ in.	$44.00
TP-24V	22 in.	10 in.	49.50

ATLAS SOUND CORPORATION

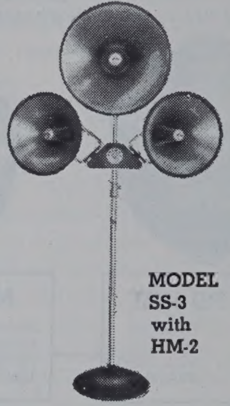
SPEAKER SUPPORT STANDS



MODEL SS-2

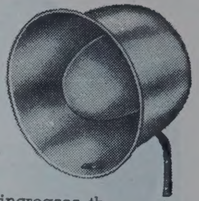
Both models extend from five to ten feet. Heavy steel construction finished in gray enamel and cadmium plating. PS-1 top fitting supplied. The HM-2 permits the use of three "DR" Projectors on a single support stand.

MODEL	LIST PRICE
SS-2	$35.00
SS-3	30.00
HM-2	15.00



MODEL SS-3 with HM-2

MARINE Midget PROJECTOR
for 5" Cone Speakers

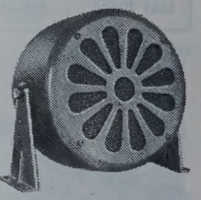


- **Re-entrant.**
- **Weatherproof.**
- **Efficient.**
- **Compact.**

Will accommodate any standard 5" cone speaker. The efficient means of loading the cone diaphragm greatly increases the normal efficiency of any cone speaker. Offers protection against weather and mechanical abuse. Universal steel mounting bracket supplied. Bell diameter 10 inches . . . Overall length 8 inches . . . Finish: Gray enamel. Supplied less cone speaker unit.

MODEL WX-5 **LIST PRICE $13.50**

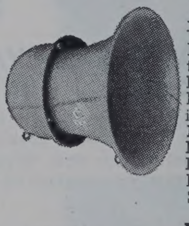
TWO-WAY ENCLOSURE
for 8" Cone Speakers



The front and back wave of the speaker is utilized to assist in good sound coverage in long corridors and central locations. Adjustable wall or ceiling mounting brackets supplied. All steel finished in gray enamel. Cloth screens on both sides. Speaker mounting screws included. Outside diameter 10" . . . Depth 5".

MODEL TW-8 **LIST PRICE $8.25**

PARABOLIC BAFFLES
for 12" Cone Speaker



All steel construction, waterproof interlock seal between sections. All mounting bolts and hanging loops supplied. Finished in gray enamel.

Model .	**SM-12**
Diam. Bell	20 in.
Length	18 in.
Speaker Size	12 in.
List Price $14.50	**$15.50**

BAFFLE MOUNTING FIXTURE

Offers convenient mounting for Parabolic Baffles. Complete adjustable saddle fixture and base pedestal as illustrated.

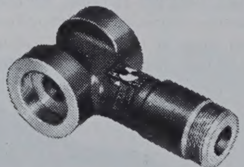
MODEL ST-8 **LIST PRICE $5.25**

PIPE STANCHION FITTING

"DR" re-entrant or "RC" radial "U" brackets adapted to ¾" pipe fittings. This steel adaptor has holes properly located to match holes in "U" bracket. All mounting bolts supplied. Female ¾" pipe thread.

MODEL PS-1 **LIST PRICE $2.00**

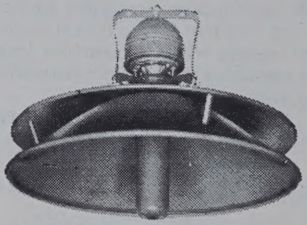
TWO UNIT TO ONE PROJECTOR ADAPTOR



When it is found necessary to obtain the greatest possible power output from a single projector the H-2U is recommended This device permits the use of two driver units with any type of projector. Construction: Cast aluminum. All threads 1⅜"-18.

MODEL H-2U **LIST PRICE $10.00**

RADIAL DRIVER UNIT PROJECTOR



- **Non-resonant.**
- **Dual Rubber Rims.**
- **100% Storm-Proof.**
- **Uniform 360° Coverage.**

The advantage of 360° coverage often permits the use of one speaker where normally a multiple of directional projectors may be required. The radial projectors are of all-aluminum construction finished in a weather-proof gray enamel. Thread size 1⅜"-18. The use of the H-2U two-unit adaptor will double the power output for single projector high power application.

MODEL	**RC-36**	**RC-48**
Air Column	3 ft.	4 ft.
Bell Diameter	24 in.	28 in.
Overall Height	18 in.	21 in.
LIST PRICE (horn only) . . .	**$40.00**	**$50.00**

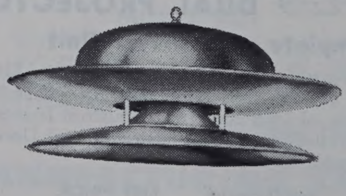
SPEAKER POWER VOLUME CONTROL

For adjusting volume of individual speakers. Power handling: 10 watts constant. Complete as illustrated.

MODEL RC-1 **LIST PRICE $5.00**

RADIAL CONE SPEAKER PROJECTOR

for 12-inch Cone Speakers



360° Coverage

This radial projector offers an excellent baffle for any standard 12" diameter standard cone speaker and produces smooth and uniform 360° coverage. With a good grade of cone speaker it will adequately load the reproducer down to 60 cycles. The enclosure is designed to shed water and can, therefore, be used indoors and out. Finished in gray enamel . . . Outside diameter 29 inches . . . Overall height 13 inches

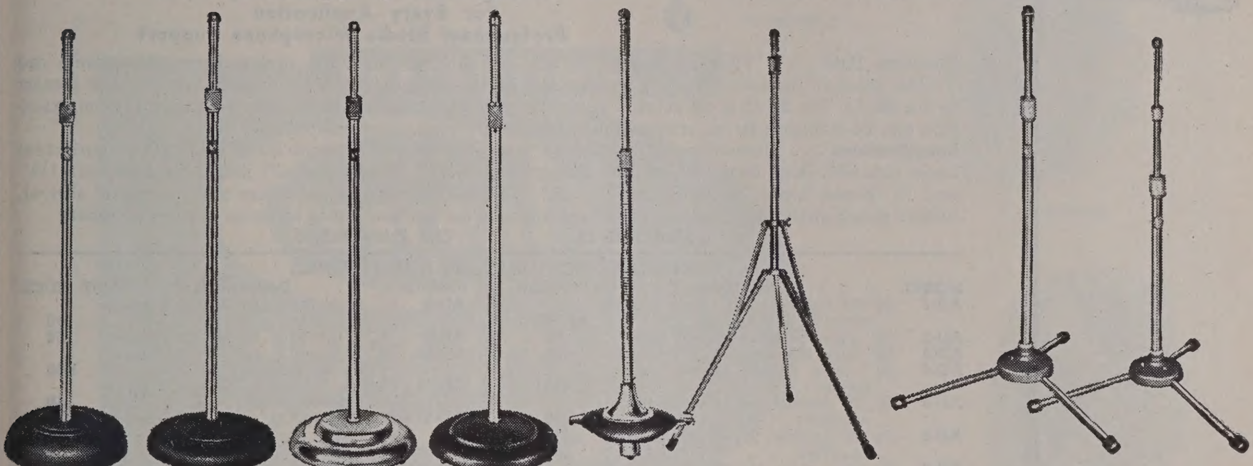
MODEL L-360 **LIST PRICE $35.00**

ATLAS SOUND CORPORATION

ATLAS
HEARD ROUND THE WORLD
SOUND

"FULL GRIP — VELVET ACTION" Microphone Stands

No slipping - No rattle - No noise - No scratching - No wear



MS-10C Leader · **MS-12C** Standard · **MS-11C** Standard DeLuxe · **MS-20** Professional · **MS-24** Studio DeLuxe · **CS-1** Collapsible · **CS-32** 2-piece Demountable · **CS-33** 3-piece Demountable

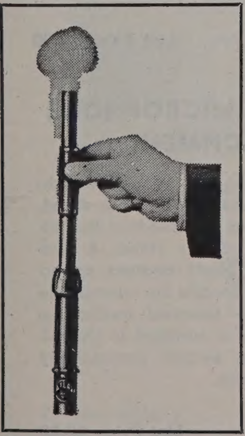
The "Full Grip" Clutch offers an extended length clutch body, permitting a secure, full-hand grip. The clutch mechanism is inner-lined with a wear-proof bakelite locking collet which grips without jamming, slipping, or sudden dropping. All bases are functionally designed to offer maximum stability for a given base weight. The maximum base mass is located at the outer periphery of the casting where the concentrated weight is most useful. All bases include self-leveling, shock-absorbent base pads, plus three additional "anti-tip" points located between the base pads. The complete tube assemblies of all models are "super-chrome" plated, assuring "life-time" wear. All models terminate in a ⅝"-27 carefully machined thread.

MODEL	Weight	Base Finish	Tube Finish	Height Adjst.	Base Diam.	LIST PRICE
MS-10C	9 lbs.	Gray Shrivel	Full Chrome	35" to 64"	10"	$ 8.25
MS-12C	12 lbs.	Gray Shrivel	Full Chrome	35" to 65"	10"	9.00
MS-11C	12 lbs.	Full Chrome	Full Chrome	35" to 65"	10"	11.00
†MS-20	15 lbs.	Gray Shrivel	Full Chrome	42" to 72"	12"	13.50
†MS-24	24 lbs.	Chrome & Gray Shrivel	Full Chrome	42" to 72"	17"	19.00
§CS-1	5 lbs.	Cadmium Plated	Full Chrome	23" to 62"	Collapsible	17.00
***CS-32**	4 lbs.	Chrome & Gray	Full Chrome	36" to 64"	Demountable	9.00
***CS-33**	3 lbs.	Hammerloid	Full Chrome	26" to 64"	Demountable	11.00

*Each stand is individually packed complete in a single carton.

†The MS-20 and MS-24 use large diameter, oversize, telescoping brass tube assemblies (⅞" telescoping tube — 1⅛" base tube) resulting in a handsome and fine-appearing stand that supplements the professional appearance of large-size high quality microphones.

§Collapsible to a minimum overall length of 23 inches.



NEW AUTOMATIC "Sleeve Action" MICROPHONE STAND

Quiet . . . No Rasp . . . Smooth . . . No Jolt or Jar

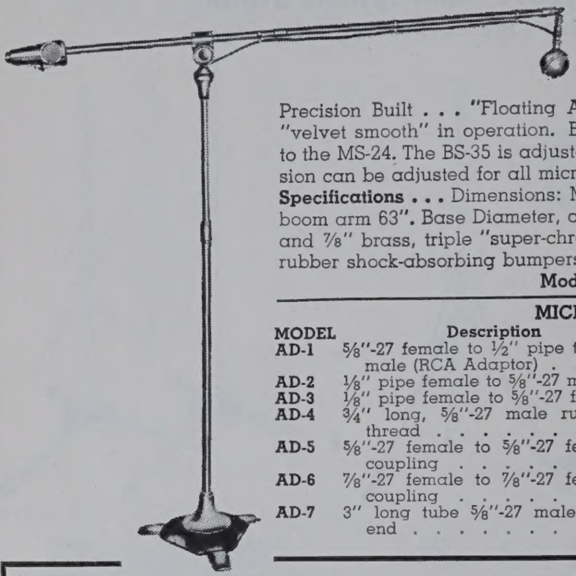
This amazing new automatic "Sleeve Action" clutch mechanism is a fully automatic means of adjusting the height of a microphone stand. A slight downward pressure on the "Sleeve Action" control permits the telescoping section to be lowered. To raise the stand, the telescoping tube can be grasped at any point and simply extended. The new "Sleeve Action" is built for life-time use. It cannot creep or change position without a deliberate pressure on the actuating sleeve control.

The quality of materials, plating, and general specifications are identical to the "Full Grip" models described above. The "Sleeve Action" stand is available in two models; either full chrome or shrivel base.

MODEL	Weight	Base Finish	Tube Finish	Height Adjst.	Base Diam.	LIST PRICE
MS-12S	12 lbs.	Gray Shrivel	Full Chrome	35" to 65"	10"	$16.00
MS-11S	12 lbs.	Full Chrome	Full Chrome	35" to 65"	10"	18.00

ATLAS SOUND CORPORATION

PROFESSIONAL BOOM STAND



Finger-Tip Control by "Floating Action"
Precision Built — Attractively Styled
For Every Application
Professional Studio Microphone Support

Precision Built . . . "Floating Action" Stand . . . All moving parts and locking adjustments are "velvet smooth" in operation. By simple and quick removal of the boom arm, the stand is similar to the MS-24. The BS-35 is adjustable vertically and horizontally. The counterweight and boom extension can be adjusted for all microphone weights and various extensions.

Specifications . . . Dimensions: Maximum vertical extension 72", minimum 48". Length of horizontal boom arm 63". Base Diameter, at floor contact points, 17". Total weight 35 lbs. Tube diameters 1⅛" and ⅞" brass, triple "super-chrome" plated . . . Base finished in chromium and gun-metal shrivel, rubber shock-absorbing bumpers. Snap-on hangers for holding cable to boom section supplied.

Model BS-35 **List Price $55.00**

MICROPHONE ADAPTORS AND FITTINGS

MODEL	Description	LIST PRICE
AD-1	⅝"-27 female to ½" pipe thread male (RCA Adaptor)	$0.75
AD-2	⅛" pipe female to ⅝"-27 male .	.50
AD-3	⅛" pipe female to ⅝"-27 female	.50
AD-4	¾" long, ⅝"-27 male running thread	.25
AD-5	⅝"-27 female to ⅝"-27 female, coupling	.50
AD-6	⅞"-27 female to ⅞"-27 female, coupling	.50
AD-7	3" long tube ⅝"-27 male each end	.50
AD-8	6" long tube ⅝"-27 male each end	.60
AD-9	⅞"-27 female to ⅝"-27 female	.50
AD-10	⅝"-24 female to ⅝"-27 female (W. E. Adaptor)	1.00
AD-11	Flange, ⅝"-27 female. Base Diameter 1¼"	.50
AD-12	Flange, ⅝"-27 male. Base holes on ⅞" mounting centers . .	.50

All adaptors chrome plated.

We are prepared to supply any special types of adaptors or fittings, and bent tube sections, to your specifications in reasonable quantities.

ADJUSTABLE BANQUET STAND

This stand incorporates the "Full Grip -Velvet Action" principle of adjustment. The tube and base are completely finished in "super chrome" offering a fine appearing stand suitable for use on a banquet table. Adjustable from 18" to 32". Base diameter 8"; Weight 5 lbs.

Model TS-6 **List Price $7.50**

MODEL DA-1 (shown with MS-20 floor stand)

SPEAKER'S or ORCHESTRA DESK ATTACHMENT

This desk attachment can be applied to any type of microphone stand. This is an item which has long been required in many permanent as well as rental installations. It offers the speaker facilities for holding notes or other reference material. A microphone can be directly attached to the desk by using the BC-1 Bracket Clamp. The DA-1 is complete with ⅝"-27 thread attachment and tilt adjustment. Sturdy construction finished in bright aluminum.

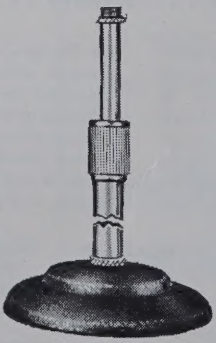
Model DA-1 (less floorstand)

List Price $10.00

"VELVET ACTION" DESK STANDS

ATLAS Desk Stands employ the same fine finish and workmanship as embodied in the floor models. The adjustable Model DS-7 uses heavy duty ⅝" and ⅞" tubing. Felt base pads included. Base diameter 6", finish gray shrivel; tube chromium plated.

Model	Height Adj.	List Price
DS-5	Fixed 6"	$2.75
DS-7	8" to 13"	4.50



MODEL DS-7

FLEXIBLE GOOSE NECK

Can be attached to any microphone stand so that some amount of overhang can be accomplished. Ends have ⅝"-27 male and female threads. Finished in bright chrome. Length 13".

Model GN-13 **List Price $2.50**

BRACKET CLAMP

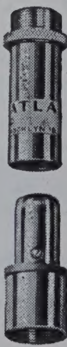
A multitude of useful applications. Can be used with Boom Arm, Goose Neck, etc. Chrome tube 6" long. Castings finished in gray shrivel. Can be clamped or permanently screwed or bolted in position. Thread size ⅝"-27.

Model BC-1 **List Price $3.00**

"BABY BOOM" ATTACHMENT

Easily attached to any type of microphone stand. Can be locked in any position. Length of tube 32", chrome plated; castings in gray shrivel. ⅝"-27 thread size.

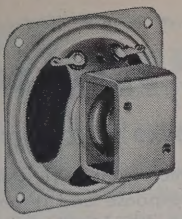
Model BB-1 **List Price $7.00**

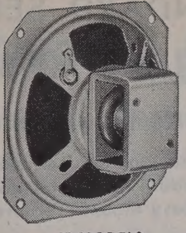


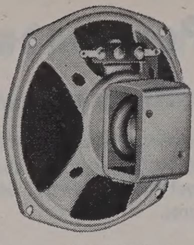
"SNAP-ON" MICROPHONE ATTACHMENT

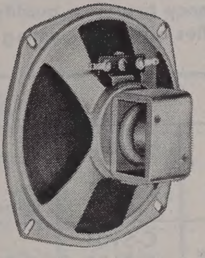
A quick, simple, and safe means of attaching any microphone to any floor stand. Eliminates the need of threading the microphone on and off the stand. A two-section "Snap-On" ball bearing spring sleeve attachment permits the microphone to be attached or removed instantaneously. One section is attached to the microphone and one section permanently fastened to the stand.

Model SO-1 **List Price $2.50**


3" MODELS


4" MODELS


5" MODELS

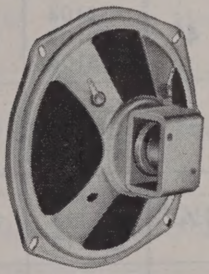

5¼" MODELS

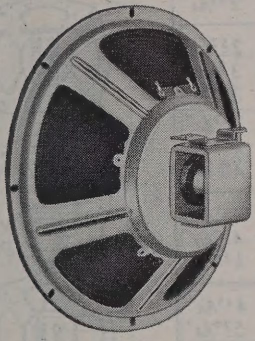
PRESENTING . . .

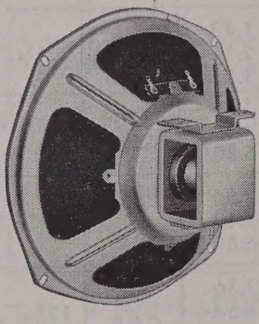
Crescent

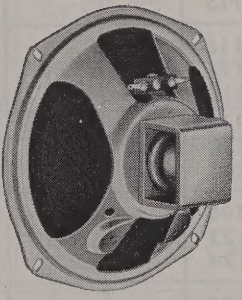
ALNICO V PM DYNAMIC SPEAKERS

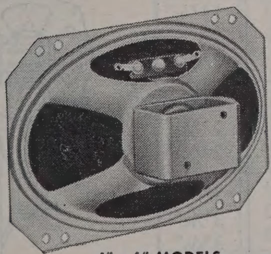
STANDARD MODELS

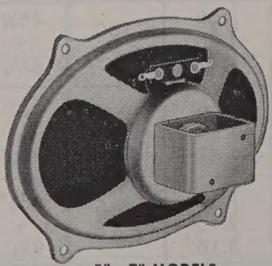

6" MODELS

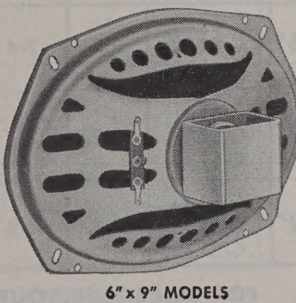

12" MODELS


10" MODELS


8" MODELS


4" x 6" MODELS


5" x 7" MODELS


6" x 9" MODELS

CRESCENT INDUSTRIES, INC.
4140 WEST BELMONT AVENUE, CHICAGO 41, ILLINOIS, U. S. A.
EXPORT: SCHEEL INTERNATIONAL, INC., CHICAGO 18, ILLINOIS, U. S. A.

Form No. WDSL-5 PRINTED IN U. S. A. 1-25-49

Crescent

STANDARD SERIES
Permanent Magnet Dynamic Speakers

USING POWERFUL ALNICO V MAGNETS, RUGGED CONES WITH DUSTCOVERS AND PRECISION WOUND VOICE COILS...

Crescent Standard Series PM Speakers are scientifically designed and engineered for maximum sensitivity, sturdy construction, low resonance and smooth frequency response. Individual testing for noise, poor response and resonant frequency assures a quality product that is always uniform. The "Easy Mount" feature eliminates "blacksmithing" and simplifies difficult mounting problems.

SPECIFICATIONS—Standard Groups

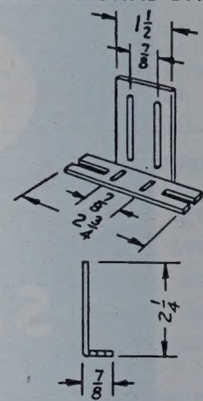
Size	Catalog No.	Voice Coil Imp. Ohms	Voice Coil Power Watts	Voice Coil Dia. In.	Magnet Weight Oz.	Cone Resonance	Dimensions A Outside Diameter	Dimensions B Mounting Centers	Dimensions C Depth
3½"	C-S101	3.2	2-4	9/16	.68	200 C.P.S.	3 7/16"	2 13/16"	1 23/32"
	C-S102				1.00				1⅞"
	C-S103				1.47				2 5/64"
4"	C-S104	3.2	2-4	9/16	.68	180 C.P.S.	4 3/32"	3 5/16"	1 13/16"
	C-S105				1.00				1 31/32"
	C-S106				1.47				2 5/32"
5"	C-S107	3.2	2-4	9/16	.68	160 C.P.S.	4 37/64"	3 5/16"	2"
	C-S108				1.00				2 5/32"
	C-S109				1.47				2 23/64"
5¼"	C-S110	3.2	2-4	9/16	.68	150 C.P.S.	5 9/32"	3 29/32"	2 5/32"
	C-S111				1.00				2 5/16"
	C-S112				1.47				2 33/64"
6"	C-S113	3.2	2-4	9/16	.68	130 C.P.S.	6 3/32"	4 21/64"	2 11/32"
	C-S114				1.00				2½"
	C-S115				1.47				2 45/64"
8"	*C-S116	3.2	4-9	¾	1.43	100 C.P.S.	7 33/64"	5 25/64"	2 57/64"
	C-S117				2.15				3 15/32"
	C-S118				3.16				3 15/32"
	*C-S119	3.2	6-12	1	3.36	100 C.P.S.	7 33/64"	5 25/64"	3 11/64"
	C-S120				4.64				4"
	C-S121				6.80				4"
10"	*C-S122	3.2	6-12	1	3.36	90 C.P.S.	9 39/64"	6 13/16"	3 61/64"
	C-S123				4.64				4 25/32"
	C-S124				6.80				4 25/32"
12"	*C-S125	3.2	6-12	1	3.36	80 C.P.S.	12 5/32"	8 11/64"	4 41/64"
	C-S126				4.64				5 29/64"
	C-S127				6.80				5 29/64"

SPECIFICATIONS—Oval Groups

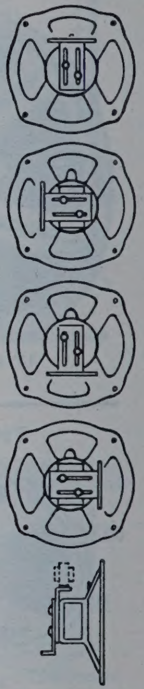
Size	Catalog No.	Voice Coil Imp. Ohms	Voice Coil Power Watts	Voice Coil Dia. In.	Magnet Weight Oz.	Cone Resonance	Dimensions A Outside Diameter	Dimensions B Mounting Centers	Dimensions C Depth
4"x6"	C-S128	3.2	2-4	9/16	.68	160 C.P.S.	4 3/32" x 6 3/16"	3¾" x 4⅝"	1 27/32"
	C-S129				1.00				2"
	C-S130				1.47				2 3/16"
5"x7"	C-S131	3.2	2-4	9/16	.68	130 C.P.S.	5" x 7¼"	4 11/32" x 4 11/32"	2 29/64"
	C-S132				1.00				2 39/64"
	C-S133				1.47				2 49/64"
6"x9"	*C-S134	3.2	4-9	¾	1.43	100 C.P.S.	6⅜" x 9¼"	4⅝" x 6 9/16"	3"
	C-S135				2.15				3 9/16"
	C-S136				3.16				3 9/16"

FOR PRICES SEE YOUR CURRENT CRESCENT SPEAKER PRICE LIST

"EASY MOUNT" MOUNTING BRACKET DIMENSIONAL DATA



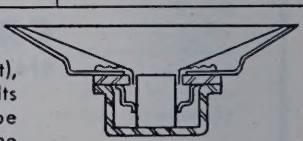
A FEW OF THE MANY APPLICATIONS



See Mounting Brackets, Bottom of Next Page.

*These Models Use Centerless Ground Magnets

The centerless ground magnet, a relatively new type of construction (illustrated at right), eliminates the conventional pole piece, reduces the overall depth of the speaker and results in higher magnetic efficiency per magnet weight. However, its greatest advantages can be obtained only when the diameter of the voice coil bears a suitable relationship to the length of the magnet.



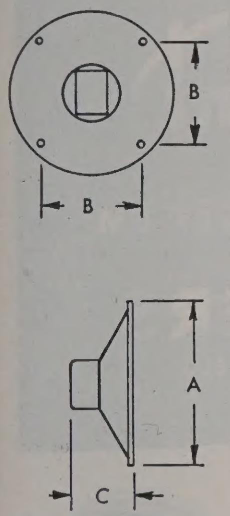
STANDARD SERIES

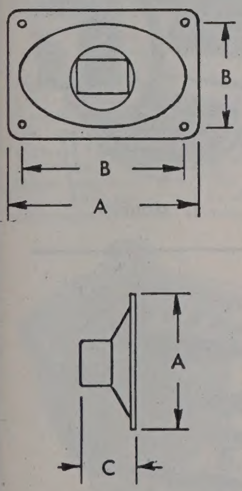
Crescent Electro Magnet Dynamic Speakers

EQUIPPED WITH HUMBUCKING COILS OR SHADING RINGS AND RUGGED CONES WITH DUSTCOVERS...

Crescent Standard Series EM Speakers are designed and engineered to fit the wide range of types and sizes needed in the radio service field. Rigid inspection and individual testing in our quality control section eliminate "comebacks" that are often costly to the radio servicer in time and customer good will. The "Easy Mount" feature saves time and tempers and offers a simple solution for even the toughest jobs.

DIMENSIONAL DATA





SPECIFICATIONS—Standard Groups

Size	Catalog No.	VOICE COIL Imp. Ohms	VOICE COIL Power Watts	VOICE COIL Dia. In.	Field Coil Ohms	Cone Resonance	DIMENSIONS A Outside Diameter	DIMENSIONS B Mounting Centers	DIMENSIONS C Depth
3½"	C-S201 C-S202	3.2	2-4	9/16	450 2750	200 C.P.S.	3 7/16"	2 13/16"	2 5/64"
4"	C-S203 C-S204 C-S205 C-S206	3.2	2-4	9/16	450 1000 1800T300 2750	180 C.P.S.	4 3/32"	3 5/16"	2 5/32"
5"	C-S207 C-S208 C-S209 C-S210 C-S211	3.2	2-4	9/16	4 450 1000 1800T300 2750	160 C.P.S.	4 37/64"	3 5/16"	2 23/64"
5¼"	C-S212 C-S213 C-S214	3.2	2-4	9/16	4 450 1000	150 C.P.S.	5 9/32"	3 29/32"	2 33/64"
6"	C-S215 C-S216 C-S217 C-S218 C-S219	3.2	4-9	3/4	4 450 1000 1800T300 2500	130 C.P.S.	6 3/32"	4 21/64"	3 15/64"
8"	C-S220 C-S221 C-S222	3.2	4-9	3/4	1000 1800T300 2500	100 C.P.S.	7 33/64"	5 25/64"	3 23/32"
10"	C-S223 C-S224 C-S225	3.2	6-12	1	1000 1500 2500	90 C.P.S.	9 19/32"	6 13/16"	4 29/32"
12"	C-S226 C-S227 C-S228	3.2	6-12	1	1000 1500 2500	80 C.P.S.	12 5/32"	8 11/64"	5 37/64"

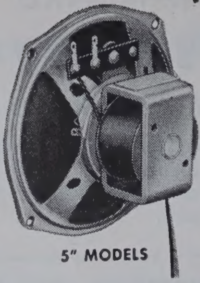
SPECIFICATIONS—Oval Groups

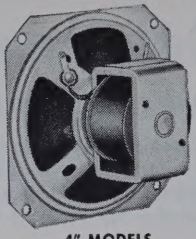
Size	Catalog No.	Imp. Ohms	Power Watts	Dia. In.	Field Coil Ohms	Cone Resonance	A Outside Diameter	B Mounting Centers	C Depth
4"x 6"	C-S229 C-S230 C-S231 C-S232 C-S233	3.2	2-4	9/16	4 450 1000 1500 2750	160 C.P.S.	4 3/32" x 6 3/16"	3¾" x 4⅝"	2 7/32"
5"x 7"	C-S234 C-S235 C-S236 C-S237	3.2	4-9	3/4	4 450 1000 1500	130 C.P.S.	5" x 7¼"	4 11/32" x 4 11/32"	3 7/32"
6"x 9"	C-S238 C-S239 C-S240 C-S241	3.2	4-9	3/4	4 450 1000 1500	100 C.P.S.	6⅜" x 9¼"	4⅝" x 6 9/16"	3 13/16"

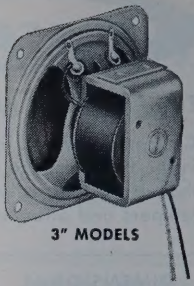
FOR PRICES SEE YOUR CURRENT CRESCENT SPEAKER PRICE LIST

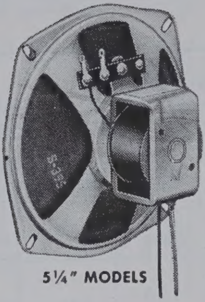
Mounting Bracket Information

Crescent "Easy Mount" brackets (Part No. S-588) are supplied with speakers up to and including 5" x 7". Speakers ... 8" and larger... have standard provisions for transformer mounting and do not come with "Easy Mount" brackets. "Easy Mount" brackets may be purchased separately where it is desirable to use 2 brackets on 1 speaker for chassis and transformer mounting.


5" MODELS


4" MODELS


3" MODELS

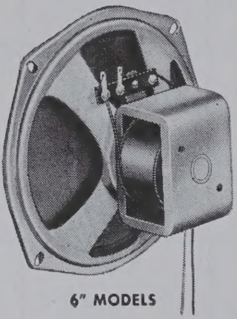

5¼" MODELS

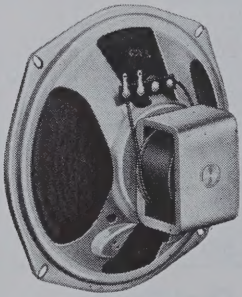
HERE THEY ARE . . .

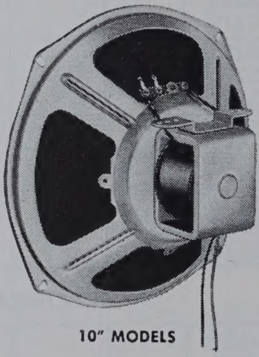
Crescent

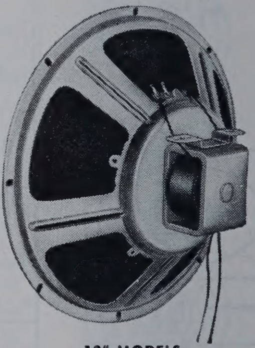
ELECTRO MAGNET EM DYNAMIC SPEAKERS

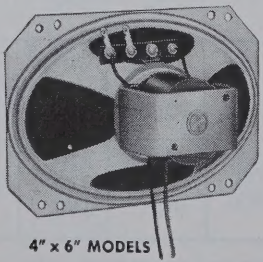
STANDARD MODELS

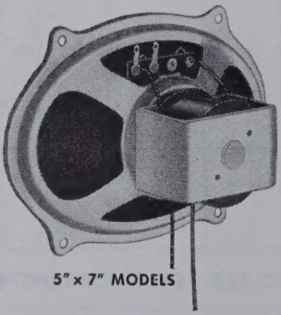

6" MODELS

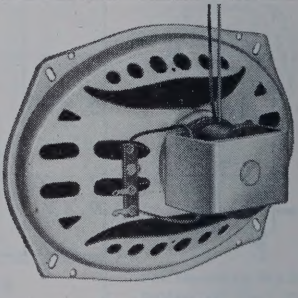

8" MODELS


10" MODELS


12" MODELS


4" x 6" MODELS


5" x 7" MODELS


6" x 9" MODELS

CRESCENT INDUSTRIES, INC.

4140 WEST BELMONT AVENUE, CHICAGO 41, ILLINOIS, U. S. A.

MANUFACTURERS OF

RECORD CHANGERS • WIRE RECORDERS • LOUD SPEAKERS • TOYS • METAL STAMPINGS • TOOLS AND DIES

University

SPEAKERS

MODEL LH

REFLEX LOUDSPEAKERS

The reflex horns pioneered by University represent the most efficient method of converting electrical power into acoustic energy. When used with University driver units, they are capable of conversion efficiencies up to 50% and in addition, provide compactness and weather protection without any sacrifice in performance.

Heavy gauge metal and corrosion resistant finishes on horn and hardware are assurance of trouble-free performance regardless of changes in temperature and humidity. Each speaker is equipped with a rubber damping rim which prevents vibration and mechanical resonance. Adjustable UNIVERSITY "U" bracket mounting simplifies installation and holds the speaker firmly locked in any position.

Four models cover every public address requirement. Model GH has the longest air column and is ideal for the reproduction of symphonic music. The model LH with a higher cutoff is designed as a general purpose speaker and is recommended for music transmission where economy without sacrifice of quality is essential. In installations where a smaller horn is required, the Model PH will render excellent service for both speech and music. The Model SMH will find its widest application in the reproduction of speech where clarity and a high degree of intelligibility are necessary. **Accessories include Model PMA adapter and 2YC connector.**

MODEL	SMH	PH	LH	GH
LOW FREQUENCY CUTOFF	200 CPS	150 CPS	120 CPS	85 CPS
DIAMETER	15½ INCHES	20 INCHES	25½ INCHES	30 INCHES
LENGTH	12 INCHES	15 INCHES	18½ INCHES	25 INCHES
WEIGHT	6 LBS.	10 LBS.	15 LBS.	22 LBS.
PRICE (Horn only)	$24.50	$29.00	$44.50	$60.00

BREAKDOWN PROOF DRIVER UNITS

University driver units are breakdown proof and guaranteed for one year. Ratings are conservative and operation over long periods is assured. They are of the PM dynamic type, incorporate highest quality Alnico magnets and one-piece molded phenolic diaphragms. Unique "rim centering" construction eliminates aligning pins and permanently centers the voice coil and head assembly in a much closer magnetic gap. This results in a higher conversion efficiency and misalignment due to shock or vibration is virtually eliminated. Hermetically sealed housings provide complete protection from outdoor exposure and corrosive fumes.

The PA-30 has a 30-watt built-in line matching transformer. Transformer terminals provide 16, 165, 250, 500, 1000, 2000-ohm taps for constant impedance systems and 2½, 5, 10, 20 and 30-watt taps for 70-volt constant voltage systems. Use the PA-30 or SA-HF for high power installations or where occasional overload is a problem. Model MA-25 represents the best "watts per dollar" value of any driver unit made. It combines efficiency, waterproof construction and economy.

MODEL PA-30

MODEL SA-HF

MODEL MA-25

MODEL	PA-30	SA-HF	MA-25
POWER	30 WATTS	25 WATTS	25 WATTS
IMPEDANCE	ADJUSTABLE*	16 OHMS	16 OHMS
FREQUENCY	80 to 10,000 CPS	90 to 10,000 CPS	90 to 6000 CPS
DIAMETER	6¾ INCHES	4½ INCHES	4⅛ INCHES
HEIGHT	6¾ INCHES	5 INCHES	3¾ INCHES
WEIGHT	6 LBS.	5 LBS.	3 LBS.
THREAD SIZE	1⅜"—18	1⅜"—18	1⅜"—18
FLUX DENSITY IN GAUSS PER SQ. CM.	15,000	14,000	11,000
PRICE	$50.00	$37.00	$25.00

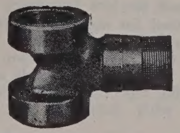
*16-Ohm Voice Coil—165, 250, 500, 1000, 2000-Ohm Transformer Taps.

ACCESSORIES

Model PMA Adapter

For mounting any UNIVERSITY "U" bracket speaker on standard ½" pipe.

PRICE $1.50


Model 2YC Connector

Use with two driver units to provide up to 60 watts for any UNIVERSITY trumpet or projector.

PRICE $10.00

Unit Adapter

For adapting Western Electric horns for use with any UNIVERSITY driver unit.

PRICE $2.50

University SPEAKERS

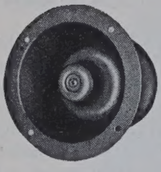
INDUSTRIAL PAGING SPEAKERS

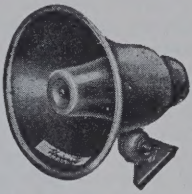
These speakers are reflex air column horns with built-in hermetically sealed driver units. Models CR, 1B8, and MIL are directional and model IBR has a radial deflector for uniform 360° dispersion. They are capable of continuous use for intercommunication and paging on shipboard, docks, loading platforms, terminals and industrial plants.

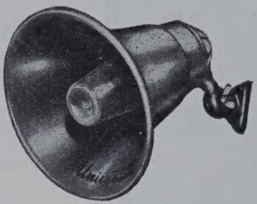
Models CR can handle 18 watts of input power continuously, so that it is useful for high power alarm or announcing systems. Models IB8 and IBR have a continuous power handling capacity of 12 watts, which recommends them for paging or announcing in noisy industrial areas. The models MIL and MIS with a 3 watt continuous power capacity are efficient intercommunication speakers. The model MIS is designed for flush panel mounting.

While capable of producing adequate volume with low power, these speakers can handle more power than any other speaker of comparable size and weight. Modernization of old sound systems is easily accomplished by replacement of obsolete speakers with these models. Standard voice coil impedances permit installation without changes in the existing line or amplifier.

DIRECTIONAL AND RADIAL PAGING SPEAKERS


MODEL MIS


MODEL MIL


MODEL IB8

MODEL CR

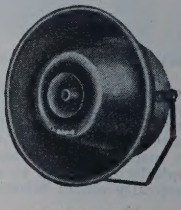
MODEL IBR

MODEL	**MIS**	**MIL**	**IB8**	**CR**	**IBR**
POWER.	3 WATTS	3 WATTS	12 WATTS	18 WATTS	12 WATTS
IMPEDANCE.	8 OHMS 45 OHMS	8 OHMS 45 OHMS	8 OHMS	16 OHMS	8 OHMS
DISPERSION.	150°	120°	90°	90°	360°
FREQUENCY.	500-9000	400-9000	300-6000	250-6000	300-6000
DIMENSIONS.	3⅞" Deep, 5½" O.D. 4½" Mounting Dia.	6 INCHES DIA. 7 INCHES HIGH	9 INCHES DIA. 9 INCHES HIGH	11 INCHES DIA. 9 INCHES HIGH	9 INCHES DIA. 11 INCHES HIGH
WEIGHT.	2⅛ LBS.	3½ LBS.	5 LBS.	9 LBS.	5 LBS.
PRICE.	8 OHM, $20.00 45 OHM, $21.25	8 OHM, $25.00 45 OHM, $26.25	$32.50	$42.00	$39.00

WIDE RANGE WEATHERPROOF COAXIAL SPEAKERS

The Model WLC is a high fidelity co-axial speaker with a response range essentially flat from 50-10,000 cycles. It includes a 12" Cone speaker, a unit-driven tweeter and a built-in crossover network. Corrosion-resistant, all metal construction permits constant exposure regardless of temperature and humidity. Ideally suited for concert band-shells, drive-in theatres and all indoor or outdoor installations where high quality reproduction of music and voice are essential. A sturdy mounting bracket facilitates installation and permits tilting and locking the speaker in any desired vertical plane.

POWER	25 WATTS
IMPEDANCE	8 OHMS
RESPONSE	50-10,000 CPS
DISPERSION	90°
DIAMETER	33"
DEPTH	18"
CROSSOVER FREQ.	1000 CYCLES
WEIGHT	40 LBS.
PRICE	$200.00


MODEL WLC

RADIAL REFLEX PROJECTORS

Air column horns with radial deflectors for uniform 360° sound distribution cover large areas and override high noise-levels, without blasting. Both rims rubber loaded to minimize mechanical resonance. The long air column of the RLH and its low frequency cutoff make it well suited for music and general applications. The smaller model RPH, with a somewhat higher cutoff, will serve for both music and speech. The RSH finds wide application for high clarity reproduction of speech. Shipped complete with hardware but less driver unit.

MODEL	**RLH**	**RPH**	**RSH**
LOW CUTOFF	120 CPS	150 CPS	180 CPS
AIR COLUMN	5 FT.	4 FT.	3 FT.
DIAMETER	28½"	25"	18½"
HEIGHT	18½"	14"	11"
WEIGHT	21½ LBS.	18 LBS.	12 LBS.
PRICE (Horn only)	$59.00	$45.00	$38.50

RADIAL CONE-SPEAKER PROJECTORS

MODEL	**RBP-12**	**RBP-8**
FREQUENCY	UNIFORM DOWN TO 50 CYCLES	UNIFORM DOWN TO 80 CYCLES
DIAMETER	27 INCHES	18 INCHES
HEIGHT	11 INCHES	9 INCHES
WEIGHT	19 LBS.	9 LBS.
PRICE	$35.00	$19.60

These compact projectors consist of an acoustic chamber for housing a cone speaker and a radial deflector for uniform 360° dispersion. Of all metal, rubber cushioned construction, the model RBP-12, designed for a 12" cone speaker, provides uniform response down to 50 cycles and model RBP-8, designed for an 8" speaker, has a low frequency limit of 80 cycles. Any standard make of 8" or 12" cone speaker can be installed in these baffles. Both models are watershedding and may be used indoors or out. They are shipped complete with hardware but less cone speaker.

University SPEAKERS

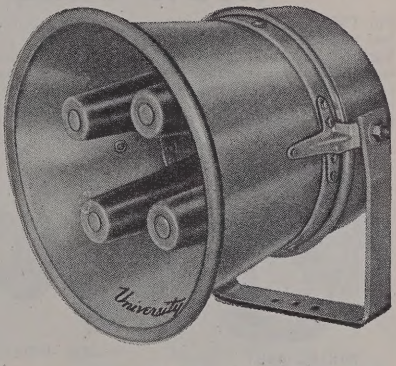
SUPER POWER SPEAKERS

UNIVERSITY super power speakers are the answer to every public address installation where tremendous amounts of concentrated power must be transmitted over long distances.

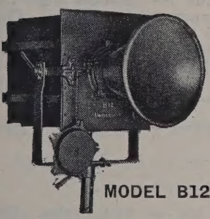
The Model 4A4 incorporates 4 PM driver units mounted on the back of a heavy cast mounting plate. Each driver opens into a reflexed air column on the front of the mounting plate. The four air columns feed into a common bell. Compactness makes them ideally suited for aeroplane broadcasting and use in Church towers.

In the Models B-6 and B-12, the PM driver units are mounted circumferentially on a rugged "tone chamber" casting which provides individual acoustic paths from each driver unit to a mixing chamber at the center of the casting. The patented design of the mixing chamber and the acoustic paths minimizes high frequency cancellation.

All speakers are completely waterproof and characterized by their ruggedness. Power ratings are conservative and projection ranges are often exceded in actual operation. **Speakers of this type were recently heard 15 miles in a carillon installation at the Empire State Building in New York City.** "U" brackets permit a vertical swing of approximately 120° and locking in any position. Longer horns are available with B6 or B12 for music. For B6, diameter 30 inches, length 48 inches. For B12, diameter 30 inches, length 32 inches. Response 85 - 6000 cps. Prices on request. **NOTE:** Model 4A4 is sold and shipped less driver units. Standard driver units Model SA-HF may be used.



MODEL 4A4



MODEL B12

MODEL B6

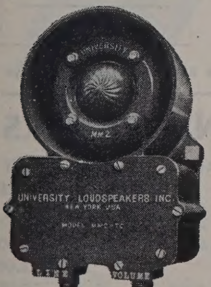
	MODEL B-6	MODEL B-12	MODEL 4A4
POWER	150 WATTS	300 WATTS	100 WATTS
IMPEDANCE	90 OHMS	DOUBLE INPUT 90 OHMS EACH	4, 16, 60 OHMS
DRIVERS	6 UNITS	12 UNITS	4 UNITS
DISPERSION	90°	90°	80°
FREQUENCY	200-6000 CPS	250-6000 CPS	200-6000 CPS
PROJECTION	1½ MILES	2 MILES	1 MILE
DIAMETER	16½"	19" SQUARE	16"
LENGTH	23"	28" LONG	17"
WEIGHT	60 LBS.	30 LBS.	23 LBS.
PRICE			$93.00 (less Units)

RAILROAD AND MARINE TYPES

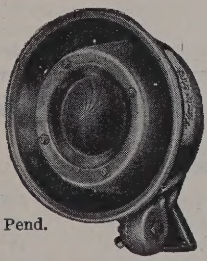
UNIVERSITY marine and railroad speakers are submergence, explosion, shock and vibration proof and are unaffected by live steam. Their reflex air columns are built of rugged castings and are equipped with Alnico V PM dynamic units.

Models MSC, MM-2TC, MM-2 and MM-2F have hermetically sealed housings and biult-in driver units. Models MSR and MM-2TC have space for volume control and line matching transformer. Tapped holes provide access to volume control and for receiving a conduit. All are designed for bulkhead mounting — the Model MM-2F may be flush mounted.

These speakers will operate efficiently under the most arduous conditions — on ships, docks, in railroad yards or locomotive cabs, — in mines, laundries and mills — wherever dirt, salt spray, humidity, explosive dusts and vapors constitute a hazard.

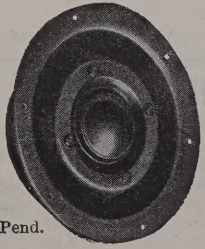


MODEL MM-2TC



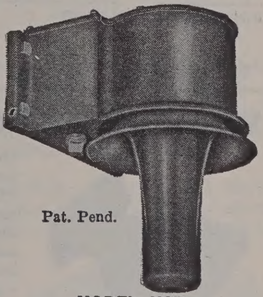
Pat. Pend.

MODEL MM-2



Pat. Pend.

MODEL MM-2F



Pat. Pend.

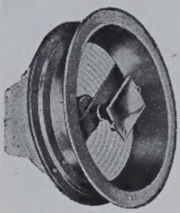
MODEL MSR

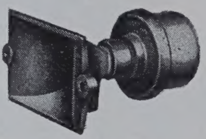
	MODEL MM-2TC	MODEL MM-2	MODEL MM-2F	MODEL MSR
POWER	15 WATTS	15 WATTS	15 WATTS	15 WATTS
TYPE MOUNTING	WALL	SWIVEL BRACKET	FLUSH PANEL	WALL
IMPEDANCE	16 OHMS	16 OHMS	16 OHMS	16 OHMS
DISPERSION	120°	150°	150°	360°
FREQUENCY	300-6000 CYCLES	300-6000 CYCLES	300-6000 CYCLES	250-6000 CYCLES
HEIGHT	10¾"			10¾"
DEPTH	4½"	4¾" DEEP, 6" O.D.	3½" DEEP, 7⅜" O.D. 6" MOUNTING HOLE DIA.	8¼"
WIDTH	6⅞"			7¾"
WEIGHT	10¼ LBS.	5½ LBS.	4 LBS.	8¾ LBS.
PRICE	$65.00	$37.00	$37.00	$65.00

University SPEAKERS

HIGH FREQUENCY TWEETER SPEAKERS*

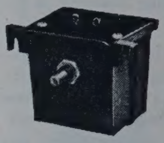
The UNIVERSITY PM tweeter provides the only efficient and economical method of extending the upper register to 15,000 cycles to obtain high fidelity speaker response. It can be connected to the voice coil terminals of an existing PM or field excited cone speaker through a simple, economical high-pass filter without creating any electrical unbalance. Model 4407 is an adapter which quickly changes a 12" speaker to a co-axial reproducer with response to 15,000 cycles. Models 4401 and 4402 offer compactness, high power handling capacity and wide dispersion for the construction of wide range duplex systems. The model 4404 is a complete high frequency speaker and consists of the model 4402 dual tweeter and the 4405 high-pass filter in a walnut finished cabinet. The 4405 high-pass filter or its electrical equivalent must be used with the 4401, 4402 or 4407 for satisfactory performance.


MODEL 4407


MODEL 4401

MODEL 4402

MODEL 4404


MODEL 4405

	MODEL 4407	MODEL 4401	MODEL 4402	MODEL 4404
RESPONSE . .	2,000-15,000 CPS	2,000-15,000 CPS	2,000-15,000 CPS	2,000-15,000 CPS
IMPEDANCE . .	12 OHMS	12 OHMS	6-8 OHMS (Units in par.)	6-8 OHMS
POWER	6 WATTS	6 WATTS	12 WATTS	12 WATTS
HOR. DISTRIBTN.	60°	60°	100°	100°
VERT. DISTRIBTN.	40°	40°	50°	50°
DIMENSIONS . .	12" DIA., 3" D	4½" W x 2⅝" H x 5" D	9½" W x 2⅝" H x 5" D	11½" W x 4¼" H x 6½" D
PRICE	$25.00	$20.00	$40.00	$60.00

MODEL 4405

High-pass filter unit for use with models 4401, 4407 and 4402 — includes high frequency volume control. Cut-off frequency approximately 2000 cycles. Die cast container dimensions: 3½" wide x 2¼" deep x 2½" high.

$10.00

600-CYCLE TWEETERS*

The models 4408 and 4409 tweeters permit easy assembly of 2 and 3-way speaker systems at crossovers as low as 600 cycles. Construction is of sturdy cast aluminum throughout. New horn design allows wider distribution pattern. Available in 6 and 25-watt capacities.

	MODEL 4408	MODEL 4409
RESPONSE .	600-15,000 CPS	600-15,000 CPS
IMPEDANCE	12 OHMS	8 OHMS
POWER . .	6 WATTS	25 WATTS
HOR. DIST.	80°	80°
VERT. DIST.	40°	40°
DIMENSIONS	5¾" H x 7⅜" W x 1⅛" D	5¾" H x 7⅜" W x 1⅛" D
PRICE . .	$27.50	$40.00

MODEL 4408-4409

MODEL 4410

MODEL 4410

600 cycles LC dividing network for use with models 4408 and 4409. Provision for external high frequency control. Dimensions, approx.: 8" W x 4" H x 3¼" D.

$35.00

*NOTE: Instructions packed with all tweeter models include specifications for the simple assembly of necessary filters and crossover networks.

WEATHERPROOF AND INDOOR LINE MATCHING TRANSFORMERS

MODELS 5401, 5409, 5410

MODEL 5402

The new UNIVERSITY line of matching transformers is designed for use with UNIVERSITY loudspeakers in indoor and outdoor installations. Excellent performance is assured throughout the useful audio frequency range at rated output. The models 5401, 5402, 5409 and 5410 are housed in watertight enclosures and incorporate die cast mounting brackets. They may be fastened to any surface with two screws or bolts or may be fastened to the brackets of the models MIL, IBS or CR. When used in the latter manner, the mounting bracket of the transformer acts as a combined mounting support for both the transformer and speaker. The model 5402 may be mounted on the U bracket of any loudspeaker by means of a simple clamp which is supplied or on any surface with two screws or bolts. The uncased transformers for indoor use may also be fastened to any surface with two screws or bolts.

Model No.	DESCRIPTION	IMPEDANCE - OHMS PRIMARY	SECONDARY	LIST PRICE
5401	12 Watt, waterproof case	500, 1000, 1500, 2000	4, 8	$12.50
5402	25 Watt, waterproof case	250, 500, 1000, 1500, 2000	4, 8, 16	20.00
5409	12 Watt, waterproof case	45	8	12.00
5410	20 Watt, waterproof case	500, 1000, 1500, 2000	8, 16	13.50
5403	12 Watt, uncased, for indoor use	500, 1000, 1500, 2000	4, 8	3.50
5403-1	12 Watt, uncased, for indoor use	45	8	3.00
5408	20 Watt, uncased, for indoor use	500, 1000, 1500, 2000	8, 16	4.50
5414	30 Watt, uncased, for indoor use	165, 250, 500, 1000, 2000	16	6.00

Note: Connecting a speaker of twice the impedance across a given secondary will double all primary values. Conversely, a speaker whose impedance is half the secondary value, will halve all primary values. As an example, the following impedances are available with the model 5402:

PRIMARY IMPEDANCE	SECONDARY LOAD
125, 250, 500, 750, 1000, 1500, 2000	4 Ohms
125, 250, 500, 750, 1000, 1500, 2000, 3000, 4000	8 Ohms
250, 500, 1000, 1500, 2000, 3000, 4000, 6000, 8000	16 Ohms

American MICROPHONES

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VR2 DYNAMIC MICROPHONE

A Microphone with a NEW IDEA and a NEW USEFULNESS

For the first time, the many desirable characteristics found only in several different types of microphones have been combined in a single unit. The VR2 has an easily accessible external adjustment of the most important acoustical reactors in the dynamic microphone. A smooth change from a communication-type response, with a cutoff below 500 c. p. s., through a flat response to an augmented bass, attained by a simple, positive adjustment.

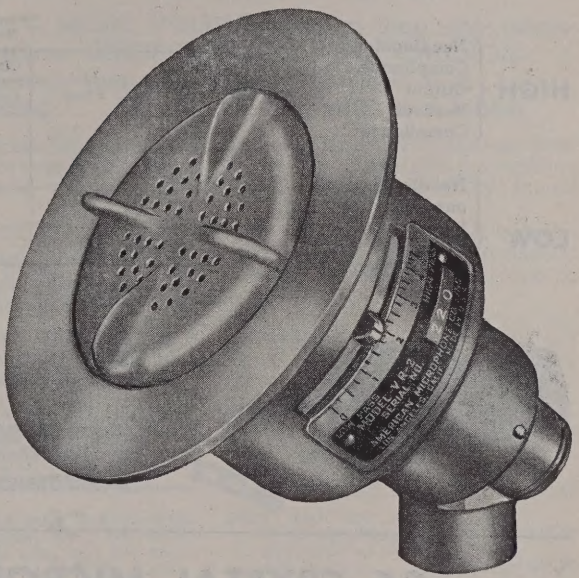
The response adjustment on the VR2 has a very broad effect and does not introduce narrow peaks. It is different from anything previously introduced.

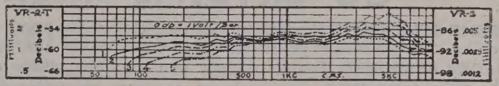
Complete with 12½′ cable and plug at microphone providing balanced line. Dull chrome finish. Net wt. less cable, 15 ozs. Hgt. 4″. Greatest diameter 3″.

VR2T Dynamic (38,000 ohms), Code: VARIT. List **$42.15**

Available on order in 200 or 500 ohms........List **$42.15**
(Complete with 12½′ cable)

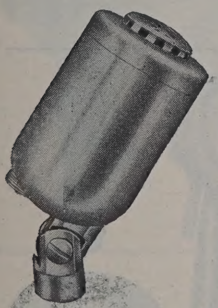
VRT Dynamic (30-50 ohms), Code: VARIA......List **$39.15**
(Complete with 12½′ cable)





The above graph illustrates the average response characteristics for the various settings as indicated on the scale.

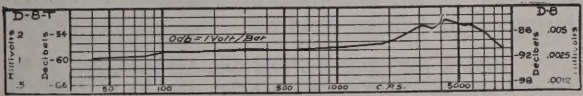
D8T DYNAMIC MICROPHONE



THE D8T DYNAMIC MICROPHONE has been carefully designed to have a consistent, well-balanced response. It is exceptionally rugged and assures the user of trouble-free service over a long period of time.

The D8T is particularly useful for all types of public address installations, orchestra pick-up, as well as solo work and straight announcing.

The D8T is 3¼″ long, 2″ in diameter, weighs only 13 ozs. A swivel mounting permits either nondirectional or semidirectional pick-up. Comes complete with 12½′ cable and plug at microphone and ⅝″ x 27 thread for suspension or stand mounting. Platinum Chrome Finish.



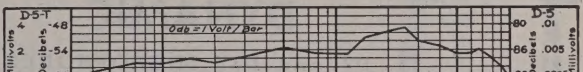
D8T Dynamic (38,000 ohms), Code: DATAH..................List **$30.00**
Available on order in 200 or 500 ohms.............................List **$30.00**

D8 Dynamic (30-50 ohms), Code: DATAL.............................List **$27.00**

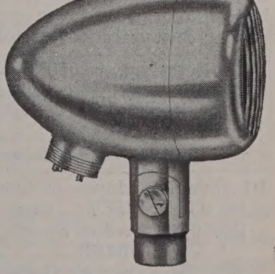
D5T DYNAMIC MICROPHONE

IN FOURTH YEAR PRODUCTION

THE D5T DYNAMIC MICROPHONE is well known. An excellent, diversified-purpose microphone. The dynamic is the most rugged type microphone and its life of trouble-free operation is indefinite. Being a pressure-operated instrument, the response is unaffected by either a close or distant sound source. The D5T approaches the ideal microphone for general use due to its versatility and dependability. Sensitivity: 52 db below 1 V/bar.



D5T Dynamic, 38,000 ohms, Code: DYHIM......................List Price **$39.00**
Available on order in 200 or 500 ohms..........................List Price **$39.00**
D5 Dynamic, 30-50 ohms, Code: DYLOM..........................List Price **$33.00**



Moving-Coil, Permanent Magnet Dynamic ● Semidirectional ● Close or Distant Pick-up ● Excellent Frequency Response ● Freedom from Wind Noises ● High Output, Low or High Impedance ● Immune to Temperature Changes ● Minimum Feed-Back (Flat Response) ● Low-Level Mixing ● Exceptionally Rugged.

American MICROPHONES

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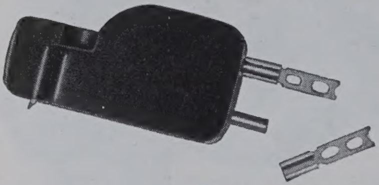
MC (MOVING COIL) PICKUP CARTRIDGES

HIGH
- **Needlepoint Compliance**
- **Output**
- **Vertical Compliance**

LOW
- **Needle Pressure, one-half ounce**
- **Impedance, 35 ohms**
- **Needle Talk Distortion**

Model	List Price	Needle Pressure Ounces	*Output Voltage	Response ±5 db	Terminals	Stylus **Semi-Replaceable	Code
MC-1C	$ 7.50	½	0.1	50-5000	Pin Plug	Carboloy	Cabal
MC-1S	7.50	½	0.1	50-5000	Pin Plug	Sapphire	Cabin
MC-2C	10.00	½	0.1	50-7000	Pin Plug	Carboloy	Cable
MC-2S	10.00	½	0.1	50-7000	Pin Plug	Sapphire	Cache

*At 1000 cps using Columbia 10003-M Test Record and Model TMC transformer.
**Worn stylii can be replaced at our factory.

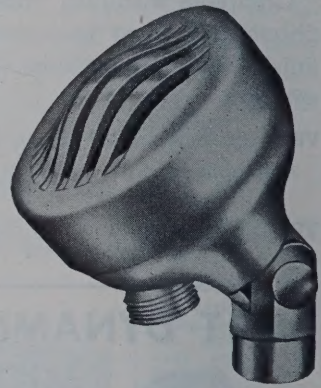


Insures Minimum Record Wear. Performance not affected by climatic conditions. Standard cartridge mounting holes. Semi-permanent stylus.

.003 volt open circuit output at 1000 cps, using Columbia Test Record 10003-M. Transformer TMC (Sub-motorboard mounting) develops 0.1 volt into high impedance amplifier "Phono" input under above test conditions.

TRANSFORMER TMC, Code: CADET……List Price **$2.50**

C6 CRYSTAL MICROPHONE



EXTREME SENSITIVITY. New crystal driving lever, twice as efficient as previously used, produces twice the voltage output with equal sound pressure.

BROADER RESPONSE. Results of new construction include extension of both low and high end.

BASS END IMPROVED. Naturalness insured by improvement in low frequency response.

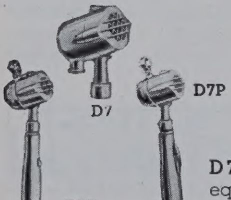
LONGER LINES. By increasing the voltage output, the cable length may be increased proportionately. In laboratory tests, regular cables 250 feet in length have been used with a net voltage sufficient to operate any standard high gain amplifier.

MECHANICAL NOISE REDUCED. Mechanical and stand noise is no longer a factor. The C6 method of crystal mounting reduces mechanical noises by 12 db.

LESS AMPLIFIER AND INDUCED NOISE. The high output of this microphone assures a very desirable signal-to-noise ratio.

SWIVEL HEAD. All angles for semidirectional and nondirectional pick-up are provided by the ⅝" x 27 (standard) mounting connector.

Complete with 7' cable and plug at microphone. Polished chrome finish. Net weight 8 oz. Over-all height 3". Diameter 2⅜". ⅝x27 thread provided for suspension or stand mounting.
C6 Crystal, Code CESIX……List Price **$18.00**



THE *"Clipper"* DYNAMIC

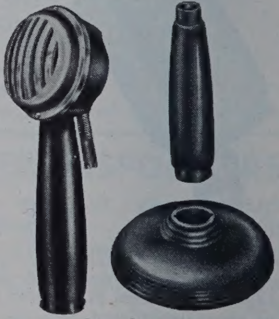
D7 and D7T MICROPHONES equipped with 12½' R/J cable and Amphenol plug. Chrome finish. ⅝-27 connector. Over-all height, 2½". Diameter, 1½". Net weight, 8½ ozs.

APPLICATIONS: Excellent for communication purposes, airplane use, Marine safety-at-sea installations, police broadcasting, amateur communication, public address, indoor and outdoor installations.

D7T—High Imp., 38,000 or 500 or 200 Ohms;
Code: DISET……List Price **$27.00**
D7TP (Press-contact Switch),
Code: DIMAT……List Price **$31.00**
D7TS (Slide Switch), Code: DIAHT……List Price **$30.00**

D7—Low Impedance, 50 Ohms,
Code: DISEV……List Price **$24.00**
D7P (Press-contact Switch),
Code: DIMAR……List Price **$28.00**
D75 (Slide Switch), Code: DIAHL……List Price **$27.00**

RC CRYSTAL MICROPHONE



Complete with NON-BREAKABLE PLASTIC STAND and 7 foot Cable

RC Crystal Microphone may also be mounted on any stand equipped with standard ⅝" x 27 thread. . . . An excellent microphone for Communication, Public Address or Amateur Radio.

HOME RECORDING OR BROADCASTING
HIGH OUTPUT, GOOD QUALITY

Base easily removed by quarter turn, releasing bayonet lock. Cable replacements accomplished by releasing set screw in back of microphone and pulling gently on spring cable protector……List Price **$10.90**

American MICROPHONES

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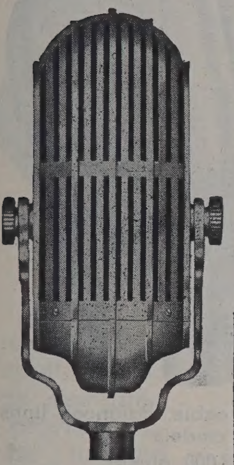
D9A *Unidirectional* MICROPHONE

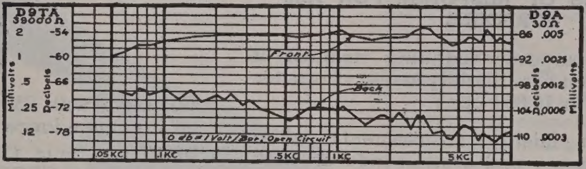


GUARANTEED to produce 30% MORE VOLUME (power) than any microphone at twice the list price. UNIDIRECTIONAL, True CARDIOID pattern pickup, frequency response good to 10,000 c. p. s.

Actual Tests are Convincing   Arrange for Test with your Jobber

THE D9A DYNAMIC, a pressure-velocity combination microphone, with pick-up from front only, broad frequency response and high output, plus the usual dynamic microphone qualities of ruggedness, immunity to weather conditions, and circuit adaptability, should fill the majority of requirements.

The D9A Microphone is recommended for public address and general sound installations because its energy response field (cardioid of revolution) excludes extraneous pick-up and reduces feed-back by two-thirds. May be used for close talking due to the modified velocity section which also reduces wind noises to a minimum.



The above graph illustrates the average response characteristics for the D9A and D9AT. Voltage output levels, for 1 bar sound pressure (1 bar=1 dyne per sq. cm.) of the high and low impedance models. For 10 bar signal the output will be 20 db. higher.

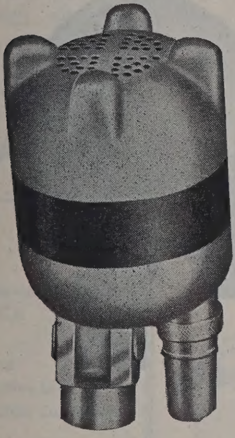
Net weight, 2½ lbs. Packed weight, 4 lbs. Height, 7''; depth, 2¼''; breadth, 2½''. Standard ⅝-27 thread provided for suspension or stand mounting. Finish: Satin Chrome.

25' Shielded Rubber-Jacketed Cable Supplied with each Microphone.

D9A, Low Imp. (50 ohms).
Code: LOWEL..............................List **$42.00**

D9AT, High Imp. (38,000 ohms).
Code: HIWEL..............................List **$45.00**
Available on Order in 200 or
500 ohms..............................List **$45.00**

D4T DYNAMIC MICROPHONE

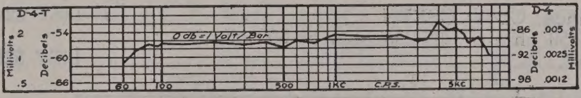


A QUALITY, LOW-PRICED, MOVING-COIL MICROPHONE. For general use where clear speech and natural music reproduction is required. This new AMERICAN microphone is a very efficient instrument, having a broad range, from 60 to 7500 c.p.s., and high output of —56 db (0 db=1 v/bar). The utility value lies not only in the quality and type of response but also in mechanical features, such as light weight (approximately 10½ oz.), a full 180° vertical angular setting, and positive friction lock at the swivel.

The **D4T,** high impedance, is equipped with a single-contact, shielded plug. The 50, 200 and 500 ohm models are equipped with a two-conductor plug and have a balanced line out.

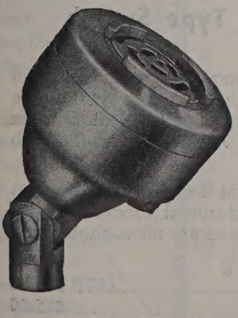
The **D4** model is of voice-coil impedance, approximately 30 ohms. Lines up to several hundred feet may be used on all models except the high impedance, where line should be restricted.

The complete assembly includes 12½ feet of shielded, rubber-covered cable and shielded plug. Finished in platinum chrome. Standard mounting, ⅝'' x 27 thread.



D4T Dynamic (38,000 ohms), Code: DFORT..............................List Price **$24.00**
Available on order in 200 or 500 ohms..............................List Price **$24.00**
D4 Dynamic (30-50 ohms), Code: DEFOR..............................List Price **$21.50**

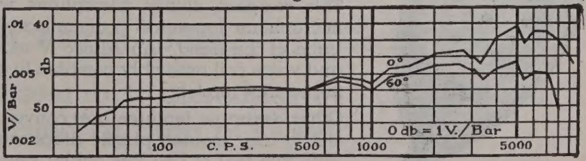
D6T DYNAMIC MICROPHONE



Ideal for general public address including stage sound-reinforcement, both permanent and portable installations. It is entirely suitable for playground and athletic field direction, police and amateur broadcasting, and recording.

Net weight, 1¾ lbs. Packed weight, 2 lbs. Height, 3¾'', diameter 2½''. Standard ⅝-27 thread provided for suspension or stand mounting. Finish: Polished Chrome. 12½' Shielded Rubber-Jacketed Cable supplied with each microphone.

Typical field calibration for the D6T. A choice of frequency characteristics may be had by varying the angle of the microphone to the source of sound. For nondirectional horizontal pick-up, the response is substantially flat.



D6T Dynamic (38,000 ohms), Code: DIXIT..............................List **$33.00**
Available on order in 200 or 500 ohms..............................List **$33.00**
D6 Dynamic (30-50 ohms), Code: DIXIE..............................List **$30.00**

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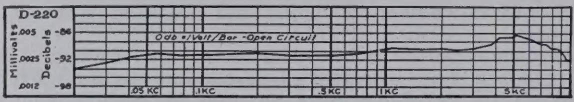
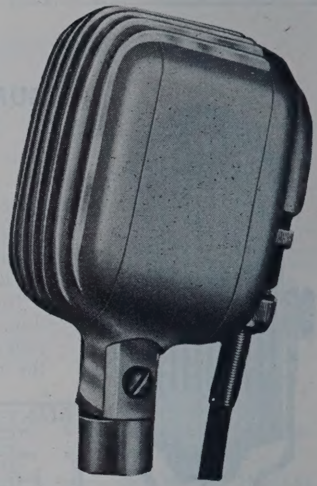
D220 DYNAMIC MICROPHONES

A WIDE RANGE HIGH FIDELITY MOVING-COIL MICROPHONE

- ★ **Two Dynamic Generators each with Specific Frequency Response.**
- ★ **Combined Outputs Elecrically and Acoustically Coupled Produce an Ideal Response.**
- ★ **Total Band 25 to above 10,000 cps. Broad Crossover from 150 cps. to 5000 cps.**
- ★ **Crossover Band an Average for Both Generators Eliminates Peaks.**





LOW
FULL
HIGH

THREE TYPES OF RESPONSE FOR ALL PURPOSES

HIGH—For all purposes requiring richness in the higher frequencies. Slightly rising characteristic. (From 150 to 10,000 cps.)

FULL—For high fidelity requirements where smooth, flat response and broad range are necessary. (30 to above 10,000 cps.)

LOW—For pickup systems requiring embellished lows and good intermediate range. (25 to 5000 cps.)

Complete with 25′ cable. Balanced lines on low impedance models.

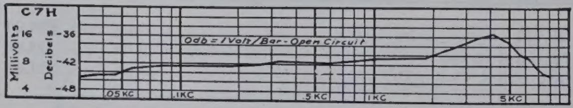
D220T	Dynamic (38,000 ohms), Code: CROST	LIST **$71.00**
	Available on order in 200-250 or 500 ohms	LIST **$71.00**
D220	Dynamic (30-50 ohms), Code: CROSS	LIST **$65.50**

C7 CRYSTAL MICROPHONES

The development of the new American Crystal Microphones, Model C7H and Model C7L, represents many features which have been available only in several previous types. The response characteristics have been chosen so that the C7 can be used equally well for recording with a minimum amount of amplifier equalization and also for public address. **A new system of coupling the crystal element to the diaphragm is employed which produces a smoother response and 100% greater efficiency equivalent to double the output of usual direct drive type of coupling.**
High or low impedance may be had in the Model C7. An efficient transformer is used to reduce the inherent high impedance of the crystal generator to standard line impedances. Long lines with negligible losses may be used.

Complete with 12½ ft. cable

C7H	High Imjedance. Code: CSEVN	LIST **$24.50**
C7L	Available in 50 ohm or 200-250 ohm or 500 ohm. Code: CSEVL	LIST **$29.00**



DHT DYNAMIC HAND-HELD MICROPHONE

Shock-proof Diaphragm - Press-to-talk Locking Type Switch Retractable Hanger

This compact, sturdy microphone was designed for all applications requiring a dependable hand microphone for voice communication. Small and lightweight, it can readily be concealed in the palm of the hand. An Alnico V magnet, efficient magnetic circuit and newly developed diaphragm and voice coil assembly combine to generate the high output of 56 db below 1 volt per bar for the high impedance model.

Other desirable features are: convenient hanger which retracts into the case of the microphone when not in use; molded plastic diaphragm not affected by heat, moisture or mechanical shock; supplied with five feet of low loss cable; press-to-talk locking type switch for operation of the microphone unit. Additional switch contacts on request.

DHT	Dynamic (38,000 ohms), Code: CALEB	LIST **$25.00**
	Available on order in 200 or 500 ohms	**$25.00**
DH	Dynamic (30-50 ohms), Code: CALYX	LIST **$22.50**

American PHONOGRAPH PICKUPS

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J-1 PHONOGRAPH PICKUP

LIST PRICE

$5.50

The curved arm with off-set head was designed to provide optimum tracking for both ten and twelve inch records with minimum wear of record and stylus. Base of the arm is designed for single hole mounting. Assembly includes CR-1A Crystal Cartridge, twenty-four inch single conductor shielded wire, arm rest, mounting hardware and complete mounting instructions.

CRIA CRYSTAL CARTRIDGE

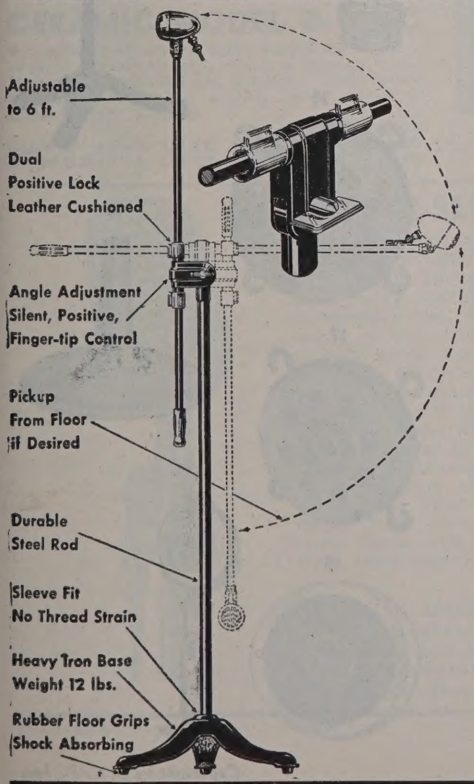
CR-1
2-46
AMERICAN

NEW "Locked in" Self Centered Needle Chuck

CR-1A Cartridge is a high output, wide range unit, which incorporates a number of new developments in cartridge design. High output and improved response are obtained by a unique method used to drive the crystal element. The cartridge is supplied with pin plug connectors for ease of assembly into the arm—no soldering iron is required. The needle chuck design incorporates a "locked-in" feature whereby the chuck is prevented from moving when tension or pressure is applied to the needle screw. This feature also insures that the needle socket will remain centrally located in its opening in the cartridge. High needle point compliance and minimum record chatter are thereby guaranteed. The cartridge will operate satisfactorily with any conventional needles; however, its high-frequency response will vary somewhat with the type needle used. Best operation will be obtained with off-set needles using sapphire or precious metal stylii.

Model	**CR1A**	**CR2A**	**CR3A**	**PNMA**
Needle Force, Ounces...	1¼	1⅛	1⅛	1¼
Output Voltage...........	3.	1.5	1.	2.
Response	50-6000	50-6000	50-6000	50-6000
Terminals	Pin Plug	Pin Plug	Pin Plug	Pin Plug
Needle Screw	Thumb	Thumb	Thumb	Thumb
Needle	Optional	Optional	Optional	Optional
Code	Cream	Creep	Crimp	Crest
List Price...........	**$4.00**	**$4.00**	**$4.00**	**$8.00**

American FLOOR STAND


Adjustable to 6 ft.
Dual Positive Lock Leather Cushioned
Angle Adjustment Silent, Positive, Finger-tip Control
Pickup From Floor if Desired
Durable Steel Rod
Sleeve Fit No Thread Strain
Heavy Iron Base Weight 12 lbs.
Rubber Floor Grips Shock Absorbing

New! FLOOR STAND WITH MANY USES

PLACE THE MIKE ADVANTAGEOUSLY
FOR EFFICIENT PICKUP
EXCELLENT FOR RECORDING
AND ORCHESTRA PICKUP

HB3 ....List Price **$24.50**

Upper rod and fittings, polished chrome. Lower rod and angle adjustment, satin black. Microphone mounting, standard ⅝" x 27 thread.

Total net weight 16 lbs. Code: BOOME

Upper Assembly, including 34" chrome rod, as illustrated at right of stand.

B3 .... List Price **$8.75**

Microphone Mounting, Standard ⅝" x 27
Stand Mounting, Standard 1" x 27.

Code: TOPSE

American MICROPHONES

1. **C6 CRYSTAL MICROPHONE.** The best buy in a crystal microphone. New crystal driving lever, twice as efficient as previously used, produces twice the voltage output with equal sound pressure. Long cables, 250 feet or longer, may be used with this microphone. The increased output voltage assures only slight proportional losses in cable lengths. Provided with plug at microphone and mounting swivel with standard 5/8"x27 thread. Chrome finish. Net weight 8 ozs. Complete with 7' cable and microphone plug. Accessories 7, 8, 9, 10, 11, 12, 13, 14, and 16 available for use with this model.
   C6 Crystal Microphone, Code: CESIX........**List Price $18.00**

2. **AG CRYSTAL MICROPHONE.** Preferred by crystal buyers for four years. Communication-type response. Equipped with mounting yoke, providing rear or through cable outlet. Standard 5/8" x 27 thread. Accessories 7, 8, 9, 10, 11, 12, 13, 14, and 16 available for use with this microphone.
   AG Crystal Microphone, Code: AGTAL........**List Price $24.50**

3. **B9 CRYSTAL MICROPHONE.** Semi-directional. Recommended for public address. Chrome finish. 5/8"x 27 thread. Complete with 8' cable and plug at microphone. Accessories 7, 8, 9, 10, 11, 12, 13, 14, and 16 available for use with this microphone. Code: BENIN........**List Price $24.50**

4. **CL2 CRYSTAL LAPEL MICROPHONE.** Built especially for lapel use. Maximum sensitivity in voice range. 2½" diameter. Weight 1½ ozs. Complete with 25' cloth-covered, shielded cable and clip for attaching to clothing.
   CL2 Crystal Lapel Microphone, Code: LATAL........**List Price $27.25**

5. The B9 as a hand microphone. Chrome finish. Available with two types of switches. 8' cord. B9P with press-contact switch in handle, and B9S with slide switch in handle.
   B9P Crystal Hand Microphone, Code: BECON........**List Price $28.50**
   B9S Crystal Hand Microphone, Code: BEHAN........**List Price $27.25**

6. The AG as a hand microphone. Chrome finish. Available with two types of switches. 8' cord. AH using slide switch, and AGP using press-contact switch.
   AH Crystal Hand Microphone, Code: AHTAL........**List Price $27.50**
   AGP Crystal Hand Microphone, Code: AGPAH........**List Price $28.50**

7. **AG DESK STAND.** Consists of upright (handle) and base. Chrome finish Code: AGESK........**List Price $2.75**

8. **AG HANDLE.** Upright of AG Stand. Easily attached to AG Base by half turn, bayonet lock. Chrome finish. Code: AGHAN........**List Price $1.65**
   AG BASE. For use with AG Handle. Code: AGBAS........**List Price $1.10**

9. **AH HANDLE.** Upright of AG Stand with **slide switch.** Chrome finish. Code: SHAND........**List Price $3.00**

10. **DH HANDLE.** Upright of AG Stand with **press-contact switch.** Chrome finish. Code: DEPAH........**List Price $4.10**

12. **SUSPENSION EYE.** For suspending any microphone with standard 5/8"x27 thread. Chrome finish. Sturdy. Code: DYEYE........**List Price $1.20**

13. **BS BANQUET STAND.** Round base 8" in diameter. Rods 12". Extended height 24". Satin Black finish. Code: FUDAS........**List Price $9.30**

14. **FH3 and FL3 FLOOR STANDS.** Approved by the best sound studios. Positive, leather, friction-lock clutch. Noiseless operation. Rods 38". Extended height 6'. Three-contact, "floor grip," rubber-mounted base. FH3, studio model, net weight 15 lbs. FL3, public address model, net weight 10 lbs.
    FH3 Floor Stand, Code: FUHET........**List Price $18.50**
    FL3 Floor Stand, Code: FLEXR........**List Price $12.50**

15. **EL4 CARBON MICROPHONE.** Double button. Semi-stretched diaphragm. Good quality. Mounting yoke included. No ring or springs necessary. Code: LITEG........**List Price $8.75**

16. **DD DESK STAND.** Round base, 4" upright. Net weight 1¼ lbs. 5¼" base. Chrome finish. Code: DYNES........**List Price $3.00**
    DS Desk Stand. Same as DD Stand except with 4¼" base. Chrome finish. Code: DINAC........**List Price $3.00**

17. **SJ CARBON MICROPHONE.** Single button. Sensitive. Chrome finish. Code: JOHNE........**List Price $6.00**

18. **FP CARBON MICROPHONE.** New single-button, sensitive, carbon microphone. Operates in any position. For use in French phones and other types of telephone and listening devices. Code: FRONE........**List Price $3.50**

19. **CARBON HAND MICROPHONES WITH SLIDE SWITCH.** Chrome finish.
    DB2, Double-button, Hand Mike, Code DBTWO........**List Price $18.00**
    SB2, Single-button, Hand Mike, Code: SUTRO........**List Price $12.00**
    Either above models with press-contact switch list $1.00 extra.

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AMERICAN MICROPHONE CO., INC.

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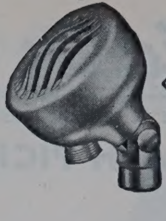

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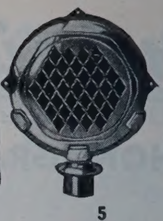

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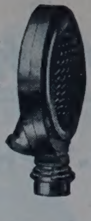

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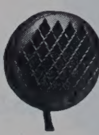

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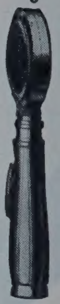

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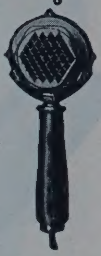

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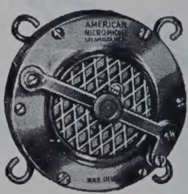

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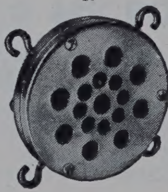

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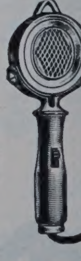

ASTATIC MICROPHONES

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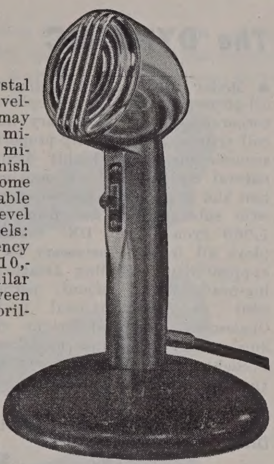
"VELVET VOICE" CRYSTAL



● Here is a convertible type Crystal Microphone, providing ultra-smooth, velvety soft, wide range response, that may be used as desk, hand or floor stand microphone, to meet practically every microphone need. Beautiful gold finish housing and handle; bright chrome grille; brown baked enamel, detachable base; 15′ shielded cable. Output level approximately —52 db. Two models: Model 200 with smooth, even frequency response characteristics from 30 to 10,000 c.p.s.; Model 241, with similar range but rising characteristics between 1500 and 5500 c.p.s. for added brilliance in speech range.

(Without Switch)	List Price
200—Code ASUVA	**$13.95**
241—Code ASUVC	**13.95**
(With **Off-On** Switch)	
200-S—Code ASUVB	**15.00**
241-S—Code ASUVD	**15.00**

"VELVET VOICE" DYNAMIC

● This microphone is identical with Model 200, in appearance, but is equipped with a dynamic unit. Semi-directional. Exceptionally high output level of High Impedance Model, approximately —50 db. Frequency response, 30 to 10,000 c.p.s.

(Without Switch)	List Price
VDL —(50 ohms)—Code ASANA	**$19.95**
VDH*—(High Impedance)—Code ASAND	**22.50**

*High impedance model only available with ON-OFF switch, **$1.40** extra.

"VELVET VOICE" CERAMIC

● Also identical in appearance with Model 200, but employing the amazing, new piezoelectric ceramic element. Recommended where high temperatures and humidity are service factors. Equipped with 7′ cable. Output level approximately —62 db. Frequency response 30 to 10,000 c.p.s.

	List Price
VC —(5 Meg.)—Substantially flat—Code ASAQR	**$13.15**
VC1—(5 Meg.)—Rising characteristics—Code ASAQP	**13.15**

Available with On-Off switch at $1.05 extra

CRYSTAL MODEL D-104

● For close talking applications, such as radio amateur communications and similar uses. With high output level, approximately —45 db, it possesses definitely reduced R.F. feed-back tendencies. Yoke-driven, bridge-mounted Graphoil crystal element, shock-proof mounting and barometric compensation. Speech range frequency response from 30 to 7,500, rising 500 to 4,000 c.p.s. Chrome finish. Standard equipment includes interchangeable plug and connector, spring cable protector, 7′ shielded cable.

	List Price
D-104 —Code ASUPA	**$24.60**
GD-104—Code ASVAX, with G-Stand	**30.10**
D-104-S—Code ASUPB, with S-Switch	**27.35**

CERAMIC MODEL D-104-C

● Duplicate of Crystal Model except for employment of ceramic element, which is immune to extremes of temperature and humidity. Performance comparable except for slightly lower output of approximately —58 db.

	List Price
D-104-C —Code ASUPC	**$24.60**
D-104-C-S—Code ASUQZ, with S-Switch	**27.35**

The WR-SERIES

● The WR-Series, Multi-Unit Microphones, are highly recommended for studio, public address and high quality recording purposes. Substantially flat frequency response up to 10,000 cycles. Due to their special interior assembly design, the WR-Series Microphones are practically transparent to sound waves and cannot be acoustically overloaded. Model WR-20 may be used on cable up to 100 ft. with negligible loss of output and Model WR-40 is more than able to handle cable twice this length. Output level —56 db. Finish, bright chrome with satin chrome grille. Cable length, 25 ft.

	List Price
WR-20—Code ASVGZ	**$32.30**
WR-40—Code ASVAL	**43.25**

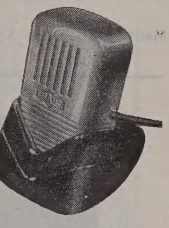
(Available with S-Switch or G-Stand)

"CARDINAL" CRYSTAL

● A sparkling, low-cost beauty with performance comparable to high-priced units. All-purpose microphone (see accessory list). Lifts from its streamlined, dark brown plastic desk stand for hand use. Wide range response, adaptable to standard AC or DC circuits, with 15′ cable. Output level approximately —52 db.

	List Price (For Microphone only)
CX —Substantially flat—Code ASAOA	**$9.75**
CX-1—Rising characteristics—Code ASAPZ	**9.75**

"CARDINAL" DYNAMIC



● Duplicate of Model CX in appearance, but equipped with dynamic unit.

	List Price (For Microphone only)
CDH—(High Impedance) Code ASAOF	**$19.50**

"CARDINAL" CERAMIC

● Duplicate of Model CX in appearance, but employing ceramic element, which is immune to extremes of temperature and humidity. Equipped with 7′ cable. Output approximately —62 db.

	List Price (For Microphone only)
CC —Substantially flat—Code ASAPU	**$8.95**
CC-1—Rising characteristics—Code ASAPT	**8.95**

"CARDINAL" ACCESSORIES

● "Cardinal" plastic desk base, **$1.00**; any model available with off-on switch, **$1.50** extra; hang-up hook, **$0.25**; stand adapter, **$0.35**.

Astatic Crystal Devices manufactured under Brush Development Co. patents.

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MICROPHONES AND STANDS

The JT-SERIES CRYSTAL & CERAMIC

● Because of their wide range of usefulness, excellent performance and low price, Astatic JT-Series Microphones are used extensively for amateur, public address and home recording. JT-Series Microphones are available in both wide and voice range models and, in addition to standard equipment, are furnished complete with concentric cable connector, convenient wood handle, interlocking metal base. Crystal model has 15′ cable; ceramic, 7′. Wood handle may be removed and microphone used on floor stand. Crystal models' output level, —52 db, provides ample reserve for use with high gain amplifiers. Ceramic models' output approximately —62 db. Opalescent gray with bright chrome grille.

List Price

JT-30 —Substantially flat—Code ASVLG **$16.95**

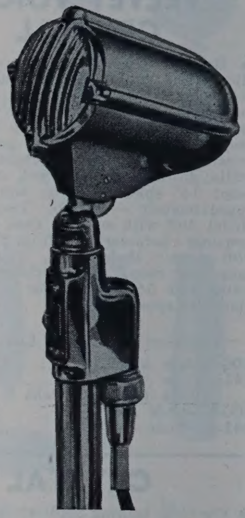
JT-40 —Rising characteristics—Code **ASVLD** .. **16.95**

***JT-30-C**—Substantially flat—Code ASVLF **16.15**

***JT-40-C**—Rising characteristics—Code ASVLC .. **16.15**

*Ceramic Models.

The DYNAMIC



● Model "DN" is a semi-directional, all-purpose dynamic microphone incorporating a new unitary moving coil system, and carefully proportioned acoustic circuit to highly damp the natural resonance of the moving system and provide a response characteristic substantially flat from 50 to 7,000 cycles. The "DN" design employs all features necessary for wide applicability, including Astatic's tilting-head, swivel mount, permitting semi- or non-directional positions. Opalescent gray and bright chrome finish. High impedance model only is available with Type S On-Off Switch (as illustrated) at **$2.75** extra.

List Price

DN-50—(50 ohms)—Code ASVNJ **$21.90**

DN-HZ—(High impedance)—Code ASVNG **24.60**

(Both Models available with G-Stand)

LAPEL TYPE MODEL L-1

● This very small dual-diaphragm crystal microphone was developed to meet especially difficult pickup conditions. Equipment includes lapel-type spring clip and over-shoulder cord to permit wide latitude of movement. Output level —62 db. Frequency response uniform from 30 to 10,000 c.p.s. Finish, statuary bronze. Furnished with 25-ft. cable.

List Price

Model L-1—Code ASUSN......................**$27.35**

CRYSTAL MODEL T-3

● Definitely established by long and continued popularity, Model T-3 Crystal Microphone is highly practical for many and varied applications. Its use is suggested for studio set-ups, with amateur rigs, intercommunicating systems, public address installations and for high-class recording purposes. Microphone head may be tilted with ease on unique swivel mounting and pickup pattern made semi- or non-directional, as desired. Output level —52 db. Frequency response substantially uniform from 30 to 10,000 cycles. Equipped with interchangeable plug and socket connector and 25 ft. cable. All chrome finish.

List Price

T-3 —Code ASVCX **$27.35**

T-3-S—Code ASVCW, with S-Switch **30.10**

GT-3—Code ASUZD, with G-Stand **32.85**

MODEL K-2

● Because of its smooth, undistorted reproduction and the fact that it cannot be acoustically overloaded, Astatic Model K-2 Crystal Microphone is favored and extensively used. In this model, Astatic provides a small size, dual-diaphragm type crystal microphone for studio use, recording, dance bands, public address installations and general applications where quality performance is required. With dual crystal unit design, Model K-2 has twice the capacitance of the usual crystal microphone and correspondingly longer cable lengths may be used. Standard equipment includes plug and socket connector and 25-ft. cable. Output level —62 db. Bright chrome finish.

List Price

K-2 —Code ASURX **$30.10**

K-2-S—Code ASURW, with S-Switch **32.85**

GK-2—Code ASUZA, with G-Stand **35.55**

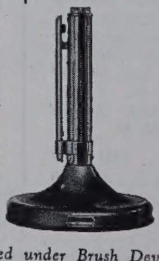
CERAMIC MODEL T-3-C

● Duplicate of Model T-3 except for employment of heat and moisture-immune ceramic element. Output level —62 db with 7′ cable.

List Price

T-3-C —Code ASVCU **$25.55**

T-3-C-S—Code ASVCT, with S Switch.. **28.30**



MICROPHONE STANDS AND ADAPTERS

MODEL	FINISH	PRICE
G Grip-to-Talk	Chrome & Gray	**$10.95**
F Desk	Chrome & Gray	**6.55**
E-1 Desk	Chrome & Gray	**3.25**
E-5B Desk	Chrome & Brown	**2.70**
E-5G Desk	Chrome & Gray	**2.70**
F-11 Adapter	Chrome	**3.50**

Astatic Crystal Devices manufactured under Brush Development Co. patents.

ASTATIC

PICKUPS

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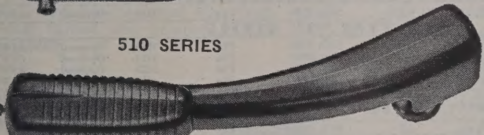
● The Specifications Chart shown on this page includes many types and sizes of Astatic Pickups for use with manually operated phonographs employing standard 78 RPM records of ten- and twelve-inch diameters, as well as Transcription Pickup Arms for use with all lateral transcriptions.

508 SERIES

510 SERIES



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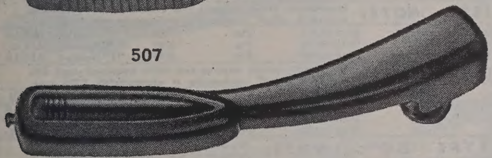
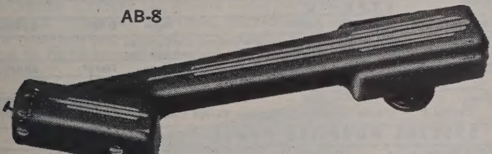


AB-8



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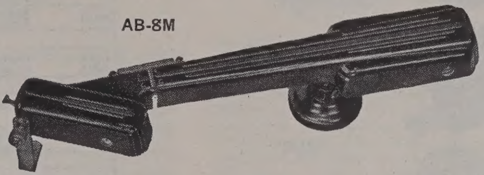
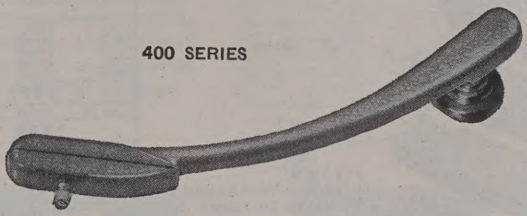


400 SERIES



"S" SERIES

NOTICE: Pickup Models 508-MI-2, 510-MI-2 and 400-MI-2 are magnetic type units employing Astatic's revolutionary Magneto-Induction Cartridge. Three Equalizer-Amplifier Models, for use in conjunction with these pickups, are shown on Page D-12.

E4P TONE EQUALIZER

ASTATIC TONE EQUALIZER

● Model E4P is an adjustable tone compensation network for use between crystal pickup and amplifier. Recommended for use with all crystal pickups. Complete instructions supplied.

E4P—Code ASVHD........List Price $3.30

Model	List Price	Finish	Cartridge Used	Frequency Range c.p.s.	Output Voltage Avg. at 1,000 c.p.s., Across 0.5 Meg. Load	Needle Pressure (Ounces)	Mounting Center	Application	Overall Length	Overall Height	Cable Length	Shipping Weight	Code
508-QT	$18.35	Light Brown Hammerlin	QT3-J	50 to 10,000*	0.85	1	8"	10" and 12" Records	8¾"	1¾"	13"	1 lb. 2 oz.	ASAYD
508-Nylon	17.20		Nylon 1-J	50 to 10,000††	1.0	1¼	8"		8¾"	1¾"	13"	1 lb. 2 oz.	ASAYJ
508-L-71	16.10		L-71	50 to 8000	1.0	1¼	8"		8¾"	1¾"	13"	1 lb. 2 oz.	ASAYI
508-MI-2	16.95		MI-2J	50 to 12,000	0.1**	1	8"		8¾"	1¾"	13"	1 lb. 2 oz.	ASALG
510-QT	9.75	Smooth Light Brown Enamel	QT3-J	50 to 10,000*	0.85	1	7"	10" and 12" Records	7⅝"	1 15/16"	13"	1 lb. 2 oz.	ASAYL
510-L-72	7.50		L-72	50 to 4000	3.5	1¼	7"		7⅝"	1 15/16"	13"	1 lb. 2 oz.	ASAYK
510-MI-2	8.35		MI-2J	50 to 12,000	0.1**	1	7"		7⅝"	1 15/16"	13"	1 lb. 2 oz.	ASALH
507-L-40	5.50	Smooth Light Brown Enamel	L-40	50 to 4500	0.6	1¼	7"	10" and 12" Records	7⅝"	1 15/16"	13"	1 lb. 2 oz.	ASAYH
400-QT	25.00	Light Brown Hammerlin	QT3-J	50 to 10,000*	0.85	1	10 1/16"	All Lateral Transcriptions	12⅛"	1 15/16" min 2 1/16" max.	24"	1 lb. 8 oz.	ASBCH
400-QT-M	24.50		QT3-M	50 to 10,000*	0.85	1	10 1/16"		12⅛"		24"	1 lb. 8 oz.	ASBCI
400-LT-M	23.10		LT1-M	50 to 10,000†	1.0	1	10 1/16"		12⅛"		24"	1 lb. 8 oz.	ASBCJ
400-Nylon	23.85		Nylon 1-J	50 to 10,000††	1.0	1¼	10 1/16"		12⅛"		24"	1 lb. 8 oz.	ASBCF
400-MI-2	23.60		MI-2J	50 to 12,000	0.1**	1	10 1/16"		12⅛"		24"	1 lb. 8 oz.	ASALF
AB-8	11.15	Smooth Brown Enamel	B-2	50 to 4000	2.5	2¾	8"	10" and 12" Records	10⅞"	2 3/32"	13"	2 lbs.	ASXFZ
AB-8M	13.90	Smooth Black Enamel	B-2	50 to 4000	2.5	2¾	7"		10⅞"	2 3/32"	13"	2 lbs.	ASXEA
S-8	11.15	Black Wrinkle	B-2	50 to 4000	2.5	2¾	8"	10" and 12" Records	9 3/16"	2⅛"	12"	1 lb. 10 oz.	ASWCA
S-12-B-2	13.90		B-2	50 to 4000	2.5	2¾	12"	All Lateral Transcriptions	15"	2⅛"	12½"	2 lbs. 6 oz.	ASWEZ

Models B-10 and B-16 are available on special request.

*Exceptionally smooth response over entire frequency range with a gradual roll-off commencing at approximately 5,000 c.p.s.
†Exceptionally smooth response over entire freqeuncy range with a gradual roll-off commencing at approximately 4,000 c.p.s.
††Exceptionally smooth response over entire frequency range with a gradual roll-off commencing at approximately 7,000 c.p.s.
**Columbia 10004 Test Record

Astatic Crystal Devices manufactured under Brush Development Co. patents.

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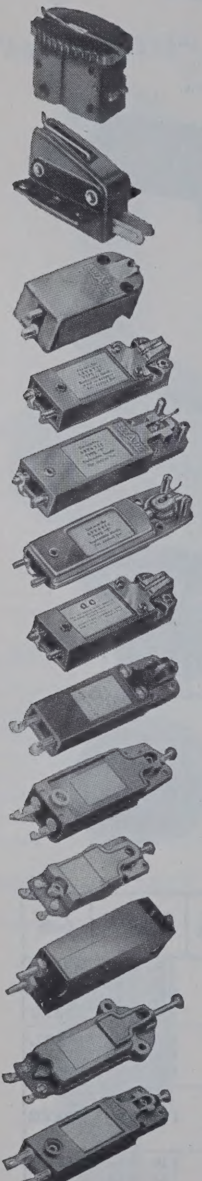
ASTATIC CARTRIDGES AND NEEDLES

REPLACEMENT CARTRIDGES



"U-78-J"

"GC-78-J"

"MI-2"

"QT" Series

"LT1-M"

"LT2-M"
(Stamped Steel Housing, Weight 20 Grams)

"LT3-M"
(Stamped Aluminum Housing, 11 Grams)

"QC" Series

"Nylon" Series

"L" Series

"M" Type

"B" Series

401-A Type for RCA Replacement

NEW "L" Series and "PN" Types

Model No.	Cartridge Type	List Price	Minimum Needle Pressure	Output Voltage	Frequency Range c.p.s.	Terminals	Needle Screw No.	Needle Type	Code
TYPE "MI"									
MI-2J	Magneto-Induction	$ 7.50	1 oz.	0.1**	50 to 12,000	Pin	None	Fixed*	ASALX
TYPE "L" SERIES									
L-26A	Crystal	4.45	2¾ oz.	1.4	50 to 4500	Lug	3258	Optional	ASWVZ
L-40A	Crystal	4.45	1¼ oz.	0.6	50 to 4500	Lug	3530	Optional	ASWUA
TYPE "M"									
M-22	Crystal	5.55	2¾ oz.	2.9	50 to 6500	Lug	3258	Optional	ASWJM
TYPE "B" SERIES									
B-2	Crystal	5.55	2¾ oz.	2.5	50 to 4000	Universal	3205 or 3207	Optional	ASWHJ
B-4	Crystal	5.55	2¾ oz.	2.5	50 to 4000	3" Pigtail	3205 or 3207	Optional	ASWHH
SPECIAL TYPE FOR RCA REPLACEMENT									
401-A	Crystal	4.45	2¾ oz.	1.4	50 to 4500	Lug	3267	Optional	ASWTA
NEW TYPE "L" SERIES									
L-70A	Crystal	5.55	1¼ oz.	1.00	50 to 4000	Pin	3258	Optional	ASWVT
L-71A	Crystal	6.65	1 oz.	1.00	50 to 8000	Pin	3258	Optional	ASWVP
L-72A	Crystal	6.65	1¼ oz.	3.5	50 to 4000	Pin	3258	Optional	ASWVL
L-82A	Crystal	5.55	2¾ oz.	3.5	50 to 5000	Pin	3258	Optional	ASWSJ
L-92A	Crystal	6.00	1 oz.	2.25	50 to 7000	Pin	3258	Optional	ASWTR
TYPE "NYLON"... NOTE: Exceptionally smooth response over entire frequency range with a gradual roll-off commencing at approximately 7,000 c.p.s.									
Nylon 1-J	Crystal	7.75	1¼ oz.	1.0	50 to 10,000	Pin	None	Nylon*	ASWWA
TYPE "LT" SERIES... NOTE: Exceptionally smooth response over entire frequency range with a gradual roll-off commencing at approximately 4,000 c.p.s.									
LT1-M	Crystal	7.00	¾ oz.	1.0	50 to 10,000	Pin	3530	"T" Needle†	ASXAA
LT2-M	Crystal	7.00	¾ oz.	1.0	50 to 10,000	Pin	3530	"T" Needle†	ASXAC
LT3-M	Crystal	7.00	¾ oz.	1.0	50 to 10,000	Pin	3530	"T" Needle†	ASXAE
TYPE "QT" SERIES... NOTE: Exceptionally smooth response over entire frequency range with a gradual roll-off commencing at approximately 5,000 c.p.s.									
QT2-J	Crystal	8.90	1 oz.	0.85	50 to 10,000	Pin	None	"Q" Needle*	ASXBJ
QT2-M	Crystal	8.40	1 oz.	0.85	50 to 10,000	Pin	None	"Q" Needle†	ASXBH
QT3-J	Crystal	8.90	1 oz.	0.85	50 to 10,000	Pin	None	"Q" Needle*	ASXBN
QT3-M	Crystal	8.40	1 oz.	0.85	50 to 10,000	Pin	None	"Q" Needle†	ASXBL
TYPE "GC"... NOTE: Employs ceramic element, unaffected by extremes of temperature and humidity.									
GC-78-J	Ceramic	7.40	12 gr.	0.7††	50 to 10,000		None	G-78*	ASWZI
TYPE "U"									
U-78-J	Crystal	8.90	5 gr.	0.5††	30 to 10,000		None	U-78*	ASWZG
TYPE "QC"... NOTE: Employs ceramic element, unaffected by extremes of temperature and humidity.									
QC-J	Ceramic	8.90	1 oz.	0.5	50 to 10,000	Pin	None	Fixed*	ASAPL
"P. N." TYPES									
L-74A	PN Crystal	10.00	1½ oz.	1.4	50 to 4000	Pin	3258	Optional	ASWVD
L-78	PN Crystal	11.15	(Special P. N. Crystal Cartridge for Seeburg Record Changers)						ASWWO

SPECIAL PURPOSE TYPES

Model	Cartridge Type	List Price	Minimum Needle Pressure	Output Voltage	Frequency Range c.p.s.	Needle Type	Application	Code
PT	Crystal	$ 5.00	1 oz.	1.4	50 to 10,000 Roll-off at 3000	Not Included	Replacement for Philco Parts—35-2671, 35-2671-1	ASWTB
DOUBLE-NEEDLE MODEL								
MD	Crystal	9.90	1 oz.	1.0	50 to 7000	"D" Needle†	Markel Record Changer	ASWTC

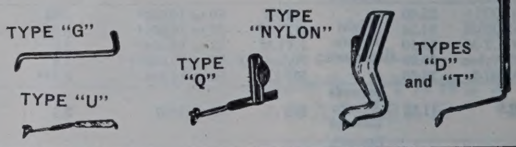
NOTE: Cartridge types B, QT and Nylon also available with PN Crystal upon request.

**Columbia 10004 Test Record *Sapphire Tipped ††Audio-tone Test Record †Precious Metal Tipped

EQUIVALENT TYPES OF DISCONTINUED CARTRIDGES

Discontinued Types	Equivalents	Discontinued Types	Equivalents	Discontinued Types	Equivalents
L-22A	L-26A	L-75A	L-70A	Nylon 1-M	Nylon 1-J
L-24A	L-82A	L-76	L-70	MLP-1	QT3-M
L-25A	L-70A	L-80	L-78	MLP-1J	QT3-J
L-27A	L-26A	L-82V	L-82A	MLP-2	QT3-M
L-32A	L-26A	LP-6	LT1-M	MLP-3	QT3-J-PN
L-36A	L-82A	LP-21	Nylon Series or QT Series	QT-M	QT3-M
L-41A	L-40A	LP-23	Nylon Series or QT Series	QT-J	QT3-J
L-46A	L-72A	M-23	M-22	MI-2M	MI-2J
L-50A	L-72A	B-1	B-2	LP-33	U-J
L-73A	L-74A	B-3	B-2	LP-78	U-78-J

REPLACEMENT NEEDLES



Type	Needle Tip Material	Needle Tip Radius	For use in Cartridge Types	List Price	Code
T	Precious Metal	3 mil	LT Series	$1.50	ASXBZ
Q-M	Precious Metal	3 mil	QT and LQ Series	1.50	ASXBE
Q-J	Sapphire	3 mil	QT and LQ Series	2.50	ASXBF
Nylon 1J	Sapphire	3 mil	Nylon Series	3.00	ASWWB
Nylon 1M	Precious Metal	3 mil	Nylon Series	2.50	ASWWC
D	Precious Metal	3 mil	MD and LT-D Series	1.50	ASXBU
G-78-J	Sapphire	3 mil	GC-78 Series	2.50	ASWZS
G-78-M	Precious Metal	3 mil	GC-78 Series	1.50	ASWZU
U-78-J	Sapphire	3 mil	U-J Series	2.50	ASWZQ
U-78-M	Precious Metal	3 mil	U-M Series	1.50	ASWZO

"RECORDING HEAD"
MODELS X-26 and X-29A

"RECORDING HEAD"
MODEL M-41

Model	Type	Maximum Recording Voltage	Useful Upper Limit	Finish	Dimensions	Net Weight	Code	List Price
X-26	Crystal	150 V. RMS	6,000 c.p.s.	Dark Brown Enamel	1⅜"x⅝"x3¼"	5½ oz.	ASXMI	$12.80
X-29A	Crystal	150 V. RMS	9,000 c.p.s.		1⅜"x⅝"x3¼"	5½ oz.	ASXMH	12.80
M-41-8 (8 Ohms)	Magnetic	3 V. RMS	7,000 c.p.s.		1⅜"x11/16"x3¾"	3½ oz.	ASXMF	12.80
M-41-500 (500 ohms)	Magnetic	30 V. RMS	7,000 c.p.s.		1⅜"x11/16"x3¾"	3½ oz.	ASXME	12.80

Astatic Crystal Devices manufactured under Brush Development Co. patents.

ASTATIC

PICKUPS FOR LONG-PLAYING AND LOW SPEED RECORDS

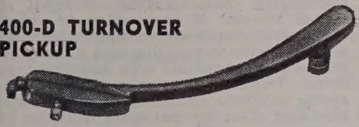
Astatic

KNOWN THE WORLD OVER
CONNEAUT, OHIO

MODEL 6D CRYSTAL TURNOVER PICKUP

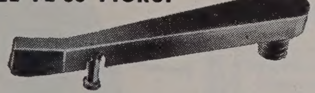
- Switches from 33⅓ or 45 RPM records to standard 78 with turn of knob at front. Plays both types of records at only eight-gram needle pressure, thus has no extra mechanism to change pressure when knob is turned, eliminating a potential source of trouble and varying reproduction quality. Employs LQD-1 Double-Needle Cartridge. Mounts seven inches from turn-table center, die-cast curved arm finished in dark brown Hammerlin.

400-D TURNOVER PICKUP



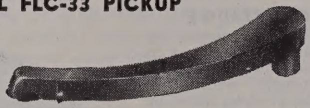
- Turnover type transcription pickup adapted from famous Astatic Studio Master "400" conventional transcription arm. Plays 33⅓, 45 or standard 78 RPM recordings at eight-gram needle pressure. Employs LQD-1 Double-Needle Crystal Cartridge. Notable excellence of frequency response, particularly at low frequencies. Gracefully curved, die-cast arm in light brown Hammerlin finish.

MODEL FL-33 PICKUP



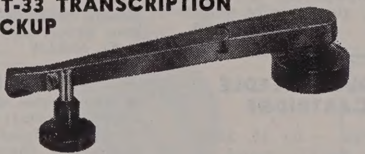
- Does the work of three pickups. Its U-J Crystal Cartridge for either 33⅓ or 45 RPM records is easily, instantly replaceable with the U-78-J Cartridge for playing standard records. No adjusting of needle pressure, nothing else to be done. Cartridges slip in and out like barrel and cap of non-threaded fountain pens. Special Type "U" Taper-Lock replaceable needle has tongue and groove arrangement to hold in position, removes merely by gripping small tab at rear of needle and sliding towards rear of cartridge. Novel design at base of FL-33 eliminates tone arm resonances, assures perfect tracking. Die-cast arm, finished in high gloss black and polished aluminum.

MODEL FLC-33 PICKUP



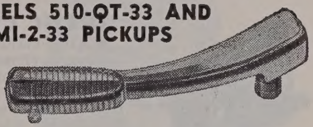
- The same important advancements in pickup engineering as the FL-33, in handsomely curved styling. Offers the same operating advantages, such as the three-in-one feature: one pickup plays 33⅓, 45 and 78 RPM Records without changing needle pressure or making other adjustments, with the simple switching of slip-in cartridges. Perfect tracking, at only five-gram needle pressure, is assured by the revolutionary new base mounting assembly.

FLT-33 TRANSCRIPTION PICKUP



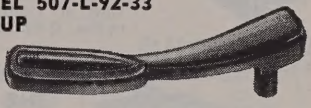
- Never before, a pickup of such professional instrument quality and precision. Like the FL-33, this sleek transcription model employs the U-J Crystal Cartridge with one mil tip-radius needle, instantly replaceable with the U-78-J for playing 78 RPM Records. In addition, the U-TR Cartridge with 2.5 mil tip-radius may be inserted to play standard lateral broadcast transcriptions. Special ball-bearing, anti-resonance base is adjustable to desired height, as is unique arm-rest. Feather-touch needle pressure of five grams is accomplished by a revolutionary hinged division of the arm, which also contributes to perfect tracking and elimination of surface noise. Die-cast arm and base look their fine instrument part, with finish in telephone black. All three "U" Series Cartridges are available with diamond stylus tips instead of the regular sapphire.

MODELS 510-QT-33 AND 510-MI-2-33 PICKUPS



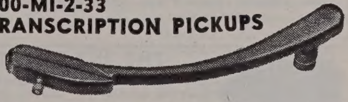
- Add Astatic's new anti-resonance swivel base, and the famous "QT" Crystal Cartridge with special one mil tip-radius, precious metal or jeweled stylus, to the popular Astatic Model 510 Pickup — and you have this new long-playing model, the finest performer in its price class. Permanently adjusted to six-gram needle pressure, its short mounting centers make it ideal for a host of long-playing applications. Outstanding characteristics are high uniform output and low needle point impedance. Die-cast arm, finished in Hammerlin opalescent grey. Specify Model 510-MI-2-33 for the same pickup, except for employment of Astatic's revolutionary Magneto-Induction Cartridge.

MODEL 507-L-92-33 PICKUP



- Bedrock price, with full professional performance standards retained. The new L-92-33 Crystal Cartridge employed is notable for high output, which affords excellent results in use with standard phonograph amplifiers, where other lower output cartridges are not satisfactory. Has universal, screw-type needle chuck to receive standard microgroove needles. Pickup is furnished without needle. Die-cast arm finished in opalescent grey Hammerlin. New, anti-friction swivel base.

MODELS 400-QT-33 AND 400-MI-2-33 TRANSCRIPTION PICKUPS



- The famous Astatic Studio Master "400" conventional transcription arm, adapted for long-playing transcriptions. Incorporates the improved base mounting assembly that eliminates arm resonances and assures perfect tracking, and the "QT" Crystal Cartridge with precious metal or sapphire stylus of one mil tip-radius. A peak standard of long-playing transcription performance. Die-cast arm, permanently adjusted at six-gram needle pressure. Grey Hammerlin finish. Specify Model 400-MI-2-33 for the same arm, except for employment of Astatic's Magneto-Induction Cartridge.

Model	List Price	Finish	Cartridge Used	Type	Stylus	Frequency Range c.p.s.	Output Voltage 1000 c.p.s. 0.5 Meg. Load	Needle Pressure	Application	Cable Length**	Shipping Weight	Code
6D	$15.90	Dark Brown Hammerlin	LQD-1	Crystal	Precious Metal†† Sapphire††	50 - 7000	STD 1.2*** LP 0.9*	8 grams	Standard, 33⅓ and 45 RPM Records	13"	2 lbs.	ASXHU
400-D	25.00	Light Brown Hammerlin	LQD-1	Crystal	Precious Metal†† Sapphire††	50 - 7000	STD 1.2*** LP 0.9*	8 grams		24"	1 lb. 8 ozs.	ASDCN
FL-33	14.90	High Gloss Black	U-J	Crystal	Sapphire	30 - 10,000	0.5 volt*	5 grams	Long-Playing and Low-Speed Records	12"	14 ozs.	ASXGB
FLC-33	14.90		U-J	Crystal	Sapphire	30 - 10,000	0.5 volt*	5 grams		12"	14 ozs.	ASXIL
FLT-33	43.90	Telephone Black	U-J	Crystal	Sapphire	30 - 10,000	0.5 volt*	5 grams		24"	3 lbs.	ASXIP
FLT-33X	73.90		U-X	Crystal	Diamond	30 - 10,000	0.5 volt*	5 grams		24"	3 lbs.	ASXIO
FL-78	14.90	High Gloss Black	U-78-J	Crystal	Sapphire	30 - 10,000	0.5 volt†	5 grams	Standard 78 RPM Records	12"	14 ozs.	ASXIT
FLC-78	14.90		U-78-J	Crystal	Sapphire	30 - 10,000	0.5 volt†	5 grams		12"	14 ozs.	ASXIU
FLT-78	43.90	Telephone Black	U-78-J	Crystal	Sapphire	30 - 10,000	0.5 volt†	5 grams		24"	3 lbs.	ASXIS
FLT-78X	68.90		U-78X	Crystal	Diamond	30 - 10,000	0.5 volt†	5 grams		24"	3 lbs.	ASXIR
FLT-TR	43.90	Telephone Black	U-TR	Crystal	Sapphire .0025" Tip Radius	30 - 10,000	0.5 volt†	5 grams	Broadcast Transcription	24"	3 lbs.	ASXIN
FLT-TRX	68.90		U-TRX	Crystal	Diamond	30 - 10,000	0.5 volt†	5 grams		24"	3 lbs.	ASXIM
510-QT-M-33	10.25	Opalescent Grey Hammerlin	QT-M-33	Crystal	Precious Metal	50 - 10,000	0.75 volt*	6 grams	33⅓ and 45 RPM Records	13"	1 lb. 2 ozs.	ASAYO
510-QT-33	10.75		QT-J-33	Crystal	Sapphire	50 - 10,000	0.75 volt*	6 grams		13"	1 lb. 2 ozs.	ASAYP
510-MI-2-33	9.35		MI-2J-33	Magnetic	Sapphire	50 - 12,000	28 millivolt*	6 grams		13"	1 lb. 2 ozs.	ASAYQ
507-L-92-33	8.00		L-92-33	Crystal	Not included	50 - 10,000	1.6 volt*	10 grams		13"	1 lb. 2 ozs.	ASWTT
400-QT-M-33	24.50		QT-M-33	Crystal	Precious Metal	50 - 10,000	0.75 volt*	6 grams		24"	1 lb. 8 ozs.	ASBCK
400-QT-33	25.00		QT-J-33	Crystal	Sapphire	50 - 10,000	0.75 volt*	6 grams		24"	1 lb. 8 ozs.	ASBCL
400-MI-2-33	23.60		MI-2J-33	Magnetic	Sapphire	50 - 12,000	28 millivolt*	6 grams		24"	1 lb. 8 ozs.	ASBCM

*Columbia Test Record 281 †Columbia Test Record 10004M **Super-Flexible, Single Conductor, Shielded
††Precious metal stylus tip on 3 mil 78 RPM side. Sapphire stylus tip on 1 mil 45 and 33⅓ RPM side.
***Audio-tone Test Record

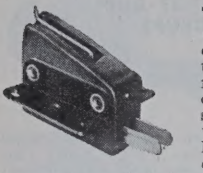
Astatic Crystal Devices manufactured under Brush Development Co. patents.

ASTATIC

Astatic

KNOWN THE WORLD OVER
CONNEAUT, OHIO

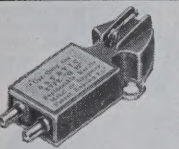
CARTRIDGES, NEEDLES, ETC. FOR LONG-PLAYING AND LOW SPEED RECORDS



THE GC CERAMIC CARTRIDGE

● First major stride in cartridges employing ceramic elements since Astatic pioneered in this type unit. The first with replaceable needle. Takes "Type G" needle—with either one or three-mil tip-radius, precious metal or sapphire—which slips from its rubber chuck with a quarter turn sideways. Resistance to high temperatures and humidity is not the only additional advantage. Output has been increased over that of any ceramic cartridge available. Light weight and six-gram needle pressure make it ideal for a great variety of modern applications. Model GC-J fits standard ½" mounting and RCA 45 RPM record changers. Model GC-1J fits RMA No. 2 Specifications for top mounting .453" mounting centers.

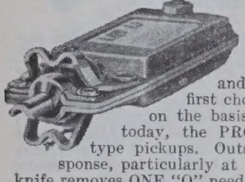
GC-J —Code ASWZK............................**List Price $7.40**
GC-1J—Code ASWZH............................**List Price 7.40**



THE CQ CRYSTAL CARTRIDGE

● A new Astatic design, featuring miniature size and five-gram weight. Model CQ-J fits standard ½" mounting and RCA 45 RPM record changers. Model CQ-1J fits RMA No. 2 Specifications for top mounting .453" mounting centers. Needle pressure five grams. Output 0.7 volts at 1,000 c.p.s. Employs one mil tip-radius, Q-33 needle. Cast aluminum housing.

CQ-J —Code ASXAZ............................**List Price $7.50**
CQ-1J—Code ASXAI............................**List Price 7.50**



THE LQD DOUBLE-NEEDLE CRYSTAL CARTRIDGE

● The LQD Cartridge — for 45, 33⅓ and 78 RPM Records — quickly became the first choice of many of the nation's largest users, on the basis of comparative listening tests, and is, today, the PROVED TOP PERFORMER for turnover type pickups. Outstanding for excellence of frequency response, particularly at low frequencies. A gentle pry with penknife removes ONE "Q" needle for replacement . . . without disturbing the other needle, without removing cartridge from tone arm. Gentle pressure snaps new needle into place. Stamped aluminum housing. Model LQD-1J, illustrated, has needle guards and front bracket for turnover knob. LQD-J furnished without guards or bracket.

LQD-J —Code ASXAL............................**List Price $9.50**
LQD-1J—Code ASXAM............................**List Price 9.50**

THE U-J CRYSTAL CARTRIDGE*

● The unparalleled performance and triple duty service of the FL Series Pickups is largely due to the U-J Crystal Cartridge. A child can slip it instantly from the pickup and slip in the U-78-J or U-TR Crystal Cartridges to switch from 33⅓ and 45 to 78 RPM records or broadcast transcriptions. Secures itself on slip-in principle, the same as barrel and cap of some modern fountain pens. No changing of needle pressure, nothing else to be done. Five-gram needle pressure. Replaceable sapphire stylus with one mil tip-radius. The U-J replaces, and is interchangeable with, the discontinued LP-33. An ideal replacement for Philco Part 45-1609, Balanced Fidelity Reproducer.

Code ASXAT............................**List Price $8.90**

THE U-78-J CRYSTAL CARTRIDGE*

● Interchangeable with U-J Crystal Cartridge, in "FL" and "FLT" Series Pickups, to play conventional 78 RPM Records. See above description under U-J Cartridge. Five-gram needle pressure, has replaceable sapphire stylus with three mil tip-radius. Replaces LP-78 Cartridge.

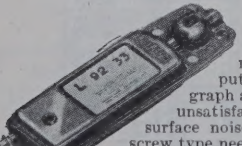
Code ASWZG............................**List Price $8.90**
$7.90 with **FL-33, FLT-33** or **FLT-TR Pickups**

THE U-TR CRYSTAL CARTRIDGE*

● Identical to U-J, except for 2.5 mil tip-radius needle for broadcast transcriptions.

Code ASXAK............................**List Price $8.90**
U-J with Diamond Stylus.........**$38.90; U-TR** or **U-78**.........**$33.90**

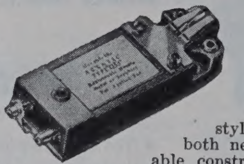
* All "U" Series Cartridges are instantly interchangeable in the "FL" and "FLT" Series Pickups



THE L-92-33 CRYSTAL CARTRIDGE

● High performance quality in a new, low-cost unit. Notably high output permits use with standard phonograph amplifiers, where other cartridges prove unsatisfactory. Reality of tone and absence of surface noise are almost unbelievable. Universal, screw type needle chuck receives any standard microgroove needle. Stylus not furnished.

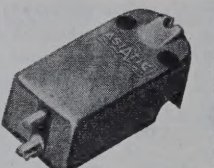
Code ASWTS............................**List Price $6.00**



THE QT-M-33 AND QT-J-33 CRYSTAL CARTRIDGES

● A famous Astatic Cartridge with a famous needle design—now adapted to the requirements of LP Recordings. The QT-M-33 employs a precious metal stylus and the QT-J-33, a sapphire type, both needles being the same unique, replaceable construction used in conventional QT Cartridges, except for one mil tip-radius.

	List Price
QT-M-33—Code ASXBQ	$8.40
QT-J-33—Code ASXBR	8.90



THE MI-2J-33 MAGNETO-INDUCTION CARTRIDGE

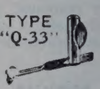
● Peak fidelity of reproduction that LASTS, even under the most consistent service or adverse climatic conditions. Unchanging characteristics are result of radical reversal of engineering precedent and drastic simplification, which eliminate need for delicate handling and other common sources of trouble with magnetic type units. Troublesome, costly armature balancing problems also eliminated. Mumetal housing provides increased shielding effect for maximum reduction of hum. Fixed, sapphire stylus with one mil tip-radius.

Code ASALW............................**List Price $7.50**

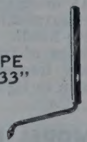
ASTATIC ONE MIL TIP-RADIUS NEEDLES

● The unique design of the Q-33-M (precious metal) and Q-33-J (sapphire) Needles reduces surface noise and needle talk, through increased vertical compliance. See LQD Cartridge for other features. The D-33 is for use with LT-D Cartridge. See FL-33 Pickup for features of "U" Type Taper-Lock Needle; see GC Cartridge for "G" Needle.

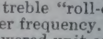
TYPE "Q-33"



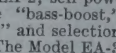
TYPE "D-33"



		List Price
Q-33-M	— Code ASXBT	$1.50
Q-33-J	— Code ASXBS	2.50
D-33	— Code ASXBV	1.50
U-J	— Code ASWZR	2.50
U-M	— Code ASWZP	1.50
G-J	— Code ASWZT	2.50
G-M	— Code ASWZV	1.50



TYPE "U"



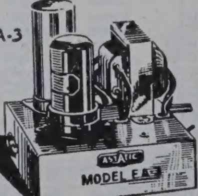
TYPE "G"

THE EA-1, EA-2 AND EA-3 EQUALIZERS-AMPLIFIERS

EA-1

EA-2

EA-3



● The Model EA-1 is a compact unit designed for installation in radio sets and audio amplifiers, and provides the necessary equalization and preamplification to adapt the MI-2J-33 Cartridge to standard phonograph input circuits. Provides "bass-boost." The Model EA-2, self-powered, provides adjustable "bass-boost," adjustable treble "roll-off," and selection of "turnover frequency." The Model EA-3 is a self-powered unit and provides "bass-boost" and equalization for the Magneto-Induction Cartridge.

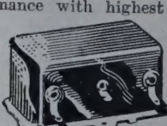
EA-1—Code ASAMP .. **List Price $ 9.90**
EA-2—Code ASAMO .. **List Price 39.50**
EA-3—Code ASAMN .. **List Price 15.95**

THE FT FILTER-TRANSFORMER

● For broadcast station use with "FL" and "FLT" Series Pickups, to filter and match high impedance output of pickup to low impedance mixer circuits. Has output impedances of 37.5, 150 and 250 ohms.

Code ASXMR................**List Price $28.50**

THE FL FILTER



● For best performance with highest quality speakers, the FL Filter is recommended as an accessory unit with "FL" and "FLT" Series Pickups. Controls high frequency response.

Code ASXMS................**List Price $6.90**

Astatic Crystal Devices manufactured under Brush Development Co. patents.

DYNAMIC AND CRYSTAL MICROPHONES SHURE

SHURE MULTI-IMPEDANCE SUPER-CARDIOIDS

"556" SUPER-CARDIOID
(For Broadcast)

The new Shure Super-Cardioid Dynamic Microphones are Multi-Impedance Microphones—giving you three microphones in one. Gives you a choice of low, medium, or high impedance in one unit. Model "556" is specially designed for Broadcasting. Held within extremely close tolerances in frequency response. Features internally isolated cartridge and external vibration absorbing unit. Model "55" is a "General Purpose," high-quality dynamic. It is identical to the "556" in appearance with the exception of the external vibration absorbing unit.

Following is technical data covering both models: Reduces reflections and reverberation—decreases random noise pickup by 73%. Smooth response from 40 to 15,000 cycles over wide angle at front—dead at rear. Single unit construction accomplished through Shure "Uniphase" principle (Patented). Floating moving coil system. Swivel head. Standard 5/8"—27 thread. "556" has convenient terminals for attaching longer length cables. "55" has built-in connector. Case 4¼" high, 3¼" wide, 3½" deep. Ship. wts.: "556", 3½ lbs.; "55", 4 lbs.

"UNIDYNE" SUPER-CARDIOID DYNAMIC
(For General Purpose)

IMPEDANCE TABLE	OUTPUT LEVEL
L—35-50 ohms	56.1 db below 1 Milliwatt per 10 microbar signal
M—150-250 ohms	56.8 db below 1 Milliwatt per 10 microbar signal
H—High	57.5 db below 1 volt per microbar

Microbar = 1 dyne per sq. cm.

Multi-Impedance Switch on Models "55", "556", "51"

MODEL	CABLE	CODE	LIST PRICE
556	7 ft.	RUMUB	$92.50
55	25 ft.	RUMUL	$67.50

Microbar = one dyne per sq. cm.

"SONODYNE" HIGH-OUTPUT DYNAMIC

Model "51"

A rugged pressure-type dynamic microphone with wide-range frequency response and semi-directional pickup characteristics. Features a multi-impedance switch for low, medium or high impedance. Operates on the principle of a moving coil element in a magnetic field. Has built-in receptacle and a two-conductor shielded cable with microphone plug attached.

The rich satin chrome case is functionally designed for improved acoustical performance and modern appearance. Frequency response 60-10,000 c.p.s. The "Sonodyne" is ideal for all general-purpose use including public address, wire and tape recording, communications and similar applications. Code: RUSON

IMPEDANCE TABLE		OUTPUT LEVEL	
L—35-50 ohms		53.0 db below 1 Milliwatt for 10 Microbar signal	
M—150-250 ohms		52.5 db below 1 Milliwatt for 10 Microbar signal	
H—High Impedance		52.0 db below 1 volt per Microbar	
MODEL	**CABLE**	**SHPG. WEIGHT**	**LIST PRICE**
51	20 ft.	3½ lbs.	$39.75

Microbar=one dyne per sq. cm.

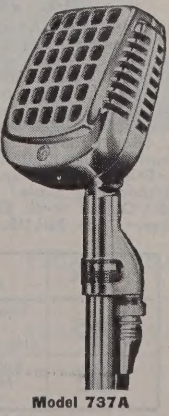
"MONOPLEX" SUPER-CARDIOID CRYSTAL

A high-output, undirectional microphone that ranks far above ordinary crystal microphones. The Super-Cardioid "Monoplex" is TWICE AS UNIDIRECTIONAL AS THE CARDIOID. It has a 14 to 1 front to rear pickup ratio and REDUCES PICKUP OF RANDOM SOUND BY 73%! The "Monoplex" employes the same type of acoustic phase-shifting network used in the Shure Broadcast microphones. New moisture-proofed "Metal Seal" crystal for long operating life. Case pivots at rear, can be pointed toward desired sound or upwards for horizontal plane pickup. The "Monoplex" is excellent for high-quality public address, communications, recording and similar applications. Operates under adverse conditions of background noise and reverberation where a conventional microphone would be practically useless. Built-in cable connector. Standard 5/8"—27 thread. Height 4". Width 3 3/32". Thickness 1⅞". Shipping weight 2¼ lbs. Rich satin chrome finish.

Code: RUMON

MODEL	CABLE	OUTPUT	IMPED.	LIST PRICE
737A	20 ft.	54.0 db below 1 volt per microbar	High Impedance	$39.75

Microbar=one dyne per sq. cm.



Model 737A

SHURE CRYSTAL AND CARBON MICROPHONES

707A CRYSTAL

707A SERIES

Good-quality performance at low cost. Has good response characteristics, is free from peaks, has typical semi-directional pickup. Uses moisture-proof Bimorph Crystal. Ideal for low-cost P. A. systems, call systems, amateur 'phone transmitters and similar applications.

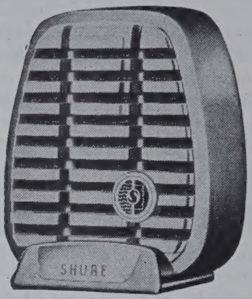
Pearl Gray case with rich satin chrome finish on front grille. The case is a heavy die casting. Standard ⅝''—27 thread. Diameter 2⅜''. Shipping weight 2¼ pounds. High impedance.

Code: 707A—RUDOF. 707A-20—RUDOK

MODEL	OUTPUT	CABLE	LIST PRICE
707A	51.0 db below I volt per microbar	7 ft.	$14.50
707A—20	54.5 db below I volt per microbar	20 ft.	$16.00

Microbar = one dyne per sq. cm.

THE "REX"



710 SERIES

Its extremely low price makes this striking hand-held crystal microphone a natural for hams, low-cost public address systems, and as a replacement for home recording microphones. A rugged unit designed for high speech intelligibility. The "Rex" saves further costs, as it needs no desk stand! Has a broad base, sits firmly on a table top without tipping over. Frequency response 60 to 9000 c.p.s. 7' shielded cable. Beautiful Burgundy-red metallic finish. Die-cast case complete with stand adapter. 2⅔'' wide, 3¼'' high, 1⅛'' thick. High impedance.

Code: 710A—RUDEL. 710S—RUDET

MODEL	OUTPUT LEVEL	SHPG. WT.	LIST PRICE
710A	50 db below I volt per microbar	1¼ lb.	$10.00
710S (with switch)	50 db below I volt per microbar	1½ lb.	$12.00

Microbar = I dyne per sq. cm.

STRATOLINER

708 SERIES

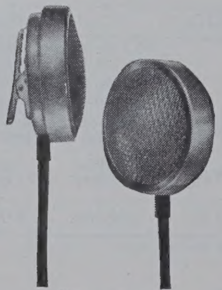
An expensive-looking microphone at moderate cost. Wide-range response (free from undesirable peaks) for good reproduction of either voice or music. Placed horizontally, the 708A is semi-directional; used vertically it becomes non-directional. Bimorph Crystal. A swivel permits 90° tilting of the microphone. Case dimensions: diameter 2½'', length $4\frac{7}{16}$''. Standard thread ⅝''—27. Shipping weight 2½ pounds. Frequency response is 60-8000 c.p.s. Pearl Gray finish. High impedance.

Code: 708A—RUDUM. 708-20—RUVAT

MODEL	OUTPUT LEVEL	CABLE	LIST PRICE
708-A	51.0 db below one volt per microbar	7 ft.	$27.50
708—20	54.5 db below one volt per microbar	20 ft.	$29.00

Microbar = one dyne per sq. cm.

SHURE 76B LAPEL MICROPHONE



No. 76B

Designed for Public Address, lecturing, portable transmitters, and all general uses for intelligible reproduction of speech. Pressure-actuated diaphragm-type crystal microphone. Graphoil Bimorph crystal, moisture-sealed. Microphone is inconspicuous, weighs only 1½ ounces. Response from 40 to 6,000 c.p.s. High frequency response accentuated for maximum intelligibility. 1⅞'' diameter. Gray finish. Lapel clip. 25-foot shielded single-conductor cable. Shipping weight I pound. Output level: 57 db below I volt per bar. Code RULOP. List Price $27.00.

COMMUNICATION CARBON MICROPHONES

MODEL "100" SERIES

A high-quality, carbon microphone specially designed for mobile equipment. Rugged, dependable unit with clear, crisp voice response and high output. Fits snugly into palm of hand. Heavy duty switch for push-to-talk performance. Furnished with hook for suspension and bracket for wall mounting, plus coiled-cord cable. Adopted as standard microphone by leading manufacturers of police transmitters. Output level: 5 db below I volt for 100 microbar speech signal. Net weight 14 oz. Shipping weight 1¼ pound. Case dimensions: 3¾'' high, 1¾'' deep, 2¾'' wide. 70 to 80 ohms impedance.

MODEL	SWITCH ARRANGEMENT	CABLE	CODE	LIST PRICE
101C	Two Wire Relay Switch normally open (No microphone switch).	Coiled Cord 11'' retracted 5' extended	RUCEG	$30.00
102C	Relay normally open. Microphone switch normally open.	Coiled Cord 11'' retracted 5' extended	RUCEM	$30.00

Microbar = one dyne per sq. cm.

MODEL "120"

The ideal general replacement carbon microphone for fixed station use. Can be used as a direct replacement for Shure microphones used by the leading communication equipment manufacturers. The "120" is a durable unit designed for high intelligibility of speech. Recommended for Police, Fire, Utility, Forestry, Transportation Services, etc. The "120" is a distinctive looking unit, will improve the appearance of any transmitting setup. It is furnished with a S36A desk stand, push button switch and 7' cable. Shipping weight 3½ pounds. Code: RUCEP.

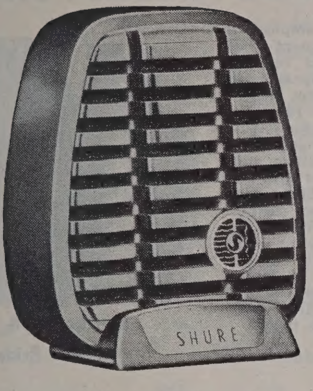
NOTE: Direct replacement for manufacturer's model 91A27.

MODEL	OUTPUT LEVEL	IMPEDANCE	LIST PRICE
120	5 db below I volt per 100 microbar	70 to 80 ohms	$40.00

Microbar = one dyne per sq. cm.

CONTROLLED RELUCTANCE MICROPHONES SHURE

THE "HERCULES"



510 SERIES

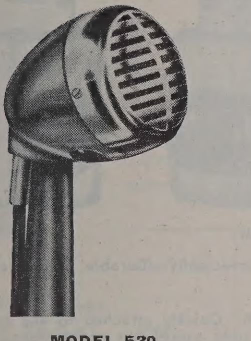
The "Hercules" is a hand-held magnetic unit. Provides the ruggedness, clear reproduction, and high output long needed for Public Address, Communications, and Recording—AT AN AMAZINGLY LOW PRICE! Recommended for Announcing and Mobile Public Address Systems; Communications; Home Recording; high quality Inter-Communication. Ideal for general-purpose use in tropical countries and all coastal areas where humidity is a problem.

The output voltage is induced in a coil of wire by causing a sound wave to modulate the reluctance of the magnetic circuit. By the control of this reluctance the utmost in quality and stability is achieved. High impedance is obtained without the use of a transformer. The "Hercules" can be used either Indoors or Outdoors. Fits snugly in the hand, sits firmly on a desk. Frequency response is 100 to 7,000 c.p.s. Furnished with 7' shielded cable. Green metallic finish. Die-cast case. Complete with stand adapter. 2⅔" wide, 3¼" high, 1½" thick.

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	SHPG. WT.	CODE	LIST PRICE
510C	7 ft.	52.5 db below 1 volt per microbar	High	1½ lb.	RUTUF	$12.95
510S (with switch)	7 ft.	52.5 db below 1 volt per microbar	High	1¾ lb.	RUTUS	$14.95

Microbar = one dyne per sq. cm.

THE "GREEN BULLET"



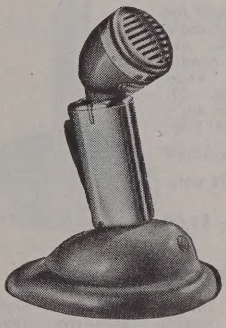
MODEL 520

The "Green Bullet" is a magnetic unit, especially designed to provide quality music and speech reproduction at moderate cost. It is practically immune to the effects of high temperatures and humidity. The "Green Bullet" has a stability assured by unique control of the reluctance of the magnetic system. It features: high output, good response, high impedance without the need of a transformer. The "Green Bullet" has a beautiful modern metallic green finish with a plated grille. Frequency response is 100 to 7,000 c.p.s. Furnished with 15' single-conductor shielded cable.

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	SHPG. WT.	CODE	LIST PRICE
520	15 ft.	52.5 db below 1 volt per microbar	HIGH	1½ lbs.	RUDAL	$16.50

Microbar = 1 dyne per sq. cm.

THE "DISPATCHER"



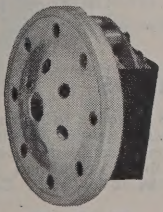
MODEL 520SL

This new Controlled Reluctance unit is complete with the Model A88A "Grip-to-Talk Slide-to-Lock" Switch and the S36A Desk Stand. It is designed to handle the most severe field requirements of paging and dispatching systems. The "Dispatcher" is ideal for police, taxi-cab, railroad, airport, bus, truck, and all emergency communications work where dependability is vital. Large grip-bar assures positive contact. Firm downward pressure on grip-bar locks switch. NOTE: THE UNIT CAN BE PICKED UP WITHOUT ACTUATING THE MICROPHONE.

MODEL	OUTPUT	IMPED.	CODE	LIST PRICE
520SL	52.5 db below 1 volt per microbar	HIGH	RUDAN	$32.00
520SL-20			RUDAF	$33.50

Microbar = 1 dyne per sq. cm.

CONTROLLED RELUCTANCE CARTRIDGE



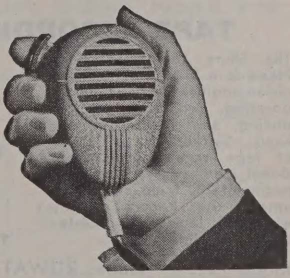
MODEL R5

The Model R5 Controlled Reluctance Microphone Cartridge is available for service installation and is also ideal for the replacement of crystal microphone cartridges in Shure cases of the Model 707A and Model 100 Series designs. It will also replace cartridges in cases of other manufacturers' models of similar design, where space permits. Complete installation instructions in English and Spanish are included. It is an acoustically controlled balanced-armature transducer ideal for both microphone and soft-speaker applications. Practically unaffected by heat and humidity. Supplied with rubber mounting ring. Overall diameter of mounting ring 2¼"; thickness of rubber ring 3/16". Overall depth of cartridge ⅞". Shipping weight 4 ounces.

Code: RUTUC. List Price: $9.00

THE "RANGER"

The new Sure "Ranger" is a new development of a similar magnetic unit originally housed in microphones used by the Armed Forces. The "Ranger" is especially recommended for those applications where long lines are used, and a rugged hand-held microphone is needed. It is ideal for outdoor public address (sports arenas, athletic fields), mobile communications, hams, audience participation shows, etc. The "Ranger" is designed for high speech intelligibility. Easy to use, fits snugly in the palm of the hand. Has heavy-duty single-throw, double-pole leaf-type switch for push-to-talk operation. Phosphor-bronze blades and silver contacts for maximum operating life. Furnished with 7' three-conductor shielded cable. Frequency response is 100 to 9,000 c.p.s.



505 SERIES

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	SHPG. WT.	CODE	LIST PRICE
505B	7 ft.	47.0 db below 1 milliwatt per 10 microbar signal	150-250 ohms	1¼ lb.	RUDAY	$25.00
505C	7 ft.	50.5 db below 1 volt per microbar	High	1¼ lb.	RUDAX	$25.00

Microbar = 1 dyne per sq. cm.

SHURE SWITCHES AND ACCESSORIES

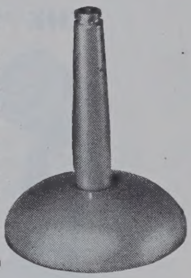
MODERN DESK STAND

Model S36A. Streamlined Desk Mount with stable support. Fits Shure connector-type Microphones, concealing plug in base. Ideal for use with A88A Grip-to-Talk Switch. Adapter provided for other type microphones. Removable button for installation of ⅜" standard bushing switch or volume control. Pearl Gray finish. Base: 2½" high, 5" wide, 7" long. Shipping weight 1½ pounds.

MODEL S36A

Model: S36A Code: RUSEF List Price: $5.00

TAKE-APART STAND



Model S34B. Handy low-cost stand for desk or hand use. One twist of handle locks it securely in base for use as a table stand, or releases handle for use in hand. Metal base, wood handle. Metal top threaded ⅝"—27. Height over all 6 1/16". Base diam. 4½". Length of handle 5⅞". Shpg. wt. 1 lb.

Code: RUKAB List Price: $2.50

Model A41B. Microphone handle only. Threaded ⅝"—27.

Code: RUJAD List Price: $1.00

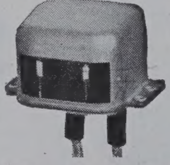
CABLE TYPE TRANSFORMER

Model A86A is a high-quality cable-type transformer which offers additional versatility when used in conjunction with Shure Models 55, 556, and 51 Dynamic Microphones, which employ the impedance matching switch. It solves the frequent problem of installations requiring long lengths of microphone cables without the loss of high-frequency response. Model A86A matches 35 to 50 and 150 to 250 ohm microphones to high impedance amplifier input. Compact, sturdy. Case diameter 1⅝", length 2⅞", 7-foot cable. Shipping weight, 1¼ pounds.

Model: A86A Code: RUDEB List Price: $15.25

TAPE RECORDING HEAD

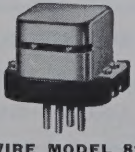
The Shure Tape Recording Head is a high quality, precision-engineered unit incorporating recording, reproducing, and erasing in one head. Suitable for all types of tape recording: professional, semi-professional, experimental, technical, and amateur use. Records on half width of tape—for double-track recording.



TAPE MODEL 815

Model: 815 Code: RUWAT List Price: $15.00

WIRE RECORDING HEAD



WIRE MODEL 812

The Shure magnetic Wire Recording Head is a high quality recording unit with recording, play-back, and signal erasure in one small unit. Has standard 4-prong adapter base. The Model "812" is a direct replacement unit for the improved Sears-Roebuck Wire Recorder.

Model: 812 Code: RUWIR List Price: $15.00

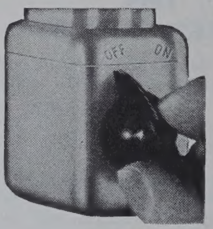
"GRIP-TO-TALK SLIDE-TO-LOCK" SWITCH

This rugged Heavy-Duty Switch employs a long life, leaf-type switch element that withstands the most severe field requirements of paging and dispatching systems. Has spring-temper, phospor-bronze switch blades with pure silver contacts. Ideal for Police, Taxi-Cab, Railroad, Airport, Bus, Truck, and all emergency communications work. Large grip-bar assures positive contact. Firm downward pressure on grip-bar locks switch. Can be used with Shure connector-type crystal, dynamic and carbon microphones of any impedance. Fits handily on Shure S36A Desk Stand as shown in illustration. No soldering necessary, simply plug in. Switch element can be readily removed for rewiring to accommodate other switching combinations. Rich satin chrome finish. Shipping weight 1 pound.

MODEL A88A

Model: A88A Code: RUNEL List Price $10.75

ON-OFF PRESS-TO-TALK SWITCHES



A83B

A84B

A85C

Plug into the microphone quickly and conveniently. Durable, dependable. No soldering necessary.

Model A83B. Rotary-type "On-Off" switch. Quickly attached to any cable-connector type Shure microphone. Internal plug establishes connections. Bakelite arrow knob.

Code: RUNIM List Price: $6.00

Model A84B. Momentary "On-Off" switch. Press-to-talk Bakelite disc.

Code: RUNID List Price: $7.00

Model A85C. Momentary Relay-Type switch. Press-to-talk Bakelite disc. Normally-open switch closes circuit comprising one conductor and shield of outgoing cable for operation of relay or other device; remaining conductor and shield of cable carry microphone output. Must be used with two-conductor shielded cable. Standard Shure cable-connector receptacle. Satin chrome finish. 1¾" high x 1⅛" wide x 2" deep. Shipping weight ¾ pounds.

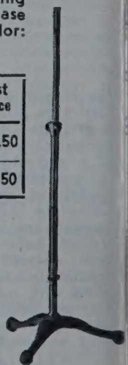
Code: RUNAT List Price: $10.00

FLOOR STANDS

The new Shure Floor Stands have been designed to look smart and work perfectly. They will fit into any type of installation because of their design and rich hammered finish. Locking device has been life-tested 5,000 times. Stabilized base cushioning reduces floor noise pickup by 10 to 18 db. Color: Pearl Gray.

Model	Base Style	Weight of Base	Base Diam.	Height Adjustment	Shpg. Wt.	Code	List Price
S61	Round	9¼ lbs.	12"	44"—68"	13 lbs.	RUSIT	$19.50
S65	Tri-pod	9¼ lbs.	17⅞"	46"—70"	15 lbs.	RUSIV	$22.50

MODEL S61



MODEL S65

SHURE CRYSTAL PHONOGRAPH PICKUPS

"VERTICAL DRIVE" CRYSTAL PICKUPS

Model 901 Series "Vertical Drive" Pickup

Recommended for superlative reproduction of fine-groove vinylite and high quality standard-groove recordings. Arm is lightweight die-cast aluminum and tracks faithfully at 7 grams. These pickups have adequate output for the average audio stage, with extended frequency response. Turnover model (901D) has a knob for quick, easy turning to either fine-groove or standard-groove playback position.

MODEL	TYPE	LIST PRICE	OUTPUT LEVEL	NEEDLE FORCE	RESPONSE TO	NEEDLE	SHURE NEEDLE NUMBER	SHPG. WT.	CODE
901MG	MG	$12.75	1.0 V.*	5 grams	10,000 c.p.s.	.001" Sapphire	A65MG	12 oz.	RUZUG
901A	STD	$11.75	1.1 V.**	7 grams	6,500 c.p.s.	.0027" Sapphire	A61A	12 oz.	RUZAY
901D	MG	$16.25	1.0 V.*	7 grams	6,000 c.p.s.	.001" Sapphire	A65MG	12 oz.	RUZEL
	STD		1.1 V.**			.0027" Osmium	A62A		

*Output on Columbia 33⅓ r.p.m. records and RCA 45 r.p.m. records. **Output with .0027" needle on 78 r.p.m. records.

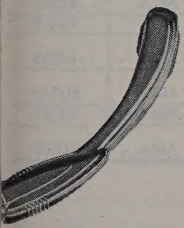
"MUTED STYLUS" CRYSTAL PICKUPS

Model 900 Series "Muted Stylus" Pickup

These pickups feature the famous amazingly quiet "Muted Stylus" Crystal Cartridges. Have low needle force with high output and smooth frequency response. Have unique needle guards and record and needle protection. Arm is lightweight die-cast aluminum with handy pickup handle. Model 900HS "Humi-Seal" has moisture-proofed, metal-seal crystal element and is highly recommended for use in humid areas.

MODEL	TYPE	LIST PRICE	OUTPUT LEVEL	NEEDLE FORCE	RESPONSE TO	NEEDLE	SHURE NEEDLE NUMBER	SHPG. WT.	CODE
900B	STD	$10.50	1.6 V.	1⅛ oz.	4,500 c.p.s.	.0027" Osmium	A62A	12 oz.	RUZUD
900HS	"Humi-Seal" for Tropics	$11.50	1.8 V.	1⅝ oz.	4,500 c.p.s.	.0027" Osmium	A62A	12 oz.	RUZUA

"GLIDER" CRYSTAL PICKUPS

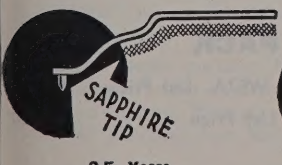


Models 93A, 96A, 900MG "Glider" Pickup

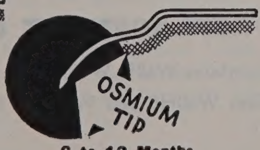
These modern lightweight aluminum crystal pickups employ a needle force of 1⅛ ounces. They are recommended for good quality installations where low cost is essential. These pickups use high output, lever-type crystal cartridges. Arms are scientifically designed for low mass and maximum tracking. Supplied with easy-to-use arm rest. Reduce record and needle wear. Minimum surface noise, needle scratch and hiss.

MODEL	TYPE	LIST PRICE	OUTPUT LEVEL	NEEDLE FORCE	RESPONSE TO	SHURE NEEDLE NUMBER	NEEDLE SCREW	SHPG. WT.	CODE
93A	STD	$7.50	1.8 V.	1⅛ oz.	6,000 c.p.s.	NONE	Set and Thumb	13 oz.	RUGLI
96A	Hi-Level	$8.50	4.3 V.	1⅛ oz.	6,000 c.p.s.	NONE	Set and Thumb	13 oz.	RUGAB
900MG	MG	$12.50	1.0 V*	6 grams	8,500 c.p.s.	A64MG	Set Screw	13 oz.	RUZUZ

*Output for 33⅓ r.p.m. fine groove records. Output 1.3 V. on R.C.A. 45 r.p.m. records.



2-5 Years Average use



6 to 12 Months Average use

SHURE "MUTED STYLUS" NEEDLES

MODEL	DESCRIPTION	LIST PRICE	CODE
A61A	STD-Sapphire	$2.50	RUZAN
A62A	STD-Osmium	1.50	RUZAP
A63MG	MG-Osmium	1.50	RUGAZ
A64MG*	MG-Osmium	2.00	RUZAS
A65MG	MG-Sapphire	2.50	RUGAY

*Standard bent shank needle not illustrated.

CRYSTAL PICKUP CARTRIDGE DATA SHEET SHURE

Manufacturers Column

Check this column for replacement numbers.

Shure Mfr's No.	Shure Replacement
P30, -C	W60B
P30B, -W	W60A
P30D, -G,-S	W61B
P30E,-HS	W60HS
P35,-S	W65B
P70	W23B
P70A	W23A
P72,-AF	W22AB
P72A	W22A
P73,-A	W21A
P73AR,-R	W21AR
P75,-A	W21E
P76,-AF	W22AB
P76A	W22A
P77	W22AB
P77A	W22A
P79	W22AB
P87,-B	W57A
P87S	W58A
P88,-S	W59A
P89,-S	W56A
P89R	W56R
P90B,-C,-S	W58A
P90D	W57A
P92B	W58A
P93,-B,-C,-D	W57A
P93E	W60HS
P93MG	W53MG
P93S	W58A
P94,-B	W57A
P94E	W60HS
P95MG	W53MG
PN30,-S	W60PN
PN88,-S	W56PN
PN89,-D,-E,-S	W56PN
W40A	W59A
W41A	W59A
W42A	W42B
W57AN	W60A
99-180	W59A
99-181	W59A
99-182	W42B

"VERTICAL DRIVE" CRYSTAL CARTRIDGES are ideal for fine-groove vinylite and high quality standard-groove recordings. Minimum mass with maximum needle compliance. Needle chuck on vertical rather than on horizontal axis. Equipped with the famous "Muted Stylus" needle which plays with amazing quietness. Pin jacks included.

MODEL	TYPE	LIST PRICE	OUTPUT LEVEL	MIN. NEEDLE FORCE	RESPONSE TO	NET WEIGHT	SHURE NEEDLE NUMBER	CODE
W21A	MG	$ 8.75	1.0 V.*	5 grams	10,000 c.p.s.	4½ grams	A65MG	RUVET
†W21AR	MG	8.75	1.0 V.*	5 grams	10,000 c.p.s.	4½ grams	A65MG	RUVAR
‡W21E	MG	8.75	1.0 V.*	5 grams	10,000 c.p.s.	4½ grams	A65MG	RUVAG
W22A	MG	11.75	1.0 V.*	6 grams	6,000 c.p.s.	5 grams	A65MG	RUVAL
	STD		1.1 V.**				A61A	
W22AB	MG	10.75	1.0 V.*	6 grams	6,000 c.p.s.	5 grams	A65MG	RUVAX
	STD		1.1 V.**				A62A	
W23A	STD	8.75	1.1 V.**	6 grams	7,000 c.p.s.	4½ grams	A61A	RUVAY
W23B	STD	7.75	1.1 V.**	6 grams	7,000 c.p.s.	4½ grams	A62A	RUVER

† Special bracket for RCA Changer. ‡ With .453" mount for Oak changer.

*Output on Columbia 33⅓ r.p.m. records and RCA 45 r.p.m. records. **Output with .0027" needle on 78 r.p.m records.

"LEVER-TYPE" CRYSTAL CARTRIDGES have extremely high needle point compliance and high voltage output. All standard needles will fit these cartridges. Furnished with easy-to-use pin jacks, eliminating need for soldering to cartridge terminals.

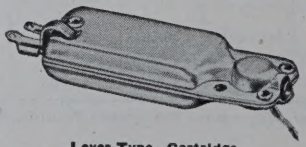
MODEL	TYPE	LIST PRICE	OUTPUT LEVEL	MIN. NEEDLE FORCE	RESPONSE TO	CASE MATERIAL	NEEDLE SCREW	CODE
W42B	STD	$4.45	1.3 V.	1 oz.	5,000 c.p.s.	Steel	Thumb	RUGUB
†W53MG	MG	$8.50	1.0 V.*	6 grams	8,500 c.p.s.	Aluminum	Set	RUGET
W56A	Hi-Level	$6.65	4.3 V.	1⅛ oz.	6,000 c.p.s.	Aluminum	Thumb & Set	RUGUS
W56R	Cut.—Cart.	$7.50	4.3 V.	1 oz.	10,000 c.p.s.	Steel	Thumb & Set	RUGEV
W57A	STD	$5.55	1.6 V.	¾ oz.	6,000 c.p.s.	Aluminum	Thumb & Set	RUGLA
W58A	STD	$5.55	1.6 V.	1 oz.	6,000 c.p.s.	Steel	Thumb & Set	RUGLU
W58HS**	"Humi-Seal"	$6.55	1.6 V.	1 oz.	6,000 c.p.s.	Steel	Thumb & Set	RUGUY
W59A	STD	$5.55	2.5 V.	1 oz.	6,000 c.p.s.	Steel	Thumb & Set	RUGAT
W56PN	PN Crystal	$10.00	1.9 V.	1⅛ oz.	8,000 c.p.s.	Aluminum	Thumb & Set	RUTAR

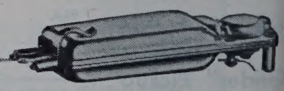
*Output on 33⅓ r.p.m. fine groove records Output 1.3 V. on R.C.A. 45 r.p.m. records. **"Humi-Seal"—Moisture-proofed Rochelle Salt Crystal Cartridge. †Furnished with A64MG needle.

"MUTED STYLUS" CRYSTAL CARTRIDGES are equipped with the famous amazingly quiet "Muted Stylus" needle to overcome problems of surface noise and distortion. Provide record-matched frequency response for clear, full, tone qualities. Rounded guards protect needle and record. Pin jacks included.

MODEL	TYPE	LIST PRICE	OUTPUT LEVEL	MIN. NEEDLE FORCE	RESPONSE TO	CASE MATERIAL	SHURE NEEDLE NUMBER	CODE
W60A	STD	$8.50	1.6 V.	1 oz.	4,500 c.p.s.	Aluminum	A61A	RUSIS
W60B	STD	$7.50	1.6 V.	1 oz.	4,500 c.p.s.	Aluminum	A62A	RUSID
W60HS	"Humi-Seal" for Tropics	$8.50	1.8 V.	1 oz.	4,500 c.p.s.	Steel	A62A	RUSIB
W60PN	PN Crystal	$13.00	0.7 V.	¾ oz.	4,500 c.p.s.	Aluminum	A62A	RUTAP
W61B	STD	$7.50	1.6 V.	1 oz.	4,500 c.p.s.	Steel	A62A	RUSIC
W65B	High Output	$8.50	4.0 V.	1 oz.	4,500 c.p.s.	Steel	A62A	RUSIG

"Vertical Drive" Cartridge W20 Series


Lever-Type Cartridge Series


"Muted Stylus" Cartridge W60 Series

"9 out of 10" Pack

"TROPI-PAC"

CARTRIDGE REPLACEMENT PACK

"9-OUT-OF-TEN" PACK, Model W50B contains W60B, W58A, and W57A. List Price....$18.50

THE "TROPI-PAC" Model W50T, contains W60HS and W58HS. List Price........... 15.00

No finer choice than Electro-Voice Microphones

Cardioid Unidirectional Microphones

IMPROVED CARDYNE BROADCAST DYNAMIC

True Cardioid with New Impedance Selector, New Dual-Type External Shock Mount, Smooth Wide Range Response, High Output.

Better than ever for high quality sound pick-up and reproduction. Response is improved . . . output increased. New impedance selector on rear of case instantly gives you high impedance (25,000 ohms) or match to all low impedances. New dual-type external shock mount prevents reproduction of external shocks and stand vibration, reduces side sway of microphone. Exclusive Acoustalloy diaphragm withstands severest service.

E-V Mechanophase* principle gives wide angle front pick-up, dead at rear . . . cuts reverberation and random noise pick-ups . . . stops feedback . . . nearly doubles conventional pick-up range . . . provides clear, natural close-up response . . . permits increased loudspeaker volume . . . gives users more freedom of movement. Used in studio and remote broadcasting, disc and film recording, public address and communications.

Output level: 50 db below 1 volt/dyne/cm^2. Frequency response, substantially flat, 30-12,000 c.p.s. Highest quality die cast case beautifully finished in satin chromium. Tiltable head. ⅜"-27 thread. Cannon XL-3 connector. Internal shock absorber. "On-off" switch. 20 ft. shielded cable. Size 2½" x 3½" x 9" including stud. Net wt. 2½ lbs.

CARDYNE II Model 731. List Price **$80.00**

(Also available without "On-Off" switch or with 50-250 ohm impedance selector.)

POPULAR CARDYNE DYNAMIC

CARDYNE I. Model 726. Performance characteristics similar to Model 731 above. Has Impedance Selector, but does not include external shock mount. Frequency response, substantially flat, 40-10,000 c.p.s. Output level –53 db. Has Amphenol MC-3 connector.

CARDYNE I. Model 726. List Price **$59.50**

(Model 345 External Shock Mount also available separately. List Price **$11.50**)

MODERN CARDAX CRYSTAL

The First and Only High Level Cardioid Crystal Microphone with Dual Frequency Response.

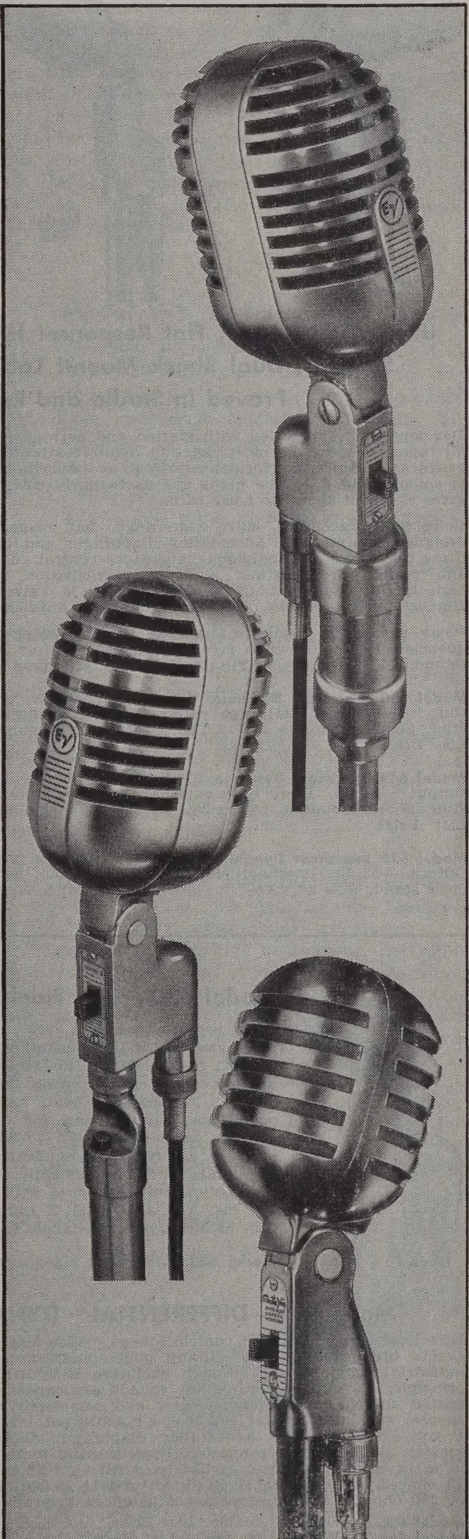
Favorite of thousands! Easily solves everyday sound problems. E-V Mechanophase* principle provides *true cardioid* unidirectivity. Wide angle front pick-up—dead at rear. E-V *Dual Frequency Response Selector* gives wide range flat response for high fidelity pick-up of voice and music, or rising characteristic for extra crispness of speech.

The CARDAX overcomes background noise, reverberation, feedback. Simplifies microphone and speaker placement. Permits greater loudspeaker volume levels. Highly recommended for public address, recording, remote broadcast, paging, dispatching, and communications.

Output level: –57 db for high fidelity; –48 db for rising response. Smart, compact, easily portable. Rich satin chromium finish. High capacity Metal Seal crystal—fully enclosed for greater moisture protection. Tiltable head. ⅜" –27 thread. Built-in cable connector. "On-Off" switch. Size 2½" x 2⅞" x 6¼" including stud. Net wt. 1¾ lbs.

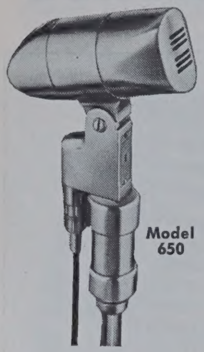
Cardax Model 950. List Price **$39.50**

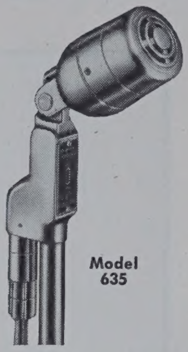
*Patents Pending.



No finer choice than Electro-Voice Microphones

High Fidelity Broadcast Dynamics





Ultra-Wide Range, Flat Response! High Output! Impedance Selector! Dual Shock Mount! Laboratory Calibrated. Proved in Studio and Remote Use!

Developed in cooperation with station and network engineers, E-V Broadcast Dynamic Microphones meet the most exacting requirements of modern, high fidelity FM and AM broadcast service. Performance-proved on important network programs. The bass end is smooth and flat. The highs are particularly clean and peak-free. High output level gives excellent signal to noise ratio.

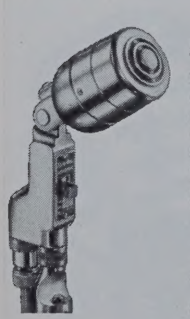
Consistently accurate, ultra-wide-range, flat response is achieved through specially designed non-metallic Acoustalloy diaphragm and highly efficient magnetic structure. Close tolerances and individual laboratory control guarantee uniformity. Ideal for studio and remote broadcasting, audience participation, applause pick-up, recording, and high quality public address. Construction is extremely rugged and shock-resistant. Highest purity (99.99%) pressure cast case, finished in durable Satin Chromium.

Polar pattern is omnidirectional at low frequencies becoming directive at high frequencies. Recessed switch gives instant selection of 50 to 250 ohms impedance. Built-in Cannon XL-3 connector. Tiltable head. ⅝"-27 stand coupler. 20 ft. cable.

Model 650 Broadcast Dynamic. Frequency response, plus or minus 2.5 db, 40-15,000 cps. Output —46 db. Dual type external shock mount. Size 2¼" x 4⅝" x 5¼" including stud. Shock mount is 1½" x 3⅞". Net wt., including shock mount, 2¾ lbs. List Price **$150.00**

Model 645 Broadcast Dynamic. Frequency response, plus or minus 2.5 db. 40-15,000 cps. Output —50 db. Dual type external shock mount. Size 2¼" x 4⅝" x 5¼" including stud. Shock mount is 1½" x 3⅞". Net wt., including shock mount, 2¼ lbs. List Price **$100.00**

Model 635 Broadcast Dynamic. Frequency response, plus or minus 2.5 db, 60-13,000 cps. Output —53 db. Does not include external shock mount. Can be used in the hand or on a stand. Size 2" x 4¾" x 4½" including stud. Net wt., 1½ lbs. List Price........ **$60.00**

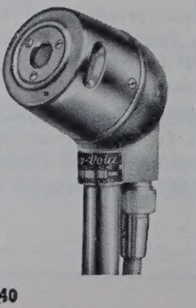


Model 630—High Fidelity, High Output Dynamic

Finer performance than ever . . . in a moderately priced moving-coil dynamic! E-V **Acoustalloy** diaphragm provides exceptionally smooth response from 40-11000 c.p.s. Assures high quality reproduction of speech and music, indoors and outdoors. Compact, rugged . . . withstands heat, humidity and other severe operating conditions. Tilting head for directional or non-directional use. Built-in cable connector. ⅝"-27 thread. "On-Off" switch. Widely used in all types of applications. Highest purity pressure-cast case, finished in lustrous satin chromium. Output level 53 db below 1 volt/dyne/cm². Equipped with 20 ft. shielded cable. Net weight, 1½ lbs. Available in Hi-Z (direct-to-grid, 25,000 ohms), 50, 200, 250, or 500 ohms impedance. Low impedances balanced to ground.

Model 630. List Price **$36.50**

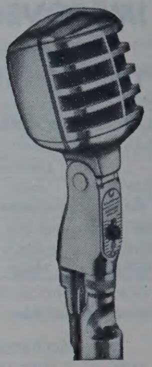
Model 606—DIFFERENTIAL* DYNAMIC



Effectively used in airport control towers, police dispatching, special events broadcasting, close-talking public address, and high noise industrial applications. Through exclusive E-V DIFFERENTIAL* principle, surrounding or distant sounds are cancelled out. Transmitted speech gets through clearly and completely. Frequency response, substantially flat 100-6000 c.p.s. Output level: 57 db below 1 volt/dyne/cm². E-V **Acoustalloy** diaphragm. Withstands severe service. Built-in cable connector. Pressure cast metal case, finished in satin chromium. Head at 22° fixed tilt. ⅝"-27 thread. Net wt., 12 ounces. Available in Hi-Z (direct-to-grid 25,000 ohms), 50, 200, or 250 ohms. Low impedances not balanced to ground.

Model 606-8. With 8 ft. cable. List Price **$36.50**
Model 606-20. With 20 ft. cable. List Price **$38.00**
*Patent Number 2,350,010

A GREAT NEW VALUE IN DYNAMIC and CRYSTAL



The MERCURY
Models 611 - 911

E-V quality features make the MERCURY today's foremost value in low-cost general-purpose microphones. Adds smartness to economical public address and paging systems, recording equipment, ham rigs. Smooth response 50-8000 cps assures fine reproduction of voice and music. High output level. Non - directional, becoming directional at higher frequencies. Compact, rugged. "On-Off" switch. Tiltable head. Built-in cable connector. Highest purity (99.99%) pressure cast case. Satin Chromium finish. Size 2⅜" x 3⅛" x 6¼" including stud.

Moving-coil Dynamic Models are available in Hi-Z (direct-to-grid, 25,000 ohms) 50, 150, 250, or 500 ohms impedance. Low impedances balanced to ground. Crystal Models are Hi-Z.

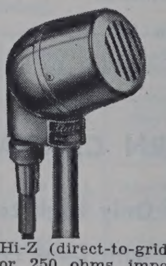
MERCURY Model 611-8. Dynamic. Output —53 db. Has E-V Acoustalloy diaphragm. 8 ft. cable. List Price **$29.50**

MERCURY Model 611-20. Dynamic. With 20 ft. cable. List Price **$31.00**

MERCURY Model 911-8. Crystal. Output —50 db. Fully enclosed Metal Seal crystal. 8 ft. cable. List Price **$22.50**

MERCURY Model 911-20. Crystal. With 20 ft. cable. List Price **$24.00**

Model 605 Durable Dynamic



Attractive, dependable, general-utility mike. Frequency response 50-7500 c.p.s., substantially flat. Output level 57 db below 1 volt/dyne/cm². Exclusive E-V **Acoustalloy** diaphragm. Pressure cast case, with 22° fixed tilt. ⅝"-27 thread. Built-in cable connector. Satin Chromium finish. Net wt., 12 ounces. Available in Hi-Z (direct-to-grid, 25,000 ohms), 50, 200, or 250 ohms impedance. Low impedances not balanced to ground.

Model 605-8. With 8 ft. cable. List Price **$24.50**

Model 605-20. With 20 ft. cable. List Price **$26.00**

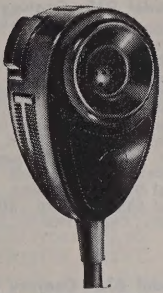
Model 805 Contact Microphone

For guitar, banjo, mandolin, violin or any vibrating musical instrument. Increases natural sound volume, enriches tonal effects. Easily installed. Frequency response 40-8,000 c.p.s. High impedance. Inertia type crystal, sealed against moisture and acoustic feedback. 15 ft. shielded cable. Size 2¼" x 1" x 7/16". Net wt. 2 ounces.

Model 805. List Price **$15.00**

Mobil Mikes

Model 600-D
Dynamic Mobil-Mike



Specially designed for clear, crisp speech transmission in communications, public address, call systems and recording. Frequency response, substantially flat, 100-6000 c.p.s. gives higher articulation, provides more usable power level, and is less fatiguing to the listener. Output level: 55 db below 1 volt/dyne/cm². High impact black phenolic case. E-V **Acoustalloy** diaphragm. Extremely rugged, for indoor and outdoor use. Press-to-talk switch controls relay. Panel mounting bracket. Equipped with 6 ft. shielded cable. Size 2¼" x 2" x 4". Net weight, 8 ounces. Available in Hi-Z (direct-to-grid, 25,000 ohms), 50, 200, 250, or 500 ohms impedance. Low impedance balanced to ground.

Model 600-D. List Price $35.00

Model 600-DL. With switch lock. List Price $36.50

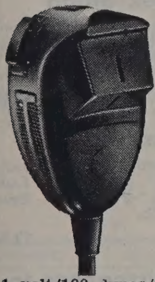
Model 210—Carbon Mobil-Mike

Gives high intelligibility speech transmission. Used in police, fire, taxi, aircraft, marine and amateur communications, mobile public address, paging, dispatching and speech recording. Extra rugged, high impact black phenolic case. Withstands severest service indoors and outdoors. Frequency response substantially flat 100-4000 c.p.s. for high articulation. Output level: 10 db. below 1 volt/100 dynes/cm². Single button. Press-to-talk switch. 5 ft. cable. Standard dash mounting clip. Size 2¼" x 2" x 4". Net wt. 7 ounces.

Model 210. List Price $25.00

Model 210-L. List Price $26.50

(Also available for exact replacement in Motorola, RCA, G. E. and similar equipment.)



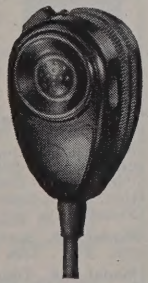
Model 205—Hand-Held DIFFERENTIAL* CARBON

Close-talking, noise-cancelling microphone designed for maximum intelligibility under intense noise. Used in police, aircraft, marine, industrial and other communications applications; also in high power sound projection. Fits in the hand. Operates in all positions. High impact phenolic case, with panel mounting bracket on back. Blast proof, waterproof, shock resistant. Withstands temperatures from -40° to +185° F. Frequency response, substantially flat from 100-4000 c.p.s. Output level: 10 db below 1 volt/100 dynes/cm². 10-50 m. a. button current. Press-to-talk switch actuates button and relay. Equipped with 5 ft. cable. Size 2¼" x 2¼" x 4". Net weight 7 ounces.

Model 205. List Price $30.00

Model 205-L. With switch lock. List Price $31.50

Model 602—Hand-Held DIFFERENTIAL* DYNAMIC



Close-talking, noise-cancelling speech microphone for use where ambient noise is 100 db or more. Assures high articulation. Especially suitable for marine, industrial and emergency communications, high power sound projection, and for speech in any windy, wet or extremely hot or cold location. Frequency response, substantially flat, 100-6000 c.p.s. Output level: 55 db. below 1 volt/dyne/cm². E-V **Acoustalloy** diaphragm. High impact phenolic case. Press-to-talk switch controls relay. Panel mounting bracket. size 2¼" x 2" x 4", Net weight, 8 ounces. Equipped with 6 ft. shielded cable. Available in Hi-Z (direct-to-grid, 25,000 ohms), 50, 200, 250, or 500 ohms impedance.

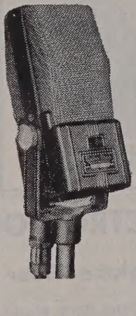
Model 602. List Price $40.00

Model 602-L. With switch lock. List Price $41.50

Velocity

High Fidelity, Bi-Directional, High Output

E-V design provides superb pick-up and reproduction of voice and music, for indoor public address, broadcasting and recording. Favorite of well-known orchestras and sound engineers. Response is substantially flat over a wide frequency range. Equal front and back pick-up with longer pick-up range; zero pick-up at sides, top and bottom. Proper tilting and placement of microphone reduces feed-back and random noise—permit increased volume levels. Open-type, reflection-free housing. Internal shock absorber mounting. One-piece frame and internal mounting structure give extra ruggedness.



Model V-3 All Impedance Velocity

Combines all popular impedances in one microphone. Impedance selector provides high impedance or match all low impedances. Low impedances balanced to ground. Substantially flat response 40-10,000 c.p.s. Output —53 db. Locking cradle for tilting microphone. Built-in cable connector. ⅝"-27 thread. Bronze gun metal finish. Size 3½" x 2¾" x 8" including stud. 20 ft. shielded cable. Net wt., 2½ lbs. **Model V-3.** List Price $60.00

Model V-2A Velocity Microphone

Similar to the V-3, but without Vari-Z selector. Choice of single standard impedance: 50, 250, 500 ohms, or Hi-Z (35,000 ohms). Frequency response, substantially flat, 40-10,000 c.p.s. Output —53 db. Locking cradle mounting. Built-in cable connector. ⅝"-27 thread. Bronze gun metal finish. Size 3½" x 2¾" x 8" including stud. 20 ft. shielded cable. Net weight, 2½ lbs.

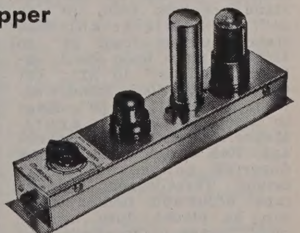
Model V-2A. List Price $50.00

Model V-1A Smaller-Size Velocity

Unsurpassed at such moderate cost. Gives you high fidelity, bi-directional advantages in a compact, smaller size microphone. For public address, recording and remote broadcasting. Substantially flat response 40-9000 c.p.s. Output —59 db. Locking cradle mounting. Built-in cable connector. ⅝"-27 thread. Satin chromium finish. Size 2¾" x 2⅛" x 6½" including stud. 20 ft. shielded cable. Net wt., 2 lbs. Available in Hi-Z (35,000 ohms), 50, 250 or 500 ohms impedance. Low impedances not balanced to ground.

Model V-1A. List Price $40.00

Model 1000 Speech Clipper



Clips the tops and bottoms from speech frequencies which rise above a pre-set amplitude — increases the ratio of consonant to vowel intensity. Adds greatly to articulation and intelligibility in speech transmission, especially in the presence of high QRM or QRN. Attenuates sidebands above 3000 c.p.s. Holds modulation at 100%. Clipping: 3-20 db. Response: 200-3000 c.p.s. Operates directly from any high impedance microphone into microphone input of conventional speech amplifier. Uses type 6SC7 and 6H6 tubes. Requires 150 volts at 5 ma and 6.3 volts at .6 amp. Input terminal: PC1M connector. Output terminal: 18" shielded cable. Compact, sturdy, aluminum case. Size 10¼" x 2" x 4½". Comes wired, with tubes. Easy to install. List Price $24.50

No finer choice than Electro-Voice Microphones

Multi-Purpose CENTURY Microphone

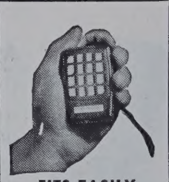
DESIGNED FOR ALL LOW COST APPLICATIONS

CRYSTAL • DYNAMIC • CARBON

Brilliantly engineered and superbly styled low-cost microphones. Complete adaptability permits widest use in public address, paging, recording, communications. Choice of crystal, dynamic or carbon types. Can be used in any position—stands by itself on table or desk — rests on its back — can be comfortably handheld, mounted on a stand or suspended overhead. Highest purity pressure-cast case is finished in lustrous gray-brown. Rugged, light weight. Size 3" x 2-3/16" x 1".

ON FLOOR OR DESK STAND

ON MODEL 415 DESK MOUNT



FITS EASILY IN HAND

Model 915—Century Crystal

Combines excellent frequency range, high level and mounting flexibility. Case provides ample shielding and stability. Moisture-sealed crystal. High impedance. Output –50 db. Frequency response 60-7500 c.p.s. 7½ ft. black glazed cloth covered, shielded cable and ⅝"-27 thread stand adapter. Net wt. only 6 ounces.

Model 915. List Price $10.00
Model 915-S. With slide-to-talk switch. List Price $11.50

Model 615—Century Dynamic

Has exclusive non-crushable **Acoustalloy** diaphragm. Withstands severe service. Output –57 db. Frequency response 55-7500 c.p.s. High impedance. 7½ ft. black glazed cloth covered, shielded cable and ⅝"-27 thread stand adapter. Net wt. only 8 ounces.

Model 615. List Price $16.50
Model 615-S. With slide-to-talk shorting switch. List Price $18.00

Model 215—Century Carbon

Provides high output — high articulation—exceptionally low hiss level (50 db below normal speech) —low distortion. Responds well in all positions. Positive Fiberglass carbon retention (E-V Patent). Normalized diaphragm seat (E-V Patent). Output –26 db using input transformer. Voltage developed by normal speech (100 dynes): .56. Speech response 200-4000 c.p.s. Single - button. 48" cable and ⅝"-27 thread stand adapter. Net wt. only 6 ounces.

Model 215. List Price $8.25
Model 215-S. With slide-to-talk switch. List Price $9.75

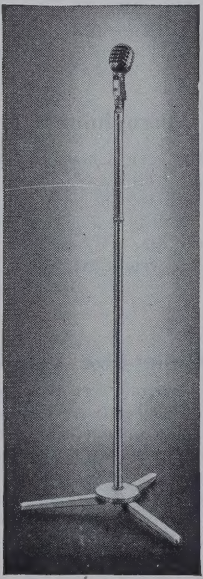
Century Mobil-Mikes

Designed for high articulation in radio amateur communications. Equipped with slide-to-talk relay control switch, 48" cable, and hang-up hook for dash mounting.

Model 215-SR. Carbon.
List $10.00
Model 615-SR. Dynamic.
List $20.00

Model 415. Reclining Desk Stand. Mounts Century at 15° tilt. Gray-Brown finish. Size 2⅝" x 2¾" x 1". Net wt. 4 oz. List Price......$1.50

ELECTRO-VOICE FLOOR AND DESK STANDS

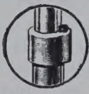


Model 425—Deluxe Floor Stand

In this unique floor stand, all dead weight is eliminated, but full stability retained. Simply press red button to raise or lower shaft with same one hand. Locks automatically by releasing button. Shaft can be rotated without any adjustment device. Adjustable legs permit placing flush against wall or speaker's table. Easy to assemble or take apart. Folds into small, compact, portable package. Highest purity pressure-cast base. Satin chromium finish. Height adjustment 37" to 66". 3-leg spread 17". Net wt. 7½ lbs. Shipping. wt., 9 lbs.

Model 425. List Price $24.50

Model 430—Utility Floor Stand



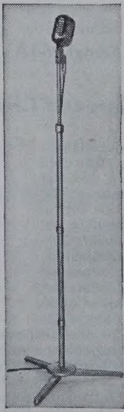
Gives solid support, yet light in weight. Single button gives instant control of shaft height. Shaft may easily be rotated. Modern, sturdy, high-pressure-cast base. One bolt locks 3 legs in position. Comes apart to make small, compact package. Attractive Gray finish. Extension shaft finished in satin chromium. Height adjustment 36" to 65", 3-leg spread 17". Net wt. 7½ lbs. Shipping wt., 9 lbs.

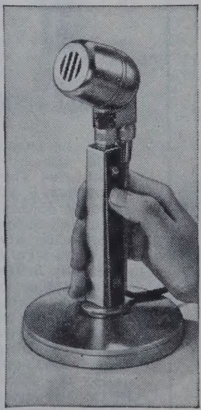
Model 430. List Price $15.00

Model 432 Comb. Banquet & Floor Stand

3-section take-apart gives handy 4-way use: (1) Banquet stand, extends from 19" to 34"; (2) chair-height floor stand, extends from 26" to 41"; (3) short floor stand, extends from 36" to 51"; (4) conventional floor stand, extends from 44" to 59". Easy to assemble or take apart. Makes compact, portable package. Red button gives instant finger-tip control of shaft height. Three-legged, locking-type, adjustable folding base; can be placed flush against pulpit, stage or speaker's rostrum. Attractive gray-brown finish. Extension shaft finished in Satin Chromium. Net wt., 8 lbs.

Model 432. List Price $20.00

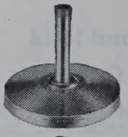




Model 424—Desk Stand

Small, light weight. Designed for use with E-V Models 210, 205, 600-D and 602. Made of aluminum. Easily lifted with microphone in hand. Very stable on desk or table. Rubber base buttons. Satin finish. Size 4¾" x 4½" x 3¾". Net wt., 4 oz.

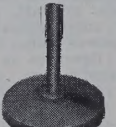
Model 424. Desk Stand. List Price $4.00



Model 423—Desk Stand

Modern, sturdy, round die cast base. Rests firmly. Satin chromium finish. Rubber base buttons. ⅝"-27 thread. Base diameter 5⅛". Net wt. 1 lb. Choice of 3" or 6" stem riser.

Model 423. List Price $4.00



Model 427—Desk Stand

Attractive pressure-cast round base rests stably on desk or table. 6" stem riser. Lustrous gray-brown finish. ⅝"-27 thread. Base diameter 4⅝". Net wt. ⅝lb.

Model 427. List Price $2.50

Low Impedance Microphone-to-Grid Matching Transformers

The windings of these transformers have low distributed capacity and are amply shielded against inductive hum by a high permeability shield, inside a pressure cast case. Designed for mounting on amplifier chassis or in series with the microphone line.

Model 502—Designed for 50 and 250 ohm (500 ohms optional) microphones. Broadcast fidelity. Frequency response 40-20,000 c.p.s. ± 1 db. for either speech or music. MC-4 input connector. List Price $13.50

"Break-in" Touch-to-Talk Stand

Fits any microphone with standard ⅝"-27 thread. Specially designed, lever-type switch for relay operation or microphone "On-Off" — closes or opens instantly, or locks in "talk" position, with light finger-tip action. Single pole, double throw. Finished in Satin Chromium, with gray plastic switch lever.

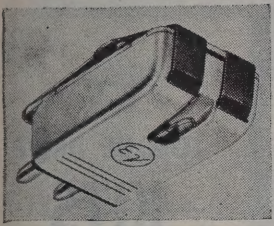
Model 428. Stand with switch. Ht. 7". Net wt. 1¼ lbs. Base dia. 5⅛". List Price $12.50

Model 328. Touch-to-Talk Switch only. Height 6¼". Net wt. 8 oz. List Price $9.50

Model 628. Complete with E-V 605-8 Hi-Z Dynamic Microphone. 8 ft. cable. List Price $37.00

Model 629. Complete with E-V 606-8 Hi-Z Differential Dynamic Microphone. 8 ft. cable. List Price $49.00

Electro-Voice TORQUE DRIVE Phono Pickup Cartridges



E-V Series 12
TORQUE DRIVE CRYSTAL CARTRIDGES for 78 rpm Records

Basic 3 Replace Over 150 Standard Models

The Series 12, *with only 3 basic models,* provides virtually universal replacement for 78 rpm cartridges. Enables immediate replacement of any one of over 150 types in general use. Simplifies and speeds servicing. TORQUE DRIVE quiets surface noise, muffles needle talk, cancels distortion — assures finer reproduction — preserves records and needles — gives new life to old, worn records. Silicone moisture-proofed. Aluminum case. Color coded for voltage. Size 1-3/32" x 11/16" x 5/16". Weighs only 1/5 oz. Complete with mounting hardware and replaceable 3-mil Osmium-tip or Sapphire-tip needle.

Model L-12 (low voltage) **Model M12** (medium voltage) **Model H12** (high voltage)
with 3-mil Osmium-tip needle. List Price $7.50

Model L12-S (low voltage) **Model M12-S** (medium voltage)
with 3-mil Sapphire-tip needle. List Price $8.50

Model O-3. Replacement 3-mil Osmium-tip needle. List $1.50
Model S-3. Replacement 3-mil Sapphire-tip needle. List $2.50

(Also available in variable reluctance Magnetic type. See listing in table on other side.)

REPLACEMENT FOR

ELECTRO-VOICE	ASTATIC		SHURE		WEBSTER		RCA
MODEL M12 Medium Voltage (Red)	L-22A	L-76S	P30	P93C	E4	N4	31050*
	L-25A	L-76AS	P30B	P93D	E4-1	N6	31156*
	L-26A	LT-M	P30C	P93E	E-9	N6P	32632*
	L-27A	LT-MA	P30D	P93S	F1	N6P-4	33122*
	L-32A	LT1-M	P30E	P94	F1P	N8	33217*
	L-70	LT1-MA	P30S	P94B	F2	N8P	33905*
	L-70A	LT2-M	P87	P94E	F2P	N9	34225*
	L-70S	LT2-MA	P87B	W42A	F3P	N11	34307*
	L-70AS	LT3-M	P87S	W57A	F4P	N11P	34710*
	L-71	1-J	P90B	W57AN	F5		35171*
	L-71A	1-M	P90C	W58A	F5P		37158*
	L-71S	401-A	P90D	W60A	F6		39686*
	L-71AS		P90S	W60B	F6P		
	L-76		P93	W60HS	N2		**AMERICAN**
	L-76A		P93B	W61B	N3		S-1

ELECTRO-VOICE	ASTATIC		SHURE		WEBSTER	AMERICAN
MODEL H12 High Voltage (Blue)	L-24A	L-72S	P88	W56A	C-2†	CR1A
	L-36A	L-72AS	P88S	W59A	C-3†	CR2A
	L-46A	L-82	P89	99-180	C-6†	S2
	L-50A	L-82A	P89S	99-181	N-10	
	L-72	L-82V	W40A		N-10P	
	L-72A	M-23	W41A		N-10P-1	

ELECTRO-VOICE	ASTATIC				WEBSTER	RCA
MODEL L12 Low Voltage (Yellow)	L-40A	LP-6	QC	QT-3JA	C5†	71173
	L-41A	LP-21	QT-J	QT-3M	F3	70339
	L-75	LP-23	QT-M	QT-3MA	F7P	70338
	L-75A	MLP-1	QT-2J		N3	
	L-75S	MLP-1J	QT-2M		N5	
	L-75AS	MLP-2	QT-3J		N7	

Use "A" mounting plate furnished with cartridges (½" hole centers) for all replacements except those marked with an * or †.

*** Use "B" mounting plate furnished (⅝" to 13/16" hole centers).**

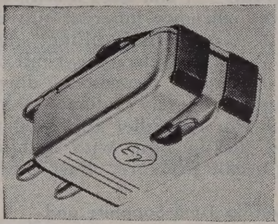
†Use "C" mounting plate furnished (Webster Side Flange).

All Model 12 Cartridges equivalent to ASTATIC "A" type except Tone Arm Rest Button is not supplied.

It is recommended that the lower voltage cartridge consistent with volume level be installed.

NOTE: Models M12, H12 and L12 have Osmium-tip Needle. For Cartridge with Sapphire-tip Needle, specify Model M12-S or L12-S.

● Revolutionary TORQUE-DRIVE* gives you today's most efficient crystal cartridge for both 1-mil (.001) and 3-mil (.003) records. Its playing quality . . . its accurate, noiseless, distortion-free performance . . . are unexcelled. Proved by comparison, it is being used more and more in 78, 45 and 33⅓ rpm single-speed and multi-speed record players. FEATURES: Highest compliance (softness of needle-touch to record) per volt output. Small size, low mass, light weight. Greatly multiplied needle-force to crystal for ample voltage output. Ideal frequency response. Excellent tracking. Zero output for vertical movement. No bearings or bushings to cause friction or to age and wear. Easy mounting. Replaceable long-life whisker-type needle. *Silicone* moisture-proofing for longer crystal life.



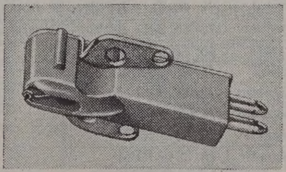
E-V Series 14
TORQUE DRIVE CRYSTAL CARTRIDGES for 33⅓ and 45 rpm

Now in Thousands of Record Changers

Selected and specified as original equipment by critical engineers . . . the Series 14 is performing brilliantly today in many thousands of record changers. Tracks perfectly at 5 grams pressure, with very high needle compliance (softness of needle-touch to record). Frequency response closely follows NAB standard curve. Output is .9 volt on RCA 12-5-31V record at 1000 cps. Accurately reproduces the new fine groove high fidelity recordings. Silicone moisture-proofing gives crystal far longer life. Aluminum case, color coded. Size 1-3/32" x 11/16" x 5/16". Weighs only 1/5 oz. Replaceable 1-mil (.001) needle.

Model 14. Complete with 1-mil Osmium-tip needle, and mounting hardware. List Price $7.50
Model 14-A. Same, less mounting hardware. List Price $7.00
Model 14-S. Complete with 1-mil Sapphire-tip needle, and mounting hardware. List Price $8.50
Model 14-AS. Same, less mounting hardware. List Price ..$8.00
Model O-1. Replacement 1-mil Osmium-tip needle. List $1.50
Model S-1. Replacement 1-mil Sapphire-tip needle. List $2.50

(Also available in variable reluctance Magnetic type. See listing in table on other side.)



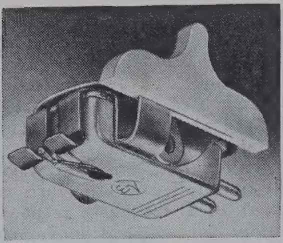
E-V Series 34
ORTHOGONAL TORQUE DRIVE for 45 and 33⅓ rpm

New Orthogonal (vertical type) crystal cartridge — with ⅝" and ½" hole spacing — designed as replacement in 45 and 33⅓ rpm changers. Brings to the record player valuable benefits of E-V TORQUE DRIVE. Tracks at 5 grams pressure. Extra high compliance (softness of needle-touch to record), well above unity. Frequency response is smooth, peak-free out beyond 10,000 cps. for wide range high fidelity reproduction. Output is 1.1 volt on RCA 12-5-31V record at 1000 cps. Silicone moisture-proofed. Simple to install. Replaceable 1-mil (.001) needle.

Model 34. With 1-mil Osmium-tip needle. List Price $6.50
Model 34-S. With 1-mil Sapphire-tip needle. List Price $7.50
Model O-1. Replacement 1-mil Osmium-tip needle. List $1.50
Model S-1. Replacement 1-mil Sapphire-tip needle. List $2.50

*Electro-Voice Pat. Pend.
Licensed under Brush Patents

Electro-Voice TORQUE DRIVE Phono Pickup Cartridge



E-V Series 16
TWILT
TORQUE DRIVE for All Three Speeds

Superbly plays 45, 33⅓ and 78 rpm records, with a single twin-tip replaceable needle, without weight change, with tracking pressure of only 6 grams . . . and does it with all the fidelity, the smoothness, the efficiency inherent only in E-V TORQUE DRIVE. With easy, positive-tilting, snap action, you merely tilt the TWILT to select the 1-mil or 3-mil needle tip, for fast or slow speed records. Set down is accurate. Frequency response closely follows NAB standard curve. Output is .9 volt on either tip. Mounts easily in most any standard pickup arm, with nothing more required than reducing needle pressure. "Fast-Slow" decal indicator.

Model 16-TT. Complete with twin-tip 1-mil Sapphire and 3-mil Osmium needle. List Price **$10.00**

Model 16. Same, but without tilting mechanism. List Price **$9.00**

Model SO-13. Replacement needle. Twin-tip 1-mil Sapphire and 3-mil Osmium. List Price **$3.00**

Model OO-13. Replacement needle. Twin-tip 1-mil and 3-mil Osmium. List Price **$2.50**

Model SS-13. Replacement needle. Twin-tip 1-mil and 3-mil Sapphire. List Price **$3.50**

(See listing below for variable reluctance Magnetic type.)

E-V
TORQUE DRIVE
KITS

SPEED SALES AND SERVICE

E-V Series 12 Cartridges are available individually or i handy Sales and Service Kits. These Kits serve as eye catching self-selling displays, speed replacement servic save ordering-time and servicing-time. Each Kit listed below contains the basic 3 that enable you to replace any on of over 150 standard models . . . immediately. Also ha replacement needles in handy holders for quick sale Color coding for voltage on every cartridge. Mountin hardware in each cartridge container.

KIT "A" (All Osmium-tip). Contains: 6 cartridges, with needle 4 extra needles; replacement chart. Total List Price **$51.0**

KIT "B" (All Sapphire-tip). Contains: 6 cartridges, with needle 4 extra needles; replacement chart. Total List Price **$61.0**

VARIABLE RELUCTANCE MAGNETIC CARTRIDGES

E-V Phono Pick-up Cartridges are also available in variabl reluctance Magnetic type. Easily used with E-V Model 503 Transformer-Filter, which provides the necessary matching network Does not require a pre-amplifier. If the Magnetic cartridges ar used with a pre-amp., the input to the pre-amp. should be 50 ohms. (See listing in table below).

ELECTRO-VOICE PHONO PICKUP CARTRIDGES

Model	Description	Type	Application	Needle-Tip	Tracking Force	Output Voltage	Color Code	Net Wt.	List Price
L12	With Mtg. Hardware	Crystal	78 RPM	.003″ Osmium	½ oz.	Low	Yellow	8 grams	$ 7.40
L12-S	With Mtg. Hardware	Crystal	78 RPM	.003″ Sapphire	½ oz.	Low	Yellow	8 grams	8.50
M12	With Mtg. Hardware	Crystal	78 RPM	.003″ Osmium	½ oz.	Medium	Maroon	8 grams	7.50
M12-S	With Mtg. Hardware	Crystal	78 RPM	.003″ Sapphire	½ oz.	Medium	Maroon	8 grams	8.50
H12	With Mtg. Hardware	Crystal	78 RPM	.003″ Osmium	1 oz.	High	Blue	8 grams	7.50
14	With Mtg. Hardware	Crystal	45, 33⅓ RPM	.001″ Osmium	5 grams	.9 volt*	Green-Red Dot	8 grams	7.50
14-S	With Mtg. Hardware	Crystal	45, 33⅓ RPM	.001″ Sapphire	5 grams	.9 volt*	Green-Red Dot	8 grams	8.50
14-A	Less Mtg. Hardware	Crystal	45, 33⅓ RPM	.001″ Osmium	5 grams	.9 volt*	Green-Red Dot	6 grams	7.00
14-AS	Less Mtg. Hardware	Crystal	45, 33⅓ RPM	.001″ Sapphire	5 grams	.9 volt*	Green-Red Dot	6 grams	8.00
16-TT	TWILT (Twin-Tilt)	Crystal	78, 45, 33⅓ RPM	.001″ Sapphire-.003″ Osmium	6 grams	.9 volt*		12 grams	10.00
16	Less Tilt. Mechanism	Crystal	78, 45, 33⅓ RPM	.001″ Sapphire-.003″ Osmium	6 grams	.9 volt*		6 grams	9.00
16-STT	TWILT (Twin-Tilt)	Crystal	78, 45, 33⅓ RPM	.001″ Sapphire-.003″ Sapphire	6 grams	.9 volt*		12 grams	10.50
16-S	Less Tilt. Mechanism	Crystal	78, 45, 33⅓ RPM	.001″ Sapphire-.003″ Sapphire	6 grams	.9 volt*		6 grams	9.50
16-OTT	TWILT (Twin-Tilt)	Crystal	78, 45, 33⅓ RPM	.001″ Osmium-.003″ Osmium	6 grams	.9 volt*		12 grams	9.50
16-O	Less Tilt. Mechanism	Crystal	78, 45, 33⅓ RPM	.001″ Osmium-.003″ Osmium	6 grams	.9 volt*		6 grams	8.50
34	⅝″-½″ Hole Space	Crystal	45, 33⅓ RPM	.001″ Osmium	5 grams	1.1 volt*	Grey-Red Dot	5 grams	6.50
34-S	⅝″-½″ Hole Space	Crystal	45, 33⅓ RPM	.001″ Sapphire	5 grams	1.1 volt*	Grey-Red Dot	5 grams	7.50
20	With Mtg. Hardware	Magnetic	78 RPM	.003″ Osmium	15 grams	.070 volt†	Black	12 grams	7.50
20-S	With Mtg. Hardware	Magnetic	78 RPM	.003″ Sapphire	15 grams	.070 volt†	Black	12 grams	8.50
22	With Mtg. Hardware	Magnetic	45, 33⅓ RPM	.001″ Osmium	6 grams	.060 volt††	Black-Red Dot	12 grams	7.50
22-S	With Mtg. Hardware	Magnetic	45, 33⅓ RPM	.001″ Sapphire	6 grams	.060 volt††	Black-Red Dot	12 grams	8.50
26-TT	TWILT (Twin-Tilt)	Magnetic	78, 45, 33⅓ RPM	.001″ Sapphire-.003″ Osmium	8 grams	.060 volt††	Black	16 grams	10.00
26	Less Tilt. Mechanism	Magnetic	78, 45, 33⅓ RPM	.001″ Sapphire-.003″ Osmium	8 grams	.060 volt††	Black	10 grams	9.00
26-STT	TWILT (Twin-Tilt)	Magnetic	78, 45, 33⅓ RPM	.001″ Sapphire-.003″ Sapphire	8 grams	.060 volt††	Black	16 grams	10.50
26-S	Less Tilt. Mechanism	Magnetic	78, 45, 33⅓ RPM	.001″ Sapphire-.003″ Sapphire	8 grams	.060 volt††	Black	10 grams	9.50
26-OTT	TWILT (Twin-Tilt)	Magnetic	78, 45, 33⅓ RPM	.001″ Osmium-.003″ Osmium	8 grams	.060 volt††	Black	16 grams	9.50
26-O	Less Tilt. Mechgnism	Magnetic	78, 45, 33⅓ RPM	.001″ Osmium-.003″ Osmium	8 grams	.060 volt††	Black	10 grams	8 50
503	Transformer-Filter	For Series 20, 22, 26 Magnetic Cartridges						3½ ozs.	10.00

ELECTRO-VOICE REPLACEMENT NEEDLES

O-3	Needle Only	Single-tip	For Series 12 and 20	.003″ Osmium			Yellow		1.50
S-3	Needle Only	Single-tip	For Series 12 and 20	.003″ Sapphire			Blue		2.50
O-1	Needle Only	Single-tip	For Series 14, 34, 22	.001″ Osmium			Orange		1.50
S-1	Needle Only	Single-tip	For Series 14, 34, 22	.001″ Sapphire			Red		2.50
SO-13	Needle Only	Twin-Tip	For Series 16 and 26	.001″ Sapphire-.003″ Osmium			Orange		3.00
OO-13	Needle Only	Twin-Tip	For Series 16 and 26	.001″ Osmium-.003″ Osmium			Yellow		2.50
SS-13	Needle Only	Twin-Tip	For Series 16 and 26	.001″ Sapphire-.003″ Sapphire			Blue		3.50

*On RCA 12-5-31V Record at 1000 c.p.s. †On Columbia 10004 Record at 1000 c.p.s. Output is .7 volt with E-V Model 503 Transformer-Filter.
††On Columbia 10004 Record at 1000 c.p.s. Output is .6 volt with E-V Model 503 Transformer-Filter.

Microphones BY TURNER

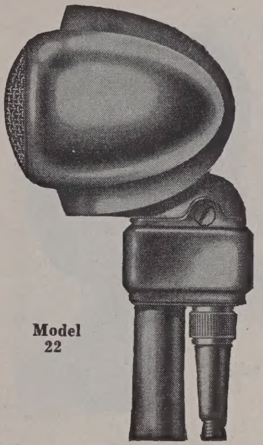
GENERAL PURPOSE MICROPHONES

The Famous Turner 22X — 22D Crystal or Dynamic — Tops in value — tops in performance. Accurate pickup and faithful reproduction have made these units the most popular general purpose microphones on the market. ⅝" — 27 standard coupler.

22X CRYSTAL gives clear reproduction. Smartly engineered design cuts feedback to minimum. 90 degree tilting head. Built-in wind-gag permits outdoor operation. Crystal impregnated against moisture in mechanical shock proof mounting. Automatic barometric compensator. Level 52 db below 1 volt/dyne/sq. cm. Response: ± 5 db from 50 — 9000 c.p.s. Complete with 7 ft. removable cable set. Satin chrome finish. List........$20.00

22D DYNAMIC. Same appearance as 22X but has high level dynamic cartridge. Dependable indoors and out. Reproduces smoothly at all frequencies. Level: 54 db below 1 volt/dyne/sq. cm. at high impedance. Response: ± 5 db from 50 — 9000 c.p.s. Complete with tilting head, 7 ft. removable cable set.

200 ohms, 500 ohms, or high impedance. List	$25.50
50 ohms. List	23.50


Model 22

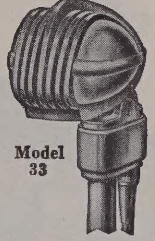
High performance at moderate cost

33X — 33D CRYSTAL OR DYNAMIC — Recommended for quality P.A., recording, and communications work, the Turner 33X Crystal has a high quality 2-element crystal. Built for indoor or outdoor use with crystal impregnated against moisture, automatic barometric compensation, and mechanical-shock proofing. Will not blast from close speaking. Level 52 db below 1 volt/dyne/sq. cm. Response: ± 5 db from 50 — 9000 c.p.s. Handsome streamline case finished in satin chrome. Complete with tilting head, and 20 ft. removable cable set.

List........$24.50

33D DYNAMIC. Same appearance as 33X but with smooth high level dynamic circuit. Level: 54 db below 1 volt/dyne/sq. cm. at high impedance. Response: ± 5 db from 30 — 9000 c.p.s. Complete with 20 ft. cable set.

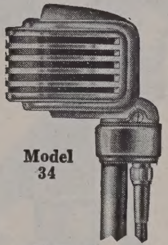
200 ohms 500 ohms, or high impendance. List	$27.00
50 ohms. List	25.00


Model 33

Attractive, high fidelity semi-directional crystal microphone

34X CRYSTAL — A microphone whose beauty is exceeded only by its performance. The 34X is the ideal all around semi-directional crystal microphone for use where feedback and acoustic conditions are unusually difficult. Advanced engineering design with full 90 degree tilting head permits tilting to most advantageous position to reduce audience noise and background disturbances. The 34X utilizes a moisture proof crystal, automatic barometric compensator, and is blast- and mechanical-shock proofed. Level: 52 db below 1 volt/dyne/sq. cm. Response: ± 5 db from 50 — 10,000 c.p.s. Satin chrome finish. Complete with 20 ft. removable cable set.

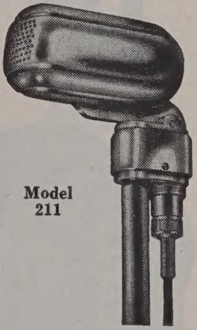
List........$29.00

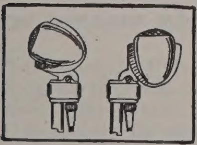

Model 34

Broadcast Quality Dynamic

MODEL 211 — Precision engineered for outstanding performance the Turner 211 Dynamic utilizes a new type magnet structure and acoustic network. The high frequency range is extended and the extreme lows raised 2 to 4 decibels. Unique diaphragm structure results in extremely low harmonic and phase distortion without sacrifice of high output level. A sensitive unit yet ruggedly built for dependable use indoors or out under the most difficult acoustic and climate conditions. Withstands rough handling. For quality recording, P.A., sound system, and broadcast work, including FM. Level: 54 db below 1 volt/dyne/sq. cm. at high impedance. Response: ± 5 db from 30 — 10,000 c.p.s. Equipped with tilting head, balanced line output connection, and 20 ft. 2-conductor, heavy duty removable cable set. Satin chrome finish.

200 ohms, 500 ohms, or high impedance. List	$47.50
50 ohms. List	45.00

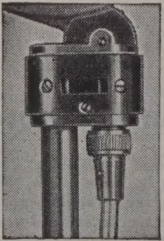

Model 211



TILTING HEADS

Models 5X, 5D, 22X, 22D, 33X, 33D, 34X, and 211 are all equipped with 90° tilting heads.

Licensed under U. S. patents of the American Telephone and Telegraph Company, and Western Electric Company, Incorporated. Crystals licensed under patents of the Brush Development Company.



MODEL "S" SWITCH EQUIPMENT

Turner Microphones in Models 22X, 22D, 33X, 33D, 34X, 5X, and 5D are available with built-in slide switch illustrated. Shorts the line quietly. Permits fingertip control of microphone regardless of distance from amplifier. Furnished only on order with Turner Microphones. (When ordering designate "S" plus microphone Model No. Example: "S22X".)
For Switch Models add $2.00 to list price.

THE TURNER COMPANY

Microphones BY TURNER

Model 77

MODEL 77 CARDIOID (Left)

New Super-Cardioid microphone of advanced design

Impressively styled, the new Turner Model 77 is brilliantly engineered with a combination 2-element interior structure. Improved circuit design utilizes both pressure and velocity operated units in series. Sound is effectively controlled to produce the true Super-Cardioid pickup pattern which reduces feedback to the minimum. The Model 77 features a wide range pickup at the front and a sharply attenuated output at the rear . . . with approximately 15 db discrimination between front and rear at all frequencies. Response: ± 5 db from 70 — 10,000 c.p.s. Level: 62 db below 1 volt/dyne/sq. cm. at high impedance. Built-in switch giving 50, 200, 500 ohms, or high impedance output permits use with any standard equipment. Smooth tilting action and quick-disconnect plug. Standard ⅝" — 27 mounting. Finished in gun-metal gray and/or chrome. Complete with 20 ft. balanced line removable cable set.

Model 77 Cardioid. List........**$77.00**

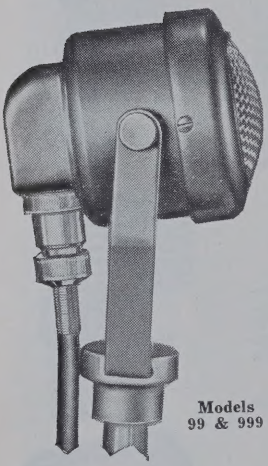
MODEL 87 VELOCITY (Right)

High fidelity response and bi-directional pickup

Developed to bring world famous Turner dependability to the velocity microphone field. Exceptional quality and trouble-free operation. Engineered with single element ribbon and Alnio V magnet for maximum sensitivity. Well shielded output transformers exclude hum pickup. Bi-directional figure 8 pickup pattern with smooth response within ± 5 db from 80 — 10,000 c.p.s. for most exacting studio work. Level: 62 db below 1 volt/dyne/sq. sm. at high impedance. 4-position output switch permits use with any 50, 200, 500 ohm, or high impedance input. Equipped with universal swivel mounting, ⅝" — 27 thread. Richly finished in gun-metal gray with satin chrome screen. Complete with 20 ft. attached balanced line cable.

Model 87 Velocity. List........**$47.50**

Model 87



Models 99 & 999

FAMOUS TURNER MODEL 99 DYNAMIC

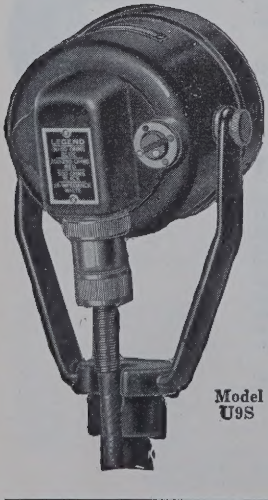
MODEL 99 DYNAMIC is the most rugged microphone in the entire Turner line. Withstands toughest climate and temperature changes. Adjustable saddle. Fits any standard mike stand. Semi- or non-directional operation. Broadcast studios, large city police departments, and internationally famous manufacturers specify Turner 99 for crisp, clear results. Baked gunmetal finish. Level: 52 db below 1 volt/dyne/sq. cm. at high impedance. Response: ± 5 db from 40 — 9000 c.p.s. Complete with 20 ft. removable cable set.

200 ohms, 500 ohms, or high impedance. List	**$34.00**
50 ohms. List	**31.50**

999 BALANCED LINE DYNAMIC

Same professional appearance as Model 99. Voice coil and transformer leads are insulated from ground and microphone case. Line is balanced to the ground. Assures studio results under critical conditions. Gunmetal finish. Level: 52 db below 1 volt/dyne/sq. cm. at high impedance. Response: ± 5 db from 40 — 9000 c.p.s. With 3-pin polarized locking connector and 20 ft. balanced line low-capacity cable.

200 ohms, 500 ohms or high impedance. List	**$37.50**
50 ohms. List	**35.00**



Model U9S

U9S DYNAMIC

Four impedances at your fingertips

Whatever impedance you need — 50 ohms, 200 ohms, 500 ohms, or high impedance — you can get it quickly with the turn of the switch on the Turner Model U9S Dynamic. Same precision engineering and rugged construction as the Model 999 with built-in tapped multi-impedance transformer. Fill practically all needs with one microphone. A smooth, dependable performer at all impedances and frequencies. Level: 52 db below 1 volt/dyne/sq. cm. at high impedance. Response: ± 5 db from 40 — 9000 c.p.s.

Complete with 20 ft. balanced line removable cable set. List........**$40.00**

Microphones BY TURNER

MODEL 35X FIREBALL

A new crystal desk microphone with instantly detachable base

Handsome, convenient and low priced. Model 35X is as easy to use as a fountain-pen desk set. It can be used as a desk microphone or a hand-held unit. A quarter turn releases handle from base instantly or locks it securely. The Model 35X is engineered with a high quality crystal circuit to give smooth performance to both voice and music pickups. Response: 70 — 7000 c.p.s. Level 52 db below 1 volt/dyne/-sq. cm. Unit includes microphone with handle, base, and 7 ft. attached cable.

Model 35X. List........$13.25

Model 35

THE TURNER "Hand-D" 9X or 9D Crystal or Dynamic

A rugged, all around multi-purpose microphone

One of the handiest and most useful microphones made. Hang it, hold it, or mount on any standard desk or floor stand. Especially engineered for maximum response to voice, "Han-D" also delivers smooth, natural response to music pickups. Ideal for stage, paging, public address, amateur, police car, and traveling mike applications. Positive contact slide switch permits on-off operation.* Complete with 7 ft. removable cable set.

9D DYNAMIC

Recommended for more severe service conditions and extremes of climate and temperature. Level: 52 db below 1 volt/dyne/-sq. cm. at high impedance. Response: ± 8 db from 60 — 7000 c.p.s. 200 ohms, 500 ohms or high impedance. List........$27.00

50 ohms. List........25.00

9X CRYSTAL

Equipped with high quality, shock mounted, humidity protected crystal for indoor or outdoor use. Level: 52 db below 1 volt/-dyne/sq. cm. Response: ± 5 db from 60 — 7000 c.p.s.

List........$23.50

Model 9

* Also available with precision heavy duty push-to-talk switch at $2.50 list additional. Specify: "With H.D. Push-Talk Sw."

New, lightweight, low cost hand microphone with unusually fine response characteristics

TURNER 20X CRYSTAL — Designed to appeal to users of home recorders, economical public address, paging and call systems, and amateurs. Response to voice and music is smooth and even over a desirable range of frequencies. Level: 54 db below 1 volt/dyne/sq. cm. Response: ± 5 db from 50 — 7000 c.p.s. High quality crystal impregnated against moisture, mechanical-shock proofed. Lightweight, natural to hold and use. Equipped with hook ring for hanging. Finished in baked brown enamel. Complete with 7 ft. attached cable. List........$12.85

Also available with Slidelock Switch at $2.00 extra list.

Model 20

Model 15

New, modern, convenient hand held general purpose microphones

15X CRYSTAL — 15D DYNAMIC — For public address, call systems, police communications, speech recording, amateurs, and broadcasting where hand-held microphones are required. Balanced to fit the hand naturally. When not in use it may be hung from a hook. Engineered for smooth response over a wide range of useful frequencies. Finished in attractive gunmetal and equipped with 20 ft. attached shielded cable.

15X CRYSTAL. Level: 52 db below 1 volt/dyne/sq. cm. Response: ± 5 db from 40 — 8000 c.p.s. Humidity sealed crystal.

List........$25.00

"Push-to-talk" thumb switch optional at $2.50 extra list.

15D DYNAMIC. For more severe operating conditions: Level: 54 db below 1 volt/dyne/sq. cm. at high impedance. Response: ± 5 db from 40 — 7000 c.p.s. 200 ohms, 500 ohms, or high impedance.

List........$30.00

50 ohms. List........27.50

"Push-to-talk" thumb switch optional at $2.50 extra list.

15D-NC NOISE CANCELING DYNAMIC — For intelligible communications under adverse background noise conditions. Same case and finish as 15D. Circuit designed for use in factories, machine shops, railroad yards, aircraft, and other places where extreme background noise interferes with communications. The 15D-NC transmits only when spoken to at close range. Unwanted sound canceled out. Level: 52 db below 1 volt/dyne/sq. cm. at high impedance. Response: 50 — 5000 c.p.s.

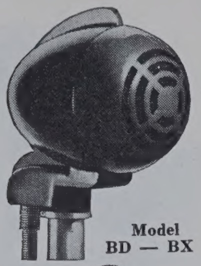
200 ohms, 500 ohms, or high impedance.

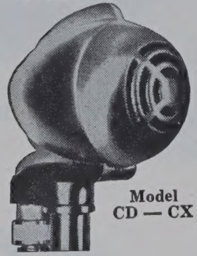
List........$32.50

50 ohms. List........30.00

"Push-to-talk" thumb switch optional at $2.50 extra list.

Microphones BY TURNER


Model
BD — BX


Model
CD — CX

TURNER CHALLENGERS

Turner Challengers offer performance, quality, and appearance usually found in microphones selling at twice their low cost. Engineered with a substantially flat response they give clear cut reproduction of both voice and music. Crystal models are complete with shock proof mounting, barometric compensation, moisture sealed crystal, and wind-gag to prevent blasting. Dynamic units are built to give dependable service indoors or out. You can rely on Turner Challengers — they are fully guaranteed.

BD DYNAMIC — Same appearance as BX. Equipped with dynamic cartridge. Works equally well indoors or out. Level: 52 db below 1 volt/dyne/sq. cm. at high impedance. Response: ± 8 db from 50 — 6000 c.p.s. Complete with 7 ft. attached cable. 50 ohms 200 ohms, 500 ohms, or high impedance. List........$15.75

CD DYNAMIC — Same style and finish as CX. High quality magnets. 7 ft. removable cable set. Level: 52 db below 1 volt/dyne/sq. cm. at high impedance. Response: ± 8 db from 50 — 7000 c.p.s. 50 ohms 200 ohms, 500 ohms, or high impedance List........$19.50

BX CRYSTAL — Ideal for recording, P.A., and amateur work. Brown enamel finish. Level: 52 db below 1 volt/dyne/sq. cm. Response: ± 5 db from 50 — 6000 c.p.s. Complete with 7 ft. attached cable. List........$10.85

CX CRYSTAL — Satin chrome finish with 7 ft. removable cable set. ⅝" — 27 standard coupler mounting. Level: 52 db below 1 volt/dyne/sq. cm. Response: ± 5 db from 50 — 7000 c.p.s. List........$16.25

MODEL VT-73

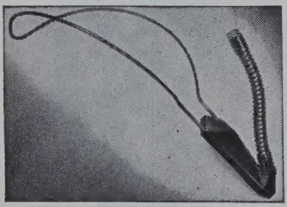
New improved crystal desk microphone engineered for quality speech

A world-wide favorite with amateurs for crisp, clear reports, the Turner VT-73 is also recommended for quality speech recording and public address work. Highest quality humidity sealed crystal. Rising curvature of response between 500 — 4000 c.p.s. increases intelligibility at effective voice frequencies without overmodulation. Shielded 2-conductor cable reduces R.F. pickup and harmonic resonance problems. Head is adjustable through 60° to almost any position. Level: 52 db below 1 volt/dyne/sq. cm. Response: ± 5 db from 50 — 7000 c.p.s. Complete with ball swivel head, stand, and 7 ft. attached cable. Finished in black crinkle and chrome.

List........$21.50

L40 LAPEL MICROPHONE

Small, lightweight and inconspicuous the L40 can be worn in the lapel used with the 3H, or concealed. Highest quality moisture sealed crystal produces high signal level. Engineered for crisp, clear speech reproduction. Chest sounds damped out. Comfortable to wear. Alligator clip secures unit to clothing. Level: 52 db below 1 volt/dyne/sq. cm. Response ± 8 db from 50 — 8000 c.p.s. Complete with 20 ft. attached cable. List........$25.00



TURNER "THIRD-HAND" MODEL 3H

Slips over your head in a jiffy and holds microphone close to your mouth, where you get excellent volume without feedback. As natural to wear as a necktie, and lets you use both hands elsewhere. Stays out of your line of vision. Talk close without craning your neck; cuts down background noises.

Can be used with long line, as traveling microphone. Ideal for window demonstrations. Has ⅝" — 27 thread. Recommended for use with Turner microphones, as they will not blast from close speaking. Can be furnished with microphone switch when ordered with Turner microphone.

List........$5.00

For switch when ordered with Turner Microphone, add $1.00 list.

MICROPHONES HEARING AID

Small compact, lightweight crystal microphone cartridges for new hearing aids or replacement. Exceptionally high signal level and smooth response. Flush to panel mounting. Send for details.

Model HA-7L. List........$8.00

Model HA-12S. List (shown) 8.00

MAGNETIC CONTACT PICKUPS FOR MUSICAL INSTRUMENTS

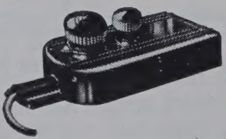
MODEL MM

Standard magnetic pickup. Provides uniform response over entire musical range. High impedance output. Easily and quickly attached. Complete with 20 ft. cable and finish.

With built-in volume control. List........$18.00

Without volume control. List 15.75

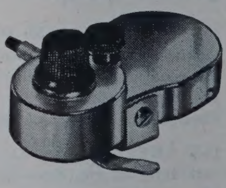
With phone plug attached to cable, add $1.00 list.



"MIP" DELUXE

Turner's newest pickup. High level ALNICO V circuit. Gives immense volume and improved tone from any string instrument. Easily installed without tools or adhesives. High impedance output. Works directly into the grid circuit of any two-stage or larger amplifier. Polished chromium finish. Complete with built-in volume control, 20 ft. shielded cable, and mounting device for attaching to any string instrument. Built to stand abuse. List........$23.50

With phone plug attached to cable add $1.00 list.



THE TURNER COMPANY

Prices subject to change without notice

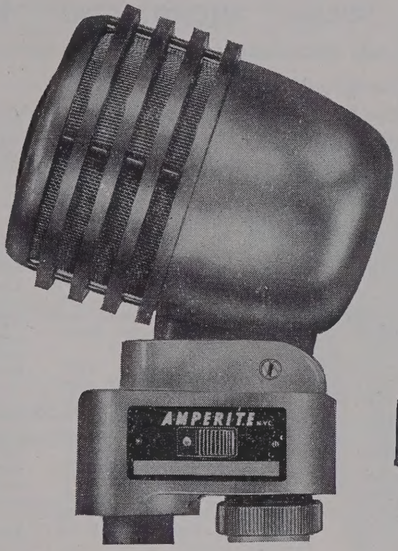
VELOCITY **AMPERITE** MICROPHONES

PREFERRED BY LEADING P. A. MEN THE WORLD OVER

P.G.

PRESSURE GRADIENT

DYNAMIC



•UNI-DIRECTIONAL

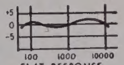
NEW SUPERIOR ELIPSOID PICKUP PATTERN

•ELIMINATES FEEDBACK

TROUBLE BECAUSE IT HAS LOWEST FEED BACK POINT OF ALL DIAPHRAGM TYPE MICROPHONES

•FLAT RESPONSE. **FREE FROM ANNOYING PEAKS, GIVING STUDIO QUALITY REPRODUCTION**

ELIPSOID
PICKUP
PATTERN



FLAT RESPONSE OF P.G. DYNAMIC

The P.G. diaphragm follows air particle velocity where amplitude is a **GRADIENT** of the **PRESSURE.** In ordinary dynamics amplitude is restricted from following air particle velocity. The **P.G. DYNAMIC** is a radical improvement in this type of microphone. You can actually hear the difference. Case is designed according to modern acoustic principles. Rugged, not affected by temperature, altitude or humidity. **Has unusually high output.**

Model PGH —hi-imp. } **$32.00**
Model PGL —50 ohms } **List**

Output	—55 db
Freq. Resp.	40-10000 CPS
Cable Length	25 ft.
Finish	Chrome
Switch	Yes
Cable Connector	Yes
Stand Thread	5/8-27
Ship. Wt.	2½ lbs.

PLASTIC BAFFLE FOR P.G. DYNAMIC
Increases output of the microphone 4 db. Especially useful when performer is at distance of 12″ or more. Excellent for picking up entire stage, bands, etc. Snaps into place.
Model PG.....List $1.50

Model PGAH —hi-imp. } **$25.00**
Model PGAL —50 ohms } **List**

Output	—60 db
Freq. Resp.	70-8000 CPS
Cable Length	12 ft.
Finish	Chrome
Switch	Yes
Cable Connector	Yes
Stand Thread	5/8-27
Ship. Wt.	2½ lbs.

AMPERITE MICROPHONE STANDS

Scientifically designed, Amperite stands feature:

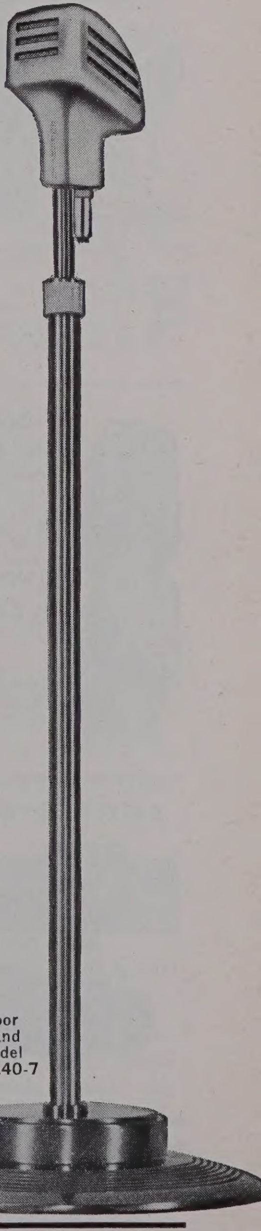
1. Positive, **non-sliding** clutch. Will never wear out, never require adjustment. Will not "creep".
2. Shock-absorbing rubber bottom.

The microphone can be rotated without loosening clutch.

The action up and down is **smooth, pneumatic-like.**

AMPERITE MICROPHONE STANDS—SPECIFICATIONS

Model	Description	Base Wt.	Base Spread	Height Range	Thread	List Gunmetal or Chrome	Ship. Wt.
FS-14	Floor Stand	14 lb.	12″	37″-55″	½-27″	$18.00	15 lb.
DS-M	Comb. desk & Banquet	6 lb.	7½″	16″-24″	5/8-27″	12.00	11 lb.
DS	Desk only	6 lb.	7½″	3″	5/8-27″ & ½″ P.	6.00	11 lb.
5D	Desk Stand	1½ lb.	5″	6″	5/8-27″	4.00	3 lb.



Floor Stand Model FS-140-7

VELOCITY AMPERITE MICROPHONES

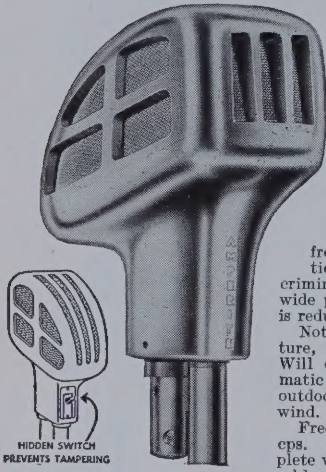
PREFERRED BY LEADING P. A. MEN THE WORLD OVER

New STUDIO "*Ribbon*" MICROPHONE

Models R80H—R80L

A "Blastproof" Velocity

Eliminates Feedback Troubles



The finest in microphones, regardless of price. Reproduction is of the very highest type. Excellent for broadcasting, recording and public address. Eliminates feedback troubles. Will not become "boomy" on close talking. An entire orchestra can be faithfully reproduced.

Pick-up angle 120° front and back with practically no frequency discrimination. In spite of the wide pick-up angle, feedback is reduced to a minimum.

Not affected by temperature, altitude or humidity. Will operate under any climatic conditions—indoors or outdoors. Not affected by wind.

Frequency range 40-14,000 cps. Output —56 db. Complete with switch, (optional), cable connector and 25′ cable. Finish — Chrome. Stand thread, Standard ⅝″—27.

Model	List
R80L—200 ohms output	$80.00
R80H—High impedance	80.00

50 ohms available. Shipping Weight 10 lbs.

COMPACT VELOCITY, ACH—ACL

The smallest complete velocity ever made

Compact—yet a complete Amperite "Ribbon" Microphone including transformer, switch and cable connector. Recommended wherever a compact microphone is a necessity. Can be used either as a hand microphone or on a stand. Frequency range 120 to 8,000 cps. Output —65 db.

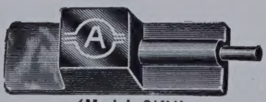
Complete with switch—cable connector—12′ cable. Stand thread—Standard ⅝″—27.

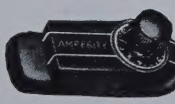
	List
Model ACH—High impedance	$32.00
Model ACL—200 ohms output	32.00

50 ohms available

Shipping Weight 5 lbs.

AMPERITE KONTAK MIKE FOR MUSICAL INSTRUMENTS


(Model SKH)


(Model KKH)

Gives natural reinforcement without peaks. Easily attached without tools. Will operate with either low or high-gain amplifiers. Frequency response 40 to 9000 cps. Output, —40 db.

Shipping Weight 2 lbs.

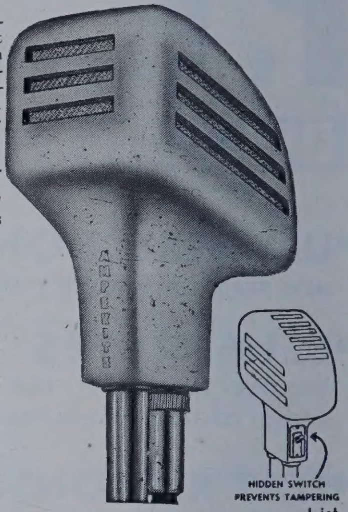
Model SKH—Hi-impedance	List $12.00
Model KKH—With Hand Volume Control	List 18.00
Model KF —Foot Pedal Only	List 18.00

Low impedance available in model SKH at same price.

New "RIBBON" MICROPHONE, RBHG—RBLG

Automatically Adjusted for Close or Distant Pick-Up

A "Blastproof" Velocity



Studio reproduction — low feedback. A "ribbon" microphone that brings broadcast quality within everyone's reach. **Perfectly natural reproduction on close talking—you can even shout into it.** Will also faithfully reproduce an entire orchestra.

Pick up angle front and back—120° with practically no frequency discrimination. In spite of wide pick-up angle—feedback is reduced to an absolute minimum. Low feed back is due to flat response of the microphone.

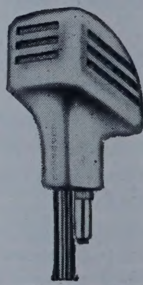
Excellent for studio—P. A. or recording. Not affected by temperature, altitude or humidity. Can be used under all climatic conditions, and will withstand rough handling. Not affected by wind.

Frequency range 50-11,000 cps. Output —62 db. Complete with switch, cable connector, and 25′ cable. Finish — Chrome. Stand thread—Standard ⅝″—27.

	List
Model RBHG—High impedance	$42.00
Model RBLG—200 ohms output	42.00

50 ohms available. Shipping Weight 8 lbs.

New RSHG—RSLG "RIBBON" MICROPHONES



Although low in price the RSHG and RSLG are excellent "ribbon" microphones built to Amperite standards. Can be used for P.A. or recording. Feedback very low. Not boomy on close talking—you can shout into it—or pick up an entire orchestra.

Not affected by temperature, humidity or altitude. Not affected by wind.

Output: —60 db. Frequency response—70 to 8,000 cps. Complete with switch, cable connector, and 12′ cable. Finish—Baked Enamel. Stand thread—Standard ⅝″—27.

	List
Model RSHG—High impedance	$32.00
Model RSLG—200 ohms output	32.00

50 ohms available. Shipping Weight 8 lbs.

Amperite 7JH—7JL VELOCITY MICROPHONE

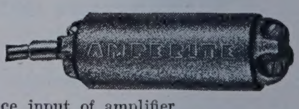
"*Lapel*" Type

Reproduction is so perfect—you can hardly tell a microphone is working. Free from annoying peaks or mechanical reproduction. Output does not change with any position of the head. It can be concealed in clothing. Will operate under all climatic conditions. Unusually low feedback. Frequency range 60-7,000 cps. Output: —63 db. Cable length 25′. Rubber case.

Model 7JH—High impedance	List $32.00
Model 7JL—200 ohms output	List 32.00

50 ohms available. Shipping Weight 3 lbs.

Model LGP—Input Transformer (Cable Type)



Enables the use of low impedance microphones and cable lengths up to 5,000′ with amplifiers having high impedance input. Special shielding eliminates hum pick-up. Can be used with 25, 50, or 200 ohm microphones. Output connects directly into high impedance input of amplifier.

Standard grade recommended for speech. Laboratory grade for music.

Model LGP—Standard—60 to 2,000 cps.	List $8.00
Model LGP—Lab—40 to 14,000 cps.	List 10.00

Shipping Weight 3 lbs.

FLEXO MIKESTER

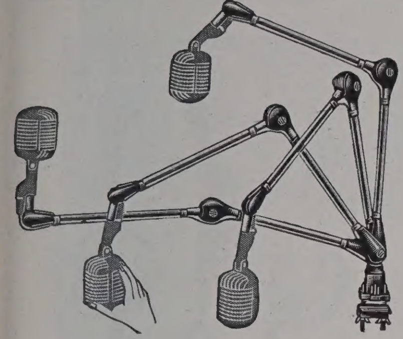
SWING'S THE THING WITH Flexo-Mikester FLEXIBILITY AT YOUR FINGER-TIPS

UNIVERSAL RANGE of ADJUSTMENT

Flexo Mikester is as flexible as the hand itself. Here is the ideal stand that permits you to instantly position mike exactly where needed to exactly fit the speaker or any other application desired, for greatest comfort and efficiency.

LONG REACH

Swings out 36″ in any direction when fully extended. The New Flexo Mikester will handle any mike up to 4 lbs. in weight.



GENERAL MODEL
No. 1

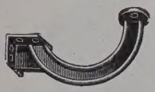
Clamps or screws to any horizontal or angular position. Two bolts clamp base firmly to surface up to 3″ thick assuring greater stability. Bolts removable to allow for screw fastening.

Packed 1 to carton. Shipping weight: 4 ¾ lbs. Price, **$12.00**

SHOCKPROOF: **Shockproof, noise reducing materials used throughout.**

CABLE IN PLACE: **Clips hold cable neatly in place and provide quick changeover for mike replacement.**

BOTH HANDS FREE: **Permits both hands free for plane, train or police dispatching, or switchboard operator.**



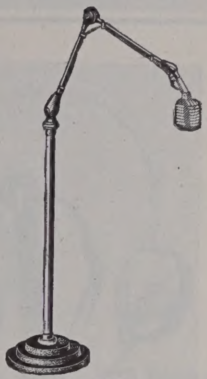
BRACKET MODEL
No. 2

Same except with bracket for wall or vertical screw mounting. Packed 1 to carton. Shipping weight 5 ¼ lbs.

Price, **$12.00**

FLEXO MIKESTER USES

Radio broadcast or recording studios, sportcasting events, airport, railroad, ship or police communication systems, offices, switchboards, auditoriums, factories, theatres, dance halls, night clubs, schools, churches, hotels.



FLOOR MODEL
No. 3

Same except on 40″ floor stand. Required where portability is desired for traveling orchestras, etc. Also for piano, studio, night club, orchestra, auditorium. Large, heavy 13 ½″ base.

Packed in 2 cartons and 1 shipping tube. Shipping weight: 23 lbs.

Price, **$20.25**

Finished in durable Royale Gray to match any mike.

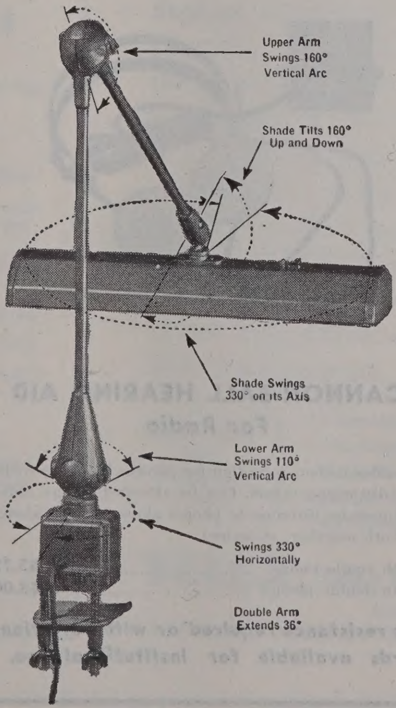
FLEXO ADJUSTABLE LAMP

GENERAL MODEL
No. 4303

2-LITER

Flexo is a versatile lamp. Patented spring controlled swivelling devices offer smooth, silent, sure adjustment to any position without loosening or tightening screws or nuts. It will stay-put in a set position, yet moves easily to any other desired positions at a mere touch of the hand. Because of its versatility, Flexo is popular in both home and industry, providing cool, diffused, correct lighting for any task requiring the attentive use of the eyes.

GENERAL MODEL: Two bolts clamp base firmly to any surface up to 3″ thick. Bolts removable for screw fastening.


Upper Arm Swings 160° Vertical Arc
Shade Tilts 160° Up and Down
Shade Swings 330° on its Axis
Lower Arm Swings 110° Vertical Arc
Swings 330° Horizontally
Double Arm Extends 36"

Double-arm extension — 36″ long.

Voltage and Current — 105-125 volts, 60-cycle, A.C.

Finish — oven-fired Royale Statuary Bronze, with reflectors in porcelain white. Also available in gray to match other office or shop equipment.

Uses two 15-watt T8 Fluorescent Lamps.

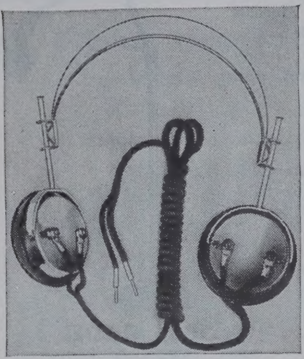
Shipping Weight — 9 lbs.

Price, **$16.75***

SUGGESTED USERS: Machinists, inspectors, assemblers, artists, draftsmen, engineers, photographers, tool and die makers, repairmen, architects, accountants, engravers, jewelers, watchmakers, hobbyists, laboratory technicians, office workers, etc.

(*) Apply for Discounts

HEADPHONES By C. F. CANNON



BRANDES "SUPERIOR"
Matched Tone Headset

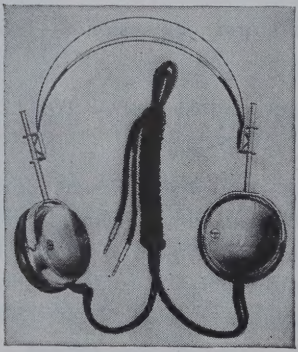
A rugged headset, millions of which are in use all over the world. Large size diaphragms of 2⅛" diameter assure efficient performance. Outside terminals, with polished aluminum cases and bakelite caps. Double coils, two in each receiver. Chrome steel magnets. Steel headband with permanent adjusment. 4½ ft. cotton covered cord.

BS-2—2000 ohms D.C.	**List $3.50**

BRANDES "ADMIRAL"
Matched Tone Headset

The Brandes "Admiral" is of the same general construction as the Brandes Superior, but has terminals on the inside.

BA-2—2000 ohms D.C.	**List $3.75**
BA-3—3000 ohms D.C.	**List 4.25**
BA-5—5000 ohms D.C.	**List 5.75**



CANNON-BALL "EMPIRE"
Lightweight Headset

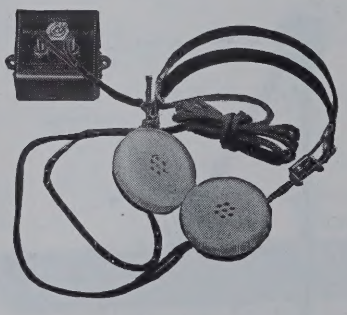
A low-priced light-weight headset with large magnet and double coils. Reproduces with clarity and good volume. Diameter of diaphragm is 1⅞". Polished aluminum cases with bakelite caps. Steel adjustable headband. 4½ ft. cord. Inside terminal connections.

EC-2—2000 ohms D.C.	**List $2.75**
EC-3—3000 ohms D.C.	**List 3.00**

THE "CHIEF"
Cannon-Ball Bakelite Headset

A high quality headset of durable molded black plastic. Attractive in appearance, it is a sensitive and practical phone for every headset use. Inside terminals. Diameter of diaphragm is $2\frac{1}{16}$". Double coils, two in each receiver. Chrome steel magnets ¼" diameter. Supplied with braid-covered headband with permanent adjustment and no removable parts. Cotton covered cord, 4½ ft. long.

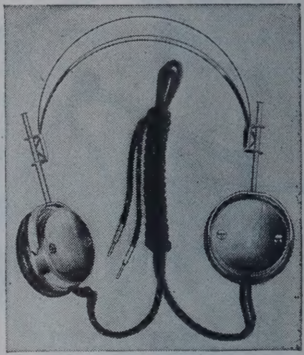
CC-2—2000 ohms D.C.	**List $4.00**
CC-3—3000 ohms D.C.	**List 4.50**
CC-5—5000 ohms D.C.	**List 5.50**



CANNON-BALL HEARING AID
For Radio

Provides perfect reception for private listening without disturbing others. Can be attached to any radio and permits listening to phones alone, speaker alone, or both together, as desired.

With single phone	**List $5.75**
With double phones	**List $8.00**



THE "MASTER"
Cannon-Ball Headset

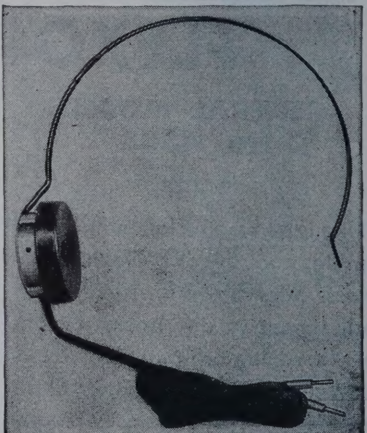
Used extensively in hospitals and other institutions as well as for general purposes, and is especially recommended for institutions. Inside terminals Aluminum cases with black bakelite caps. Spring steel adjustable headband with no removable parts. Diaphragm $2\frac{1}{16}$" diameter. Double coils. Chrome steel magnets. 4½ ft. cotton-covered cord.

MC-2—2000 ohms D.C.	**List $3.50**
MC-3—3000 ohms D.C.	**List 4.00**
MC-5—5000 ohms D.C.	**List 5.50**

THE "DIXIE"
Cannon-Ball Headset

The "Dixie" is of the same general construction as the "Master" headset except that the terminals are on the outside.

CD-2—2000 ohms D.C.	**List $3.00**
CD-3—3000 ohms D.C.	**List 3.25**



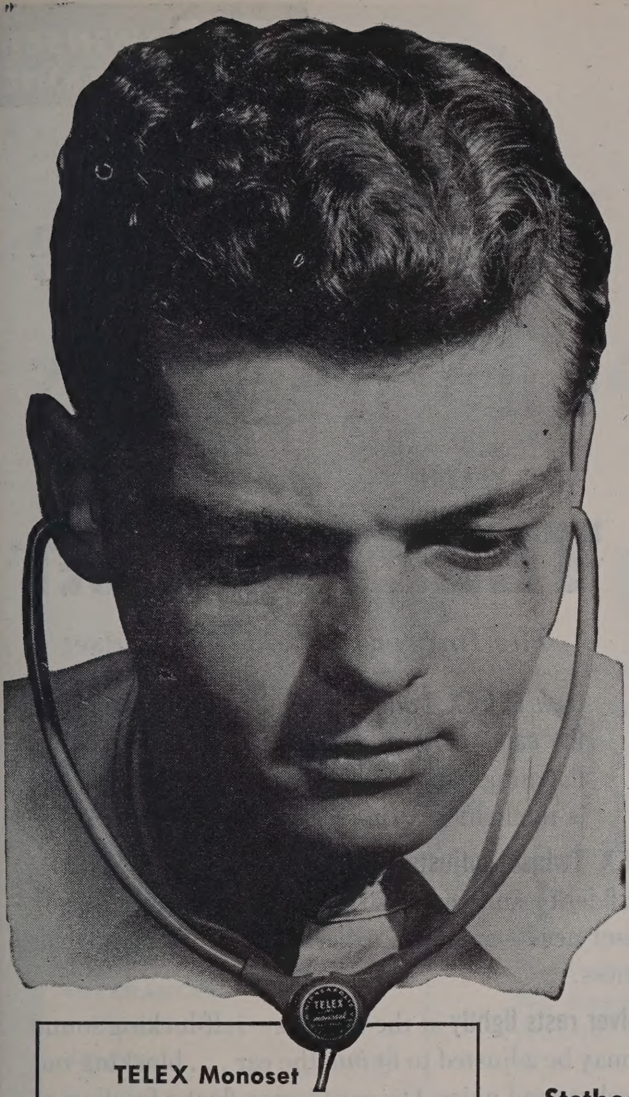
CANNON-BALL "GRAND"
Single Headphone

Equal in clarity and volume to most double headsets, efficient and attractive. Permits listening while being addressed by others. Concealed terminals. Diaphragm 1⅞". Aluminum case and bakelite caps. Chrome steel magnet, double coils. 4½ ft. cord. Spring steel headband permanently attached.

SG-1—1000 ohms D.C.	**List $1.85**

Phones can be supplied with any resistance required or with variations to meet special requirements. Sanitary plastic covered cords available for institutional use. Write for special quotation.

TELEX MONOSET
UNDER-CHIN HEADSET



TELEX MONOSET*

Successor to the Headset...

Stethoscope design of the Telex Monoset eliminates headachy pressure—instrument swings lightly *under* the chin. Wear it for hours without fatigue! Here's the *modern* way to hear with a headset!

Telex Monoset delivers sound directly *into* the ear—blocks out background noise, aids weak signals. Optional volume control on cord may be adjusted from where you sit or as you move about.

Entire instrument ruggedly built of unbreakable Tenite. Fine, sealed magnetic receiver gives excellent fidelity and response.

Many Uses for Monosets in..

- Communications
- Multiple listening
- Broadcast Monitoring
- Office Dictation equipment
- Aircraft radio
- Wired Sound—Beauty Shops
- Electronic Labs
- Record Shops

TELEX, Telex Park, Minneapolis, Minnesota

Manufacturers of

TELEX Twinset,* TELEX Earset,* TELEX Pillow Speaker, TELEX Precision Hearing Aids

Trademark*

TELEX Monoset SPECIFICATIONS

SENSITIVITY—

88 db. above .00024 dynes per sq. cm. for 10 microwatt input.

IMPEDANCES—

128 ohms, 500 ohms, 2000 ohms.

PRICES—

	List	Dealer Net
Monoset with standard cord	$12.40	$7.44
Monoset with volume-control cord	16.40	9.84
Standard cord	3.75	2.25
Volume-control cord	7.75	4.65

CONSTRUCTION—

Weight: 1.2 oz.

Sealed magnetic receiver. Unbreakable, grey polished Tenite construction.

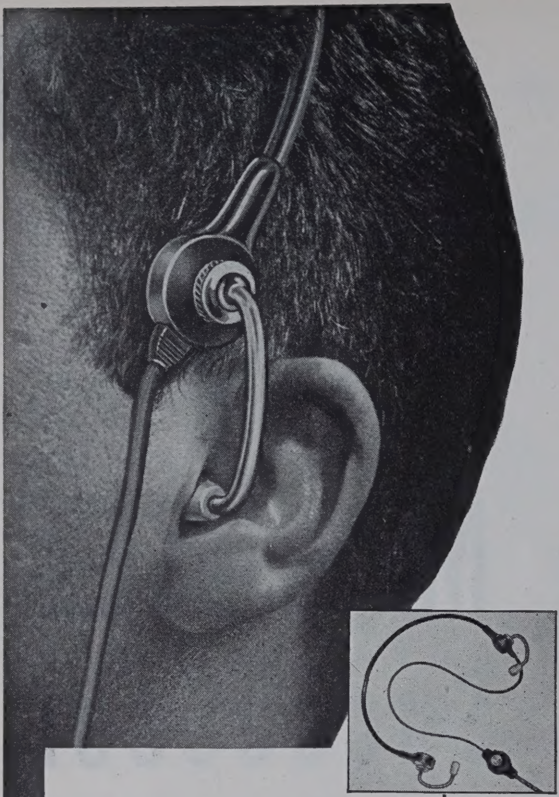
Removable plastic eartips.

5′ tinsel cord with standard plug.

HEARING AT ITS BEST
TELEX
ELECTRO-ACOUSTIC DIVISION
TELEX PARK
Minneapolis, Minn.

Copyright by U. C. P., Inc.

TELEX TWINSET
THE MODERN HEADSET



No Pressure on the ears

WITH

TELEX TWINSET*

The Improved, Modern Headset

New TELEX Twinset pipes the signal directly into the ears—without pinching or pressure. Less listening fatigue, because this 1.6 oz. marvel is the lightest twin-receiver headset made!

TELEX Twinset adjusts simply to any shape head. Its high fidelity and sensitivity adapt it perfectly to any headset need—amateur, experimental, commercial or business.

Receiver rests lightly at the temples—self-locking sound arm may be adjusted to fit *into* the ear . . . blocking out all background noise. Or, ear tip may float a fraction of an inch away *with nothing whatever touching the ear!* Both receivers are in phase. Weighted diaphragms are sealed against dust and moisture. Headband is so flexible instrument may be coiled up and slipped into the pocket!

SCORES OF TWINSET USES

- Amateur and Commercial Communications
- Dispatching
- Broadcast Monitoring
- Stenographic Transcribing
- Pilot and Control Tower
- Theaters and Record Stores
- Ship's Radio
- Hospitals
- Electronic Labs
- Any Headset Application

TELEX, Telex Park, Minneapolis, Minnesota
Manufacturers of
TELEX Monoset* • TELEX Earset* • TELEX Pillow Speaker • TELEX Precision Hearing Aids

Trademark*

TELEX TWINSET*

SPECIFICATIONS

SENSITIVITY—

101 db above .000204 dynes per sq. cm. for 10 microwatts input.

IMPEDANCES—

1000 ohms (brown) 64 ohms (yellow) (Coding visible inside female socket).

CONSTRUCTION—

Weight: 1/6 oz. Tenite plastic and bright nickel for all major parts.

Headband: Z-nickel steel wire cased in plastic.

Single 5-foot Monocord plugs into either receiver.

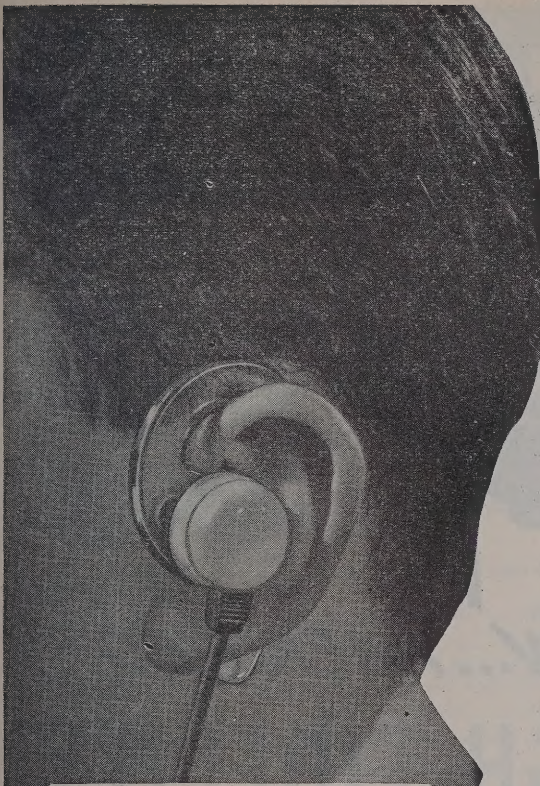
Special cord with built-in volume control available.

PRICES—

	List	Dealer Net
Twinset only	$11.25	$6.75
Twinset with cord	15.00	9.00
Monocord only	3.75	2.25

HEARING AT ITS BEST
TELEX
TELEX
ELECTRO-ACOUSTIC DIVISION
TELEX PARK
Minneapolis, Minn.

TELEX EARSET
CLEVER NEW EARPHONE



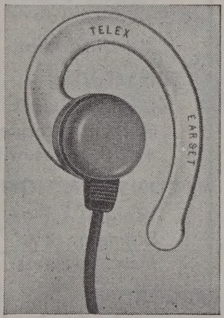
Newest Earphone out!

TELEX EARSET*

- Weighs only ½ oz!
- Slips *onto* the ear—no headband
- Fits either ear
- High quality response
- Comfortable modern design

You've never seen such a slick little rig in your life! The new TELEX Earset completely outmodes all single-receiver earphones!

No headband to muss or pull the hair . . . no pressure on the ear at all! Instead, a flat plastic frame slips over the tip of the ear—holds the sensitive, high-fidelity receiver exactly right for best hearing. TELEX Earset can't fall or slide off—so light the user promptly forgets it's there. Fits any shape or size ear—right or left.



Stenos and switchboard operators love the way the trim little TELEX Earset tucks away in their hair. Technicians and monitors like the easy way it can be dropped into a shirt or vest pocket. Receiver itself is sealed against dust and corrosion—flexible, detachable single cord connection.

You've never seen anything like TELEX EARSET*
Better ask to see one today!

TELEX, Telex Park, Minneapolis, Minnesota
Manufacturers of
TELEX Monoset* • TELEX Twinset* • TELEX Pillow Speaker • TELEX Precision Hearing Aids

Trademark*

TELEX EARSET*
SPECIFICATIONS

SENSITIVITY—
Comfortable listening level with .3 milliwatt input.

IMPEDANCES—
128 ohms, 2000 ohms.

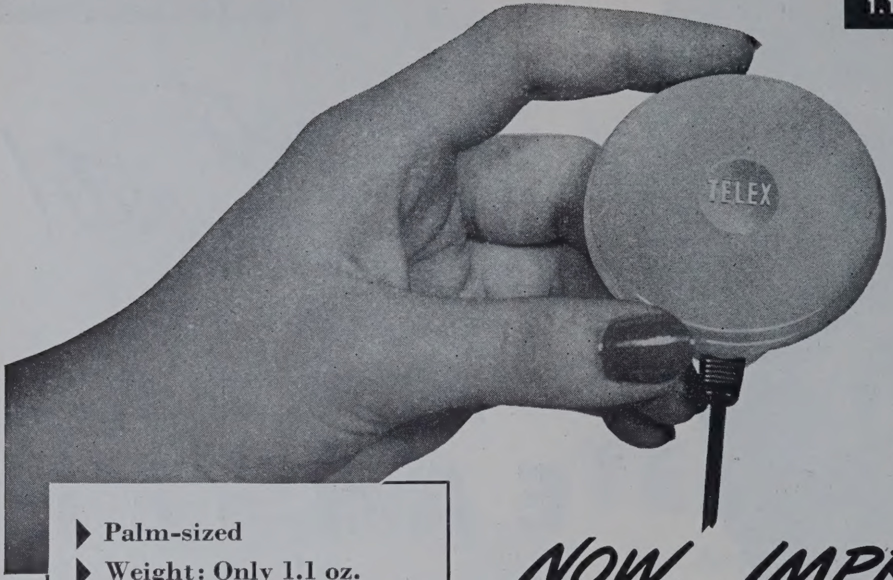
PRICES—	List	Dealer Net
Earset only	$ 6.75	$4.05
Earset with cord	10.50	6.30
Standard cord	3.75	2.25

CONSTRUCTION—
Weight: ½ oz.
Clear plastic ear frame.
Sealed, rust-proof receiver.
5' Monocord with standard phone plug connection.

DOZENS OF USES—
- Stenographic transcribing
- Switchboards
- Testing
- Code Practice
- Multiple listening
- Production line checks
- Monitoring
- Lab Measurements

HEARING AT ITS BEST
TELEX
ELECTRO-ACOUSTIC DIVISION
TELEX PARK
Minneapolis, Minn.

TELEX PILLOW SPEAKER
1.1 OUNCE MINIATURE



- Palm-sized
- Weight: Only 1.1 oz.
- Sealed, rustproof Diaphragm
- Sturdy plastic cover

TELEX PILLOW SPEAKER
USES

• Hotels • Hospitals • Headrests on Trains, Buses, Airlines • Home • Dormitories

SPECIFICATIONS

IMPEDANCES—
128 ohms, 2000 ohms.
(Impedances up to 12,000 ohms available on special order.)

PRICES—

	List	Dealer Net
Pillow Speaker only	$ 7.20	$4.32
Pillow Speaker with cord	10.95	6.57
Standard cord	3.75	2.25

SENSITIVITY—
One milliwatt for comfortable listening. Frequency range 50 to 4,000 cycles without distortion.

CONSTRUCTION—
Weight: 1.1 oz.
Diameter: 2¼″
Max. Thickness: 11/16″

CORD—
Model 2548—5 feet.
2-conductor, 4-strand silverplated tinsel with flexible single jacket insulation.
Weight: 1.4 oz.

HEARING AT ITS BEST
TELEX
ELECTRO-ACOUSTIC DIVISION
TELEX PARK
Minneapolis, Minn.

NOW... IMPROVED

HIGH FIDELITY PILLOW SPEAKER

FROM TELEX

Big-Loudspeaker FIDELITY
with Headset PRIVACY

Sensitive, high-fidelity Telex Pillow Speaker tucks away beneath pillow, headrest or cushion! Virtually unbreakable, smaller than your palm, easily sterilized by immersion in alcohol. Weight only 1.1 oz.!

Housing and assembly molded in one piece; coil wound with Formex insulated wire; diaphragm hermetically sealed, rustproof. Entire assembly completely shock-proof! Slots in edge of cover release sound non-directionally. Detachable flexible cord.

***Listen to Whatever You Want... Whenever, Wherever with TELEX* PILLOW SPEAKER**

TELEX, Telex Park, Minneapolis, Minnesota
Manufacturers of
TELEX Twinset* • TELEX Monoset* • TELEX Earset* • TELEX Precision Hearing Aids

Trademark*

TRIMM HEADSETS

KNOWN AROUND THE WORLD

MADE IN U.S.A. SINCE 1922

FEATHERWEIGHT

TRIMM
FEATHER WEIGHT
RADIO HEAD SET
RADIO MANUF

The world famous TRIMM Featherweight. Recognized as a leading quality headset. Weighs 4½ oz. complete with two units, 5-foot moisture-proof wear-resisting cord. Bakelite shell and cap. Magnet of highest quality cobalt steel alloy. Pole pieces of finest magnetic iron. Coils especially impregnated. A custom-built phone throughout. Standard resistances.

24,000-OHM IMP. SPECIAL for amateurs, the result of years of experience in producing fine headsets.

No. 106—Double, adjustable nickel-plated headband	**$10.00**
No. 107—Double, fabric-covered wire headband	**10.00**

STANDARD FEATHERWEIGHT HEADSETS are available in a wide range of resistances up to 5000 ohms d. c. (24,000 ohms imp.).

No. 100—Double Headset with nickel-plated headband	**$10.00**
No. 104—Double Headset with fabric-covered wire headband	**10.00**

PROFESSIONAL

The choice of countless users . . . the original TRIMM headset. Watch case bipolar type design, cap and shell molded of brown bakelite (unless specified otherwise). Magnet of forged chrome steel, coils impregnated. Cord and tinsel moisture-proof, 5-foot length. Concealed terminals. Fabric-covered wire headband (double headset only). Standard resistances for double headsets, 10, 78, 600, 2000, 3000, 4000 ohm d. c.

No. 70—Double Headset	$5.00
No. 72—Single Headset	2.80

DEPENDABLE

TRIMM
"DEPENDABLE"
RADIO HEAD SET

When a high-grade headset is desired but price must be considered, choose the Dependable. Bakelite caps and shells. Extra heavy bar chrome steel magnets, 5-ft. tinsel cord, plastic-covered wire headband.

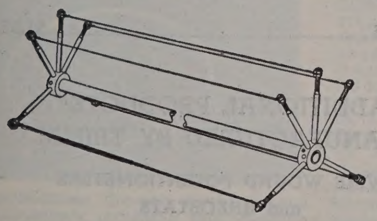
No. 65—Double Headset, 2000 ohms d. c.	**$4.15**
No. 67—Single Headset, 1000 ohms d. c. only, wire headband	**2.15**

ARMY-NAVY HEADSETS

Very sensitive. 6-ft. waterproof cord, phone tip terminals. Leather headband. Bipolar magnets. Weighs 2 lbs. Available in 2 impedances.

No. K29D—Double Headset, 2200 ohms d.c. (20,000 ohms Imp.)	**$16.00**
No. W28D—Double Headset, 112 ohms d. c. (600 ohms Imp.)	**16.00**

ANTENNA MATCHING STARS



Unique impedance transforming device for use with multi-element beams raising antenna impedance to that of the line. Consists of a pair of hubs into which a number of spokes up to 8 are assembled, star-shaped assemblies are attached to far ends of driven element. From the ends of the spokes are stretched wires parallel to driven element of array.

No. 910-A—Antenna Matching Star Kit. Two stars with 5 spokes each, adjusting nuts, set screws, hub bored for $\frac{27}{32}''$ max. O. D. tubing	**$9.00**
No. 910-B—Same as 910-A except hub bored for 1″ max. O. D. tubing	**9.00**
No. 912-A—Spokes (2) for #910 kit	**.80**

See Bulletin R-1 for further information on Antenna Matching Stars.

ACME

A superior headset in the lightweight low price field. Cap and shell of molded bakelite. Chrome steel magnets. Weighs six ounces complete. 4½-foot cord.

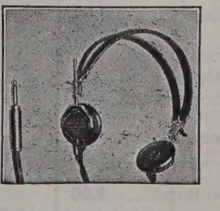
No. 25—Double headset, 4000 ohms d.c.	**$3.00**
No. 25—Double headset, 2000 ohms d.c.	**2.75**
No. 27—Single headset, 2000 ohms d.c.	**1.80**
No. 27—Single headset, 1000 ohms d.c.	**1.65**

TRIMM "E"

Lightweight headset. Cobalt steel magnets. Weighs about 5 ozs. Two units, No. 681 fabric headband, 5-foot tinsel cord, 2000 ohms d. c.

No. E-41—Double Headset	**$8.30**

COMMERCIAL



The most ruggedly constructed yet lightweight headset available. Practically non-breakable. Shell and caps molded of special high strength plastic, dia. 2⅛″, depth ¾″, cord, 5-foot tinsel, moisture-proof construction, type 501 telephone-type plug attached. Leather-covered headband. This headset is recommended for monitoring service because of its high quality performance.

No. 156—Double Headset, 600 ohms Imp. per pair	**$16.00**
No. 157—Double Headset, 17,000 ohms Imp. per pair	**16.00**
No. 158—Double Headset, 600 ohms Imp. per pair, no plug	**14.50**
No. 159—Double Headset, 17,000 ohms Imp. per pair, no plug	**14.50**

STETH-A-PHONE

Widely used for secretarial transcribing machines, beauty parlor multi-channel radios, etc. Stainless, satin-chrome finished tubes, removable ear tips, cord, and phone plug.

No. 50—2500 ohms Imp.	**$11.00**
No. 51— 500 ohms Imp.	**11.00**
No. 52— 125 ohms Imp.	**11.00**

REX

A fine headset of bipolar construction having a laminated magnet structure of the best grade chrome steel; shell of polished aluminum; molded plastic cap; terminals entirely enclosed, 4½-foot length.

No. 30—Double Headset, 2000 ohms d.c.	**$3.40**
No. 30—Double Headset, 4000 ohms d.c.	**3.80**
No. 30—Double Headset, 20M ohms Imp.	**3.60**
No. 32—Single Headset, 1000 ohms d.c.	**1.95**
No. 32—Single Headset, 2000 ohms d.c.	**2.20**

TRIMM "B"

Suggested for hospital installations. Bakelite cap and shell. Chrome steel magnets. Fabric headband, 5-ft. moisture-proof cord.

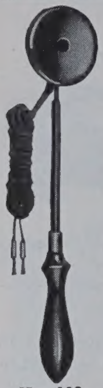
B-42—Double Headset, 2000 ohms d.c.	**$8.00**
B-43—Double Headset, 600 ohms Imp.	**8.00**

See TRIMM general catalog for cords, headset replacement parts and special types of headsets. Prices subject to change without notice.

TRIMM HEADSETS

KNOWN AROUND THE WORLD

MADE IN U.S.A. SINCE 1922



No. 120

GROUP HEARING AID COMPONENTS

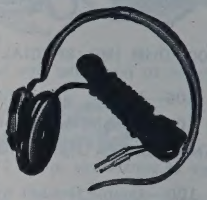
SINGLE EARPHONES — "FEATHERWEIGHT" SERIES

LORGNETTE HANDLE AND HEADBAND TYPES

The most widely used earphones, for group hearing aid systems in churches, theatres, mortuaries, etc., are of the "Featherweight" series. The acoustic response of these has been found, over a period of years, to be especially suitable for this class of service. The unit is molded of high strength black plastic material, measures 2⅛" in diameter, has a maximum thickness of ¾" and weighs approximately 1¼ ounces. A variety of ohmages are available, but most users will find the following table useful.

D.C. RESISTANCE	IMPEDANCE	APPLICATIONS
76 ohms	300 ohms	Low Impedance Lines (up to 50 ohms)
1000 ohms	4500 ohms	High Impedance Lines (200-500 ohms)
2000 ohms	9000 ohms	Large Installations on High Impedance Lines (500 ohms)

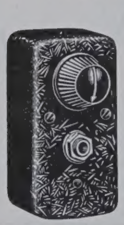
No. 110—Single Earphone, non-adjustable headband type No. 685 (Specify ohmage)	**$ 6.50**
No. 112—Single Earphone, adjustable headband type No. 688 (Specify ohmage)	**6.50**
No. 115—Single Earphone, non-adjustable headband type No. 685, with No. 450 volume control in cord	**11.00**
No. 120—Single Earphone, lorgnette handle type No. 670 (Specify ohmage)	**7.50**
No. 125—Single Earphone, lorgnette handle type No. 670, with No. 450 volume control in cord (Specify ohmage)	**12.00**



No. 110

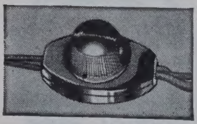
Phone plugs, although not included as part of the earphones, in the listing above, are required in most applications. These can be supplied attached to the units if so ordered. (See No. 512.)

VOLUME CONTROLS AND OUTLET BOXES

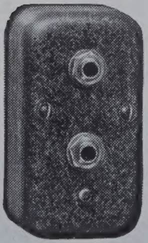


No. 460

Outlet Boxes 460 and 461 are recommended for the majority of installations, combines in a single unit volume control, phone jack, and terminal strip for incoming circuit. No. 460 has brown wrinkle finish to harmonize with woodwork. No. 461 has a glossy ivory finish to improve visibility in theatres. Standard ohmages, 1000 ohms for low impedance lines and 10,000 ohms for high impedance lines (up to 500 ohms). On special orders 25,000 and 50,000 ohms can be supplied at slight additional cost.



No. 450



No. 480

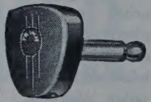
No. 460—Outlet Box (Brown—Specify ohmage)	**$4.00**
No. 461—Outlet Box (Ivory—Specify ohmage)	**4.00**
No. 450—Volume control inserted in cord type. Includes cord (No. 838-2½') from control to plug, black plastic housing, all rounded edges. Measures 2" long. Standard ohmages 1000 and 10,000 ohms	**4.95**
No. 477—Outlet box, dual jack, brown finish, same general details as No. 460	**3.50**
No. 478—Outlet box, dual jack, ivory finish	**3.50**
No. 480—Outlet box, dual jack, brown finish, similar to No. 477 except artificial load inserted by withdrawal of phone plug	**4.00**
No. 481—Outlet box, same as No. 480 except ivory finish	**4.00**
No. 484—Outlet box, single jack, brown finish	**3.00**
No. 485—Outlet box, single jack, ivory finish	**3.00**

"A variety of special types of junction and outlet boxes can be supplied to customers' specifications."

See additional bulletins and catalog pages published by TRIMM, Inc., on group hearing aid installations.

Prices subject to change without notice.

PHONE PLUGS



Most compact plug. Bakelite with nickel plated stem. Cord tips held tightly by screws. Easily attached to cord.

No. 512—Flat plug	**$0.65**
No. 511—Plug, standard type, bakelite shell and nickel plated stem. Easily attached to cords	**$0.70**

EAR CUSHIONS

Sponge rubber ear cushions provide maximum ease in wearing headsets. Fits TRIMM Featherweight, Commercial, Acme, Rex, and "E" types.

No. 654	**$1.35**

ADDITIONAL PRODUCTS* MANUFACTURED BY TRIMM

WIRE WOUND POTENTIOMETERS and RHEOSTATS

L and T-PADS

MIDGET EARPHONES

INSTITUTIONAL HEADSETS

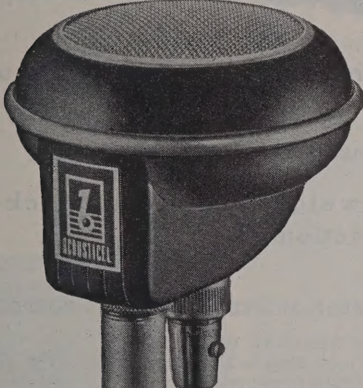
SPECIAL ARMY-NAVY PLUGS and JACKS

PATCH CORDS

REPLACEMENT CORDS

** Write for special bulletins on these products.*

Brush CRYSTAL PRODUCTS



BRUSH MODEL BA-109 MICROPHONE

The Brush Model BA-109 is a beautiful new microphone of exceptionally flat frequency response characteristics created for public address, home recording, and amateur applications. The microphone is attractively styled in rich maroon plastic and brushed chrome in compliance with the post-war trend in industrial styling.

The microphone cartridge represents a further improvement of the "Acousticel"* pioneered by The Brush Development Company and extensively used for applications which demand natural reproduction of both music and voice frequencies. The improved "Acousticel"* uses "Metalseal"* crystal for long life and protection from conditions of high humidity. Shock mounting of the "Acousticel"* assures freedom from microphone stand and other mechanical noises.

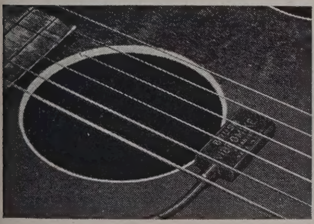
The BA-109 microphone provides essentially flat frequency response from 40 to 10,000 cps. with an unusually high output of 54 db. below 1 volt/dyne/cm². The pickup pattern is non-directional in the horizontal plane and the microphone is unexcelled for natural reproduction of both orchestra and vocalist.

The microphone is designed for use with standard ⅝" 27 thread microphone stand.

List Price **$22.50**

*Trade Mark Net Wt. 5½ oz. Shipping Wt. 1 lb.

BRUSH MODEL "VM-1" "VIBROMIKE"



The VM-1 or "Vibromike" is a miniature CONTACT-TYPE microphone with high sensitivity and unusually wide-range frequency response (30 to 6,000 cps.). Output voltage from .05 to .1 volt or higher. Size of microphone ⅞" x ¾" x ⅝".

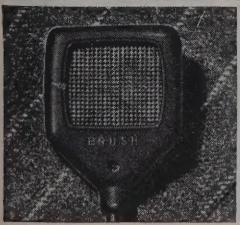
Designed for a broad field of reproduction applications through direct contact. Adaptable to musical instruments, industrial uses—detecting mechanical vibrations. Hermetically sealed in black rubber covered case.

Microphone complete with mounting clamp and 25' of cable.

List Price **$19.50**

Net Wt. 6 oz. Shipping Wt. 2 lbs.

BRUSH MODEL "BL-2" LAPEL MICROPHONE



The improved Model BL-2 lapel microphone features virtually flat response. Output level—57 db. (based on 1 volt per bar reference level). Small and rugged (1½" x 2¼") the BL-2 can be used in hand or as instrument pickup as well as in lapel.

Microphone complete with 25' of cable.

List Price **$25.00**

Net Wt. 8 oz. Shpg. Wt. 2 lbs.

BRUSH MODEL BA-106 MICROPHONE

The Brush Model BA-106 is a high quality microphone incorporating the hermetically sealed "Acousticel"* with Sintered bronze damping. "Metalseal"* crystal is used for protection against conditions of high humidity. This microphone offers unexcelled response in microphones of this type and price range.

Vibration, shock or low frequency wind noise do not affect the performance of this microphone.

Output level Minus 50 db. below 1 volt/bar.

Flat from 40 to 6,000 cps.

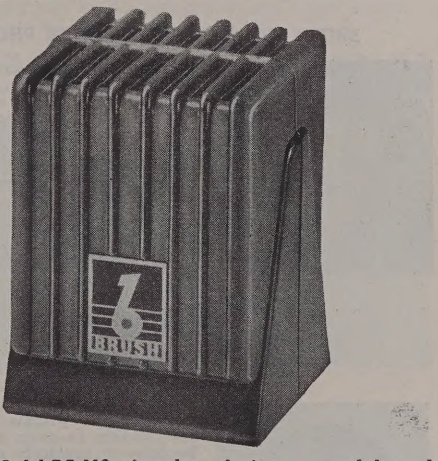
Unexcelled for home recording, public address systems, ham shacks, monitoring and institutional and industrial applications.

Net Wt. 1¼ lb.

Shipping Wt. 3¼ lbs.

List Price **$19.75**

BRUSH MODEL BA-116 MICROPHONE



The Brush Model BA-116 microphone features rugged dependability and uniform frequency response. Because of its quality features, this microphone is unexcelled in its price range for home recording, amateur, public address, institutional and industrial paging applications.

The microphone cartridge is shock mounted for protection against microphone stand and other mechanical noises. The cartridge is the improved protected metal diaphragm type with "Metalseal"* crystal for long life and protection from conditions of high humidity. Output level 53 db. below 1 volt per bar. Uniform response from 50 to 6,000 cps.

This microphone is designed for comfortable use as a hand microphone or for use on the desk without the need of a stand. A standard ⅝" 27 thread is incorporated for floor stand use.

The BA-116 is supplied in brown hammered metallic finish and equipped with an 8' cable.

List Price **$14.75**

Net Wt. 1 lb. 4 oz. Shipping Wt. 1 lb. 8 oz.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Complete technical data on request

*Trade Mark Reg. U. S. Pat. Off.

THE BRUSH DEVELOPMENT CO.

Brush CRYSTAL PRODUCTS

Brush crystal phones possess the following outstanding features:

1. BIMORPH* crystal drive element of such high impedance that line or circuit characteristics are not affected when monitored by Brush phones.
2. Wider range response with more uniform output.
3. Compensation for ear coupling.
4. Light-weight, rugged, shock-proof construction.

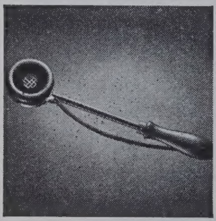
HIGH FIDELITY MODEL "A-1"

For use where HIGH FIDELITY and extended frequency response are of paramount importance. (60 to 10,000 cps. Corrected for rising response below 200 cps.) Especially suited to monitoring, sound measurement, audiometry, and similar exacting headphone applications. Sensitivity approx. 1.5 bars per volt at 1,000 cps. Impedance over 80,000 ohms at any frequency within audio range.

Headset complete with 5' cord and headband.

List Price $18.00
Net Wt. 6 oz. Shipping Wt. 2 lbs.

BRUSH MODEL "A" LORGNETTE PHONE



The "A" lorgnette phone is designed for use in group hearing aid sound systems installed in churches, concert halls, theatres and auditoriums. Telescope extension from 12" to 17". Attractively finished in satin black. Light weight, easy to handle, and comfortable at the ear.

Single phone complete with 5' cord and lorgnette handle.

List Price $9.75
Net Wt. 5 oz. Shipping Wt. 1 lb.

MODEL "BA-303" HUSHATONE*

A miniature, molded plastic extension speaker for under pillow use. Disc shaped ($4\frac{3}{16}$" dia. by $1\frac{1}{16}$" thick). Makes no uncomfortable lump beneath the pillow. Tone quality comparable to cone type speaker because of specially engineered response. Speaker gives ample output with low power consumption (.0025 watt). Hermetically sealed, can be dipped into disinfecting solution (temperature not above 120°F). Light weight BIMORPH* crystal drive element insures uniform response and high sensitivity. No parts to wear, loosen, or become detached. Furnished in maroon with satin chrome trim.

HUSHATONE* with 10' cord.

Fair Trade Retail Price $9.75
Net. Wt. 8 oz. Shipping Wt. 2 lbs.

BRUSH MODEL "A" GENERAL PURPOSE

Designed for GENERAL PURPOSE applications including laboratory, studio and skilled amateur home use. The BIMORPH* crystal drive element insures wide range response (100 to 8,000 cps.) and high sensitivity. High impedance; ideal for multiple installations.

Headset complete with 5' cord and adjustable headband.

List Price $12.00
Net Wt. 6 oz. Shipping Wt. 2 lbs.

BRUSH MODEL "A" SINGLE PHONE

Particularly adapted to individual or group hearing aid and radio applications. Light weight, good ear seal, and comfortable to wear. Spring steel headband with soft rubber cushion to eliminate slipping.

Single phone complete with 5' cord and headband.

List Price $6.45
Net Wt. 3 oz. Shipping Wt. 1 lb.

BRUSH MODEL "RC-20" CRYSTAL CUTTER

The Brush RC-20 Crystal Cutter has been designed to satisfy the demand for high quality, low cost recordings in the home, school and studio. Due to its inherent stiffness, the RC-20 will cut lateral type records in virtually all hard or soft disc materials. Being of simple and compact design, it is readily adaptable to all types of transcription equipment. A three watt amplifier is sufficient to satisfactorily drive the RC-20 cutter frequency response—flat within plus or minus 3 db. from 50 to 9,000 cps.

Cuts "Constant Amplitude" without equalization, and "Constant Velocity" or other desired frequency characteristics with suitable equalization. Complete technical data sent on request. Cutter (less stylus).

List Price $25.00
Net Wt. 4 oz. Shipping Wt. 2 lbs.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Complete technical data on request
*Trade Mark Reg. U. S. Pat. Off.

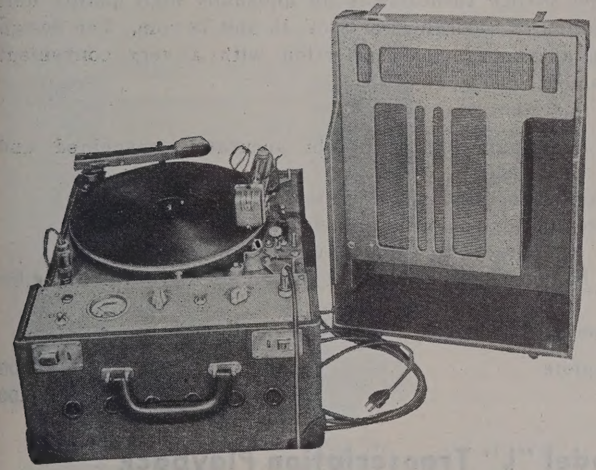
THE BRUSH DEVELOPMENT CO.

PRESTO RECORDING CORPORATION

WORLD'S LARGEST MANUFACTURER OF INSTANTANEOUS SOUND RECORDING EQUIPMENT AND DISCS

PRESTO K-10 RECORDER

FOR MICROGROOVE AND REGULAR RECORDING



The PRESTO K-10 Recorder, formerly known as the K-8, the foremost machine of its kind to be used in schools for speech, voice, languages, dramatics, music., etc., is now offered for MICROGROOVE (long-playing) recording as well as the standard method.

Note these features:

- Cutting pitches of 112 lines per inch Outside-in, 112 lines Inside-out, 224 lines per inch Outside-in and 224 lines per inch Inside-out.
- Standard unit is equipped for two speeds, 33⅓ and 78 rpm. Available for three speeds, 33⅓, 45 and 78 rpm at additional cost.
- The cutting head is equipped with an advance ball which regulates the depth of the groove more accurately than a counter spring.
- Two interchangeable pick-up arms, one containing the MICROGROOVE head and the other containing the regular head. Each head is complete with a permanent sapphire stylus.
- A single control permits instant choice of recording, playback, or public address. Amplifier also contains radio and monitor jacks.

The PRESTO K-10 will, when set for MICROGROOVE, record 6¾ minutes on every inch of disc used. This means that a 15-minute recording with good fidelity can be put on one side of a 12″ disc! And a half-hour can be put on one side of a 13¼″ disc. Seven minutes can be recorded on one side of a 6½″ disc.

Price of **K-10**, less microphone and stand, **$348.00***.

No increase over K-8.

***$5.00** additional for 45 rpm pulley and record adapter.

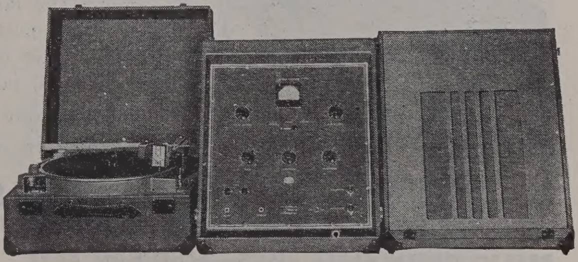
PRESTO "Y" RECORDER FOR MICROGROOVE AND REGULAR RECORDING

The PRESTO Y-3 is identical to the famous Y-2 but MICROGROOVE has been added. The following feed pitches are included with the Y-3: 112 lines per inch Outside-in, 112 lines per inch Inside-out, 224 lines per inch Outside-in, and 224 lines per inch Inside-out.

Other features are:

- Two interchangeable Pickering sapphire cartridges — for MICROGROOVE and regular recording.
- Advance ball on cutting head to accurately control depth of groove.
- 16″ turntable — will take 17¼″ masters.
- Standard unit is equipped for two speeds, 33⅓ and 78 rpm. Available for three speeds, 33⅓, 45 and 78 rpm at additional cost.
- Amplifier has connections for two microphones and two turntables. Output is 10 watts. Both high and low frequency manual equalizers are included.
- Ten-inch PM speaker and baffle are built into cover of amplifier.
- Presto high-fidelity 1-D cutting head.

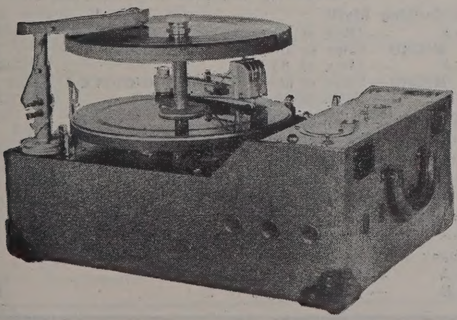
When set for MICROGROOVE the Y-3 will record for 6¾ minutes on each inch of disc used. A fifteen-minute program can be put on one side of a 12″ record. A half-hour on one side of a 16″ record. Forty minutes can be recorded on one side of a 16″ record by cutting to minimum diameter.



The price of the new **Y-3** is **$741.00*** (**no increase over the former Y-2**). The Y-3 is designed for high impedance microphones. If low impedance microphone-inputs are desired, order **Y-5**, price **$771.00***. Microphone and stands are not included as regular equipment.

***$10.00** additional for 45 rpm pulley and record adapter.

TYPE 325-M RE-RECORDER



The Presto 325-M re-recorder is a device to be used with the Presto K-10 and Y-3 (and 5) recorders to copy (dub) recordings without the need of a separate turntable. The 325-M consists of a turntable and pedestal which is placed on top of the recorder turntable. The recorded disc is placed on this auxiliary turntable and a new blank disc on the recorder turntable. During re-recording, both discs rotate together. An extension is provided to elevate the pickup to the level of the auxiliary turntable.

Price of 325-M for K-10 or Y-3 (and 5) recorders **$38.10 List.**

Copyright by U. C. P., Inc.

PRESTO RECORDING CORPORATION

WORLD'S LARGEST MANUFACTURER OF INSTANTANEOUS SOUND RECORDING EQUIPMENT AND DISCS

3-SPEED MICROGROOVE AND STANDARD PLAYBACK TURNTABLE

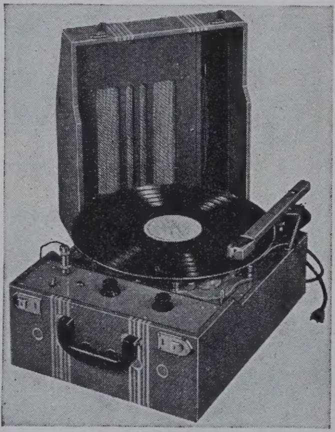
Type 15-GCP

The Presto Type 15-GCP turntable is an unusually high quality unit for the reproduction of recordings at 33⅓, 45 and 78 rpm. The design provides an instantaneous speed selection with a very convenient control arrangement.

FEATURES:

- Heavy cast aluminum 12″ turntable accurately machined and balanced.
- Precision idler wheels and motor pulley.
- Good speed regulation—minimum "wow."
- Performance comparable to transcription equipment.
- Two pickups included—one standard and one microgroove. Sapphire stylii.
- May be connected to any radio or audio amplifier.

List Price complete **$75.00**
Chassis only **$38.00**



Model "L" Transcription Playback

This equipment is designed for radio stations, advertising agencies and program producers, who demonstrate recorded programs at the offices of prospective clients.

The Model L Playback was developed to meet the insistent demand among the larger broadcasting stations and agencies for "something better" in portable reproducing equipment. Those who use the Model L Playback in connection with important sales of station time and programs will consider its exceptional performance well worth its cost.

L-3—Portable Transcription Playback for regular and microgroove records .... List, **$290.00**

PRESTO DISCS AND NEEDLES

FOR COMMERCIAL, EDUCATIONAL AND HOME RECORDING

PRESTO GREEN LABEL DISCS—ALUMINUM BASE

(All sizes packed in boxes of 30 discs)

Type	Size	Thickness	List Price ea.	Code
610-A	10″	.052″	$1.15	
611-A	11⅞″	.052″	1.80	ELVET
613-A	13¼″	.052″	2.25	THYRT
616-A	16″	.056″	3.25	SIHEV

PRESTO OVERSIZE MASTER DISCS—ALUMINUM BASE

(All sizes packed in boxes of 20 discs)

Type	Size	Thickness	Size of Pressing	List Price ea.	Code
627-A	17¼″	.066	16″	$4.90	SEVYT

PRESTO BROWN LABEL DISCS

(Green label having only one side perfect)
*Packed 30 to box †Packed 20 to box.

Size	List Price, ea.
16″	$2.25*
17¼″ (Masters)	3.25†

PRESTO ORANGE LABEL DISCS

(Medium Aluminum Base—Overall Thickness .036″)

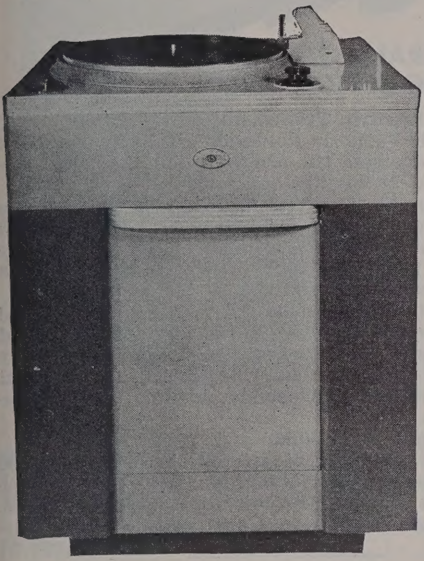
Type	Size	List Price, ea.	Code (Box of 10)
306-A	6½″	$0.35	ORSIN
308-A	8″	.50	ORBAL
310-A	10″	.75	ORCAR
312-A	12″	1.00	ORDEL

CUTTING AND PLAYING NEEDLES

Type and Number		List Price Per Needle
Sapphire Cutting Stylii		
320-A	—Brass Shank—Short, (Box of 6)	$6.00
320 MICRO	—Same as above for MICROGROOVE	6.00
321-A	—Brass Shank, Long, (Box of 6)	6.00
321 MICRO	—Same as above for MICROGROOVE	6.00
603-A	—Dural Shank—Short, (Box of 6)	8.00
603 MICRO	—Same as above for MICROGROOVE	8.00
604-A	—Dural Shank—Long, (Box of 6)	8.00
604 MICRO	—Same as above for MICROGROOVE	8.00
	Resharpening Sapphire	3.00
Stellite Cutting Stylii		
330-A	—(Box of 6)	2.00
330 MICRO	—Same as above for MICROGROOVE	2.00
331-A	—(Box of 6)	2.00
331 MICRO	—Same as above for MICROGROOVE	2.00
807-A	—Resharpening Stellite Point	.75
Steel Cutting Stylii, Long and Short		
350-A	—(Package of 3)	1.00
Sapphire Playing Needle		
420-A	—Sapphire Playing Needle	1.25
420 MICRO	—Same as above for MICROGROOVE	1.25
Transcriptone Playing Needle		
430-A	—Transcriptone Playing Needle	1.00
Red Shank Playing Needles		
440-A	—(Package of 25)	.25
440-B	—(40 Packages of 25)	10.00

PRESTO RECORDING CORPORATION

WORLD'S LARGEST MANUFACTURER OF INSTANTANEOUS SOUND RECORDING EQUIPMENT AND DISCS



A reproducer of any make may be installed on the 64-A Transcription Turntable

PRESTO 64-A TRANSCRIPTION TURNTABLE

The Presto 64-A transcription turntable offers the following features which are of major importance to the owner and operator: Unusual mechanical simplicity . . . low mechanical disturbance . . . perfect speed accuracy . . . extreme ruggedness for long continuous operation . . . instantaneous selection of desired speed . . . and no requirements for mechanical adjustments.

This transcription turntable is directly gear driven and employs two separate motors, one for 33-1/3, and the other for 78.26 rpm. There is no friction device of any kind in the mechanism and no mechanical shift is required to change speeds. To select 33-1/3 rpm, 78 rpm or "off," the operator merely throws a three position switch. These changes may be made as rapidly as desired while the turntable is in motion with no damage to the mechanism. Only one motor at a time is in operation. The transmission "over runs" the motor which is not turning and thus does not carry it along in rotation although the stationary motor is never disengaged from the mechanism.

SPECIFICATIONS

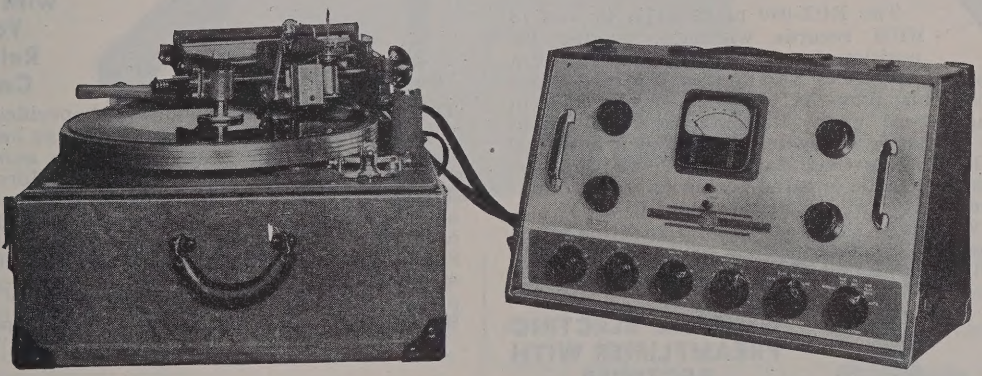
Standard Equipment: The 64-A transcription turntable includes the electro-mechanical gear drive, turntable and cabinet. A reproducer and network is not included.

Speed Accuracy: No deviation from 33-1/3 and 78.26 rpm.

Noise Level: Mechanical noise originating in the equipment over 50 db below program level.

Power Requirements: Approximately 75 watts from a 115 volt, 60 cycle line. Motors are of the 1800 rpm synchronous type and are available for other voltages and frequencies at additional cost.

Mounting: Turntable and gear drive mounted in heavy wood cabinet 24x24x33 inches (61x61x84 cm.). Finished in two tones of grey lacquer. List Price, **$495.00**



PRESTO 6-N RECORDER AND 90-B AMPLIFIER

The PRESTO 6-N Recorder and 90-B Amplifier is the ideal recording equipment for portable or stationery operation.

The 6-N Recorder is outstanding in its suitability for brodcast stations because it offers all the qualifications for good recordings, including master records, at the most economical price. It is ideal for the station requiring delayed broadcast of network programs, and for reference recordings.

The 6-N standard equipment includes the Presto 1-D cutting head, spiraling feed screw, vertical damper, time scale and pick-up. It is available for microgroove recording at addition cost.

The Presto 90-B recording amplifier contains all the facilities necessary for operation on remote assignments, but with all overall performance found only in high-fidelity studio equipment.

It consists of three preamplifiers with individual gain controls, a mixer circuit, a master gain control and recording amplifier. Provision is made for connecting the Presto 161-A automatic equalizer (radius compensator).

A five-position selector switch provides the following characteristics: 1—flat response, 30 to 15,000 ±1 db; 2—NAB 33⅓ rpm recording; 3—present day 78-rpm recording; 4—NAB playback, and 5—automatic equalization. The flat response can be modified by variable bass and treble controls, giving emphasis up to a maximum of 20 db at 100 and 7,500 cycles per second or 20 db de-emphasis at 7,200 cycles per second.

Noise is 55 db below recording level and distortion at maximum output is less than 1.5%.

The use of input and output selector switches makes the 90-B amplifier unusually flexible. It permits combining the signals of three microphones or of two microphones and either one of two pickups. By using the "Line" position, recordings can be made from an incoming program line. The output selector has three positions; playback (public address), continuous recording and simultaneous recording. While recording, the line jack provides a monitoring outlet or permits feeding a program line at the correct level.

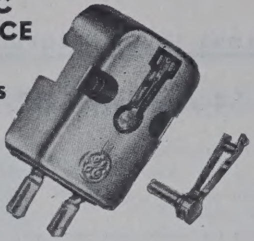
The correct level is monitored by means of a Weston Type 30 VU indicator with illuminated scale and its closely controlled electrical and dynamic characteristics make it an ideal volume indicator for recording.

List Price of 6-N	**$735.00**
List Price of 90-B	**595.00**

GENERAL ELECTRIC

GENERAL ELECTRIC VARIABLE RELUCTANCE CARTRIDGE

with replaceable stylus



STANDARD RECORDS
(3 mil tip radius)
Catalogue No. RPX-040

MICRO-GROOVE RECORDS
(1 mil tip radius)
Catalogue No. RPX-041

Performance engineered at Electronics Park, these cartridges provide record reproduction unsurpassed in quality. Low needle talk and needle scratch. Minimum distortion. Retracting stylus. Low record wear due to flexible suspension and low stylus pressure. Virtually unaffected by normal temperature or humidity variations.

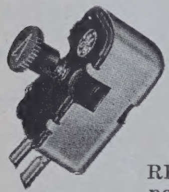
Shipping Weight — 1½ ounces............List Price $9.95

Also available in a Professional model (RPX-046) with low impedance to match broadcast equalizers. Furnished less stylus.

Shipping Weight — 1½ ounces............................List Price $11.45

G-E REPLACEMENT STYLI

Catalog Number	Stylus	Tip Radius in inches	List Price
RPJ-001	Sapphire	.003	$3.50
RPJ-005	Sapphire	.001	3.50
RPJ-006	Sapphire	.0025	3.50
RPJ-002	Diamond	.0025	27.50
RPJ-003	Diamond	.003	27.50
RPJ-004	Diamond	.001	27.50

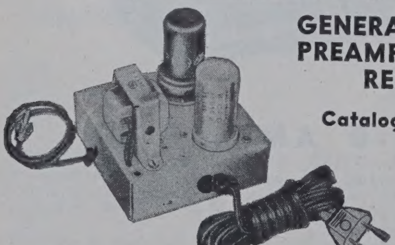


GENERAL ELECTRIC TRIPLE PLAY CARTRIDGE

Catalogue No. RPX-050

The RPX-050 plays 33⅓, 45 and 78 RPM records without changing its position in the tone arm. Uniform stylus pressure of 6 to 8 grams for all 3 types of records. This, plus the low mass is valuable in minimizing record wear. Retaining the unexcelled frequency response characteristics of previous G-E Variable Reluctance Cartridges, the RPX-050 is also notable for low needle talk and needle scratch. Output impedance is the same as RPX-040 and RPX-041.

Shipping Weight — 2 ounces................List Price $13.95
Replacement Styli RPJ-010
(1 mil & 3 mil Sapphire)................**List Price 5.95**



GENERAL ELECTRIC PREAMPLIFIER WITH RECTIFIER

Catalog No. UPX-003

The UPX-003 Phono Preamplifier, which operates directly from a 105-125 volt, 50-60 cycle AC power line, is designed for use with the General Electric Variable Reluctance Cartridges. It provides sufficient amplification and the necessary low frequency equalization to enable Variable Reluctance Cartridges to be used with standard receivers and amplifiers.

Shipping Weight — 1½ lbs.................List Price $15.95

Also available without rectifier as SPX-001, designed to take its power requirements (6.3 volts AC, 100DC) from the receiver or amplifier with which it is used. Leads and jacks provided for attachment to chassis and Variable Reluctance Cartridge.

Shipping Weight — 1 lb...List Price $9.90

Catalog No. FA-21-A

GENERAL ELECTRIC TRANSCRIPTION ARM

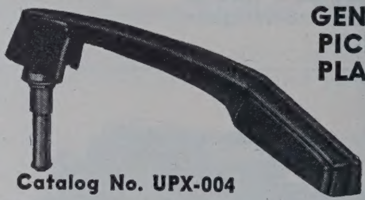
The General Electric Transcription Arm, designed to mount the G-E Variable Reluctance Cartridges, is for use by those desiring the utmost in quality reproduction of lateral transcriptions and records.

The G-E Transcription Arm is designed for optimum performance of lateral transcription and recordings only. It contains no design compromise such as are necessary if provision for vertical reproduction is also incorporated.

The mass of the transcription arm has been reduced to the ultimate point by careful mechanical design and the use of magnesium alloy for the moving parts. Very low bearing friction in both the lateral and vertical planes is assured by precision, hand-adjusted cone-type bearings.

Shipping Weight — 2½ lbs.
Suggested professional user's price $41.00

An arm counterweight, Catalog No. RWP-001, is available to adapt the FA-21-A for long-playing records.
Suggested professional user's price $3.85



Catalog No. UPX-004

GENERAL ELECTRIC PICKUP FOR LONG PLAYING RECORDS

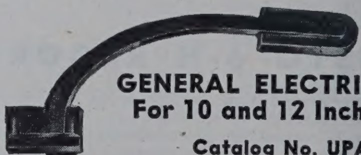
with the New Variable Reluctance Cartridge

This G-E pickup has been designed specifically for use with long-playing records. The cartridge has a special high-compliance, low-mass stylus arm assembly, and a precision-ground highly-polished sapphire stylus.

To keep the tone arm mass low, the arm has been made as small as possible, and the construction material is a special lightweight alloy.

Smooth lateral movement with a minimum of drag is assured by ball-bearings and a long bearing surface, protected by a dust cover.

Shipping Weight — ½ lb.....................List Price $15.95



GENERAL ELECTRIC PICKUP For 10 and 12 Inch Records

Catalog No. UPA-004

Especially designed for and equipped with the G-E Variable Reluctance Cartridge, this new pickup is an extremely fine unit for the improvement of record players.

Matched with the Variable Reluctance Cartridge, this product provides excellent performance — with installation simplified and proper balance assured.

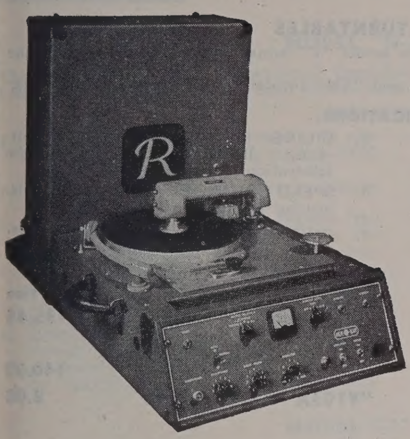
It provides the best compromise between minimum tracking error and overall dimensions.

The unit is balanced at the factory to provide 1 oz. stylus pressure and may be adjusted if desired.

Shipping Weight — 1 lb.....................List Price $15.95

REK-O-KUT COMPANY INC.

AMERICA'S MOST POPULAR LINE OF RECORDERS AND TRANSCRIPTION EQUIPMENT



"CHALLENGER" PROFESSIONAL 13¼" DISC RECORDERS FOR STANDARD AND MICRO-GROOVE RECORDING

The "CHALLENGER", America's finest professional 13¼" disc recorder, embodies the most advanced design, engineering and production techniques in the disc recording industry. The many exclusive operating features built into the "CHALLENGER" simplify and improve the art of disc recording. The "CHALLENGER" is offered in three models:

STANDARD ★ CUSTOM ★ DELUXE

representing a choice in the recording facilities necessary to meet the respective needs of the Professional Recordist, Musician, Educator and Recording enthusiast.

SPECIFICATIONS:

1. **OVERHEAD RECORDING MECHANISM:** Permits interchanging leadscrews.
2. **16" PICKUP:** For playback of transcriptions in addition to standard and long playing records.
3. **FINGERTIP SPEED CONTROL:** For instantaneous selection of 78 and 33⅓ speeds.
4. **SPIRAL GROOVE:** A run-in, run-out and locked groove, made with a simple manual operation.
5. **SPEAKER:** Built to Rek-O-Kut specifications for extra power and range, mounted into the detachable cover of the case.
6. **AMPLIFIERS:** Equipped with either the R-5A six tube or R-8A eight-tube high fidelity, as described below.
7. **CASE:** Plywood covered with grey leatherette, built to withstand rough usage.
8. **DIMENSIONS:** 25" x 22" x 12". Shipping Weight: 80 lbs.

Model		Net Price
STANDARD MODEL	With R-5A six-tube amplifier	**$329.95**
CUSTOM MODEL	With R-8A eight-tube amplifier, variable reluctance magnetic pickup	**369.95**
DELUXE MODEL	With R-8A eight-tube amplifier, variable reluctance magnetic pickup, and Hysteresis Synchronous motor	**399.95**
M12-192	Additional Micro-Groove Leadscrew	**17.95**
TR-103A	Idler and Adapter for 45 RPM	**6.00**

R-8A UNIVERSAL RECORDING AMPLIFIER

FREQUENCY RESPONSE: ±1 db from 30 to 20,000 cycles at normal setting of equalizer controls.
POWER OUTPUT: 13.5 watts at less than 3% total distortion into resistive load.
TREBLE EQUALIZER: Boost of 14 db and attenuation of 15 db above 8,000 cycles, continuously variable.
BASS EQUALIZER: Boost of 14 db and attenuation of 14 db below 50 cycles, continuously variable.
INPUT CHANNEL: Four: 2 high impedance microphones, phono channel compensated for G.E. or Pickering pickup, radio. Switch on rear of chassis changes phono channel for crystal pickup operation.
GAIN: Microphones: 120 db, Phono: 90 db, Radio: 80 db.
OUTPUT IMPEDANCE: 4, 8, 15, 125, 250, 500 ohms for cutter and speaker.
OUTPUT SELECTOR: Three positions providing: recording, play-back and public address. Microphones are muted in play-back position.
MONITORING: A switch is provided giving three positions of monitor level: off, medium, loud. Speaker or headphones may be used. Meter on front panel indicates correct recording level.
HUM AND NOISE: 64 db below 13.5 watts with all controls turned for maximum hum and noise output.
CONTROLS: Microphone "A," microphone "B," radio-phone fader, output selector, treble equalizer, bass equalizer, monitor.
TUBE COMPLEMENT: (2) 6SJ7; (2) 6SL7; (1) 6SC7; (2) 6V6; (1) 5Y3.
POWER SUPPLY: 105-125 volts, 50-60 cycles.
POWER CONSUMED: 100 watts.
DIMENSIONS: Panel: 19" x 6¼' — Chassis: 17" x 8¾".
WEIGHT: 17 lbs.

Price — $129.95 Net inc. tubes

R-5A UNIVERSAL RECORDING AMPLIFIER

FREQUENCY RESPONSE: ±1 db from 50 to 15,000 cycles at normal setting of equalizer controls.
POWER OUTPUT: 12 watts at less than 3% total distortion into resistive load.
TREBLE EQUALIZER: Boost of 14 db and attenuation of 15 db at 8,000 cycles, continuously variable control.
BASS SELECTOR: Attenuation of 14 db at 50 cycles, switch type.
INPUT CHANNELS: Three: high impedance microphone, high impedance phono pickup and radio.
GAIN: Microphone: 125 db, Phono: 76 db, Radio: 76 db.
OUTPUT IMPEDANCE: 2, 4, 8, 15, 500 ohms for cutter and speaker.
HUM AND NOISE: 64 db below recording level.
MONITORING: A switch is provided giving two positions of monitoring level or monitor may be cut out. Speaker or headphones may be used. Meter on front panel indicates correct recording level.
OUTPUT SELECTOR: Three positions providing: recording, play-back and public address. Microphone is muted in play-back position.
CONTROLS: Microphone gain, phono-radio fader, output selector, equalizer, bass, monitor.
TUBES: (1) 6SJ7; (2) 6SL7; (2) 6V6GT; (1) 5Y3GT.
POWER SUPPLY: 105-125 volts, 50-60 cycles.
POWER CONSUMED: 80 watts.
DIMENSIONS: Panel: 19" x 6¼' — Chassis: 17" x 8¾".
WEIGHT: 16 lbs.

Price — $89.95 Net inc. tubes

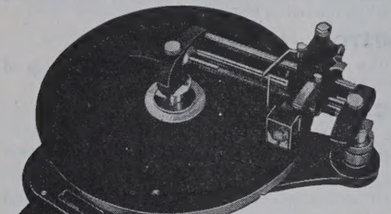
Case, optional, $17.95 Net

REK-0-KUT COMPANY INC

AMERICA'S MOST POPULAR LINE OF RECORDERS AND TRANSCRIPTION EQUIPMEN

MODEL V DELUXE DUAL SPEED 16" RECORDING TURNTABLES

An outstanding value in the recording field. Ruggedly constructed and precisely machined, the model "V" deluxe turntable will maintain the constant, wow-free speed and smoothness demanded in broadcast work.
The models M-5S, M-5 and the M-16 Overhead Cutting Mechanisms are mounted to the "V" and "VM" turntables in a matter of moments.



Shown with
M-5 Mechanism

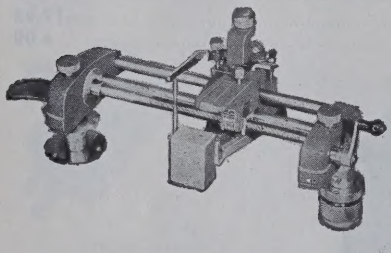
SPECIFICATIONS:

1. **MOTOR:** New Hysteresis synchronous type equipped with lamitex pulley for synchronous speed and maximum drive. Suspended in sheer shock mounts to prevent transmission of motor vibration to turntable or chassis.
2. **TURNTABLE:** Normalized aluminum alloy casting, lathe turned and balanced.
3. **CHASSIS:** Cast-iron ribbed L beam type with socket for instantaneous installation of M-5 or M-5S recording mechanisms.
4. **IDLERS:** Double-duty type made of Neoprene compound provides maximum traction. Will not glaze under operating conditions.
5. **OILING:** Shafts and bearings are self-oiling. Require infrequent periodic lubrication.
6. **SPEED CHANGE:** Mastermatic self-locking instantaneous speed shift.
7. **DIMENSIONS:** Length: 20"; Width: 20"; Height: 2½" above motor board; 5" below motor board; Weight: 28 lbs.

Model		Net Price
"V-Deluxe"	. . . . .	**$195.45**
"MV"	Equipped with induction motor and manual shift..........	**140.00**
"V103A"	45 RPM Idler........	**8.00**

MODEL M-5S MASTER-PRO 16" OVERHEAD RECORDING MECHANISM

A precise tool for professional work. Working surfaces and moving parts are hardened, ground and polished to a micro finish. The Master-Pro is a universal machine that can be readily attached to all 16" recording turntables as well as the Rek-O-Kut models "V" or "MV" recording tables.



SPECIFICATIONS:

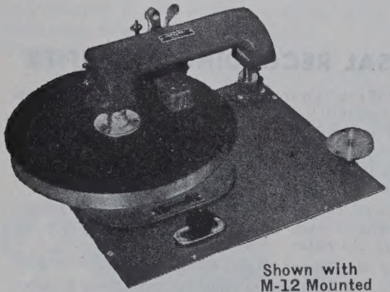
1. **TILT AND LEVEL ADJUSTMENT:** Enables the operator to level and square his unit to disc in a matter of moments.
2. **DUAL CLUTCH SPIRALING CONTROL:** A fool-proof device which eliminates the danger of spoiling a record while the crank-handle is in motion.
3. **MICROMETER DEPTH ADJUSTMENT:** For positive depth control of the cutting head.
4. **LEADSCREW:** Stainless steel with matched bronze feednut.
5. **ANGLE OF CUT:** Is controlled by a simple micrometer adjustment.
6. **GEARS:** Drive gears completely enclosed to prevent fouling by loose chips. Standard units are equipped with 8-ohm magnetic cutter and 120-line O.I. Leadscrews.

DIMENSIONS: Length: 16"; Width: 6½"; Height: 9"; Weight: 11 lbs.

Model		Net Price
M-5S	With Spiral............	**$215.00**
M-5	Less Spiral	**175.00**
	Micro-Groove Leadscrews	
MS-210	For M-5S	**47.50**
M-210	For M-5	**36.25**

MODEL TR-12, DUAL SPEED 12" RECORDING TURNTABLE

The first 12" dual speed recording turntable of professional quality offered to the recording field. Design and construction of the model TR-12 is similar to the Rek-O-Kut 16" professional recording tables. The model M-12 overhead recording mechanism is mounted to the chassis in a few moments.



Shown with
M-12 Mounted

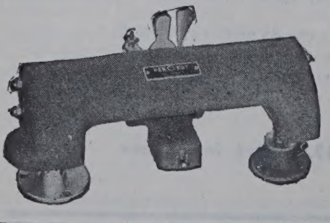
SPECIFICATIONS:

1. **TURNTABLE:** Aluminum, lathe turned and balanced.
2. **CHASSIS:** Cast aluminum. Drilled and tapped for instantaneous mounting of the M-12 recording mechanism.
3. **MOTOR:** High Powered, heavy duty, constant speed, fitted with a lamitex drive pulley. Suspended in sheer shock mounts to prevent transmission of motor vibration.
4. **SHAFTS:** Hardened, ground and polished to a micro-finish.
5. **DRIVE:** Internal rim drives through double-duty Neoprene drivers, insures free, smooth and quiet operation.
6. **SPEED CHANGE:** Instantaneous speed shift engages either the 78 or 33⅓ RPM idler.
7. **FINISH:** Beautiful blue grey wrinkle.
8. **DIMENSIONS:** L.: 14½"; W.: 16½"; Weight: 17 lbs.; Height: 1⅜" above motor board. 5" below motor board.

Model		Net Price
TR-12	With induction motor	**$ 89.50**
TR-12H	With hysteresis synchronous motor......	**119.50**
T103A	45 RPM Idler and Adapter	**6.00**

MODELS M-12 AND M-16 OVERHEAD RECORDING MECHANISMS

Model M-12 brings a truly professional machine within the reach of the recording enthusiasts and professionals who need a small machine capable of cutting up to 13¼" master discs. Model M-16—Same design and construction, is for use with 16" turntables.

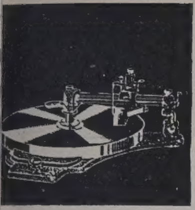


SPECIFICATIONS:

1. **SPIRAL GROOVE:** A run-in, run-out and locked groove made with a simple manual operation.
2. **LEADSCREW:** Stainless steel, lapped to a matched feednut which is in constant mesh.
3. **LIFT-O-MATIC:** Automatically lifts cutter from disc as it approaches end of leadscrew.
4. **MAGNETIC CUTTER:** Flat from 40 to 7,000 cycles.
5. **DIMENSIONS:** (a) M-12—L.: 11¼"; W.: 4¼"; H.: 6". (b) M-16—L.: 14"; W.: 4¼"; H.: 6".

Model		Net Price
M-12	. . . .	**$ 89.50**
M-16	. . . .	**119.50**
	Micro-Groove Leadscrews	
M-12-192	12"	**17.95**
M-16-192	16"	**22.95**

Standard units equipped with 8-ohm cutter and 108-Lpi O.I. leadscrews.



REK-O-KUT COMPANY INC.

AMERICA'S MOST POPULAR LINE OF RECORDERS AND TRANSCRIPTION EQUIPMENT

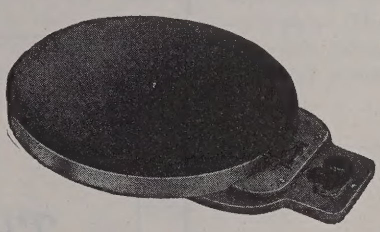
MODEL "G-2" DELUXE 16" TRANSCRIPTION TURNTABLES

The model "G-2 Deluxe" Transcription Turntable is acknowledged without reservation by the broadcasting industry to be the finest rim-driven turntable on the market. The rigid tolerances of speed variations for network programs are easily met by the "G-2 Deluxe."

OPERATING DATA:

1. **STARTING:** From standing start to 78 rpm ¾ of a turn. From standing start at 33⅓ rpm ¼ of a turn.
2. **NOISE LEVEL:** 50 db below maximum recording level.
3. **CUEING:** 15¾" turntable permits the record to overlap ⅛" which enables the operator to cue from the rim of the disc.
4. **SPEED REGULATION:** Speed variation less than ½ of 1% required under NAB standards. "Wow" content less than 1/10 of 1% permitted under NAB standards.
5. **CONSTRUCTION:** (A) Precision lathe-turned balanced turntable. (B) Hysteresis synchronous motor with Lamitex pulley for maximum drive. (C) Double-duty Neoprene idlers. (D) Cast-iron L beam no twist chassis. (E) Mastermatic self-locking instantaneous speed shift. (F) All shafts hardened, ground and polished to a micro finish.
6. **DIMENSIONS:** L.: 16"; W.: 20"; H.: 2½" above motor board; 5" below motor board. Weight: 26 lbs.

Model		Net Price
"G-2 Deluxe"	. . .	**$165.45**
"G-2" Standard	Equipped with constant speed induction motor and manual shift.	**125.00**
G103A	45 rpm idler and adapter	**8.00**



MODEL T-12 TWO-SPEED 12" TRANSCRIPTION TURNTABLE

The Rek-O-Kut model T-12 dual speed 12" transcription turntable brings **professional performance** to the home with the **"new micro-groove records."** Here is a turntable whose performance is equal to that of the larger 16" professional tables. In construction and design it is similar to the model "G."

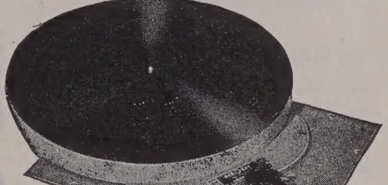
SPECIFICATIONS:

1. **NOISE LEVEL:** (A) T-12: 40 db below maximum recording level. (B) T-12H: 50 db below maximum recording level.
2. **CONSTRUCTION:** Identical with the TR-12. See description.
3. **MOTORS:** (A) T-12: 4-pole induction, built to Rek-O-Kut specifications. (B) T-12H: Hysteresis synchronous.

The motors, shock mounted, are fitted with Lamitex pulleys, which are **pressed on and ground concentric to the motor shaft,** an exclusive Rek-O-Kut feature which insures smooth rumble-free operation.

4. **CHASSIS:** Aluminum, cross ribbed, flush mount. Requires a rectangular cutout for mounting. Easily installed.
5. **FINISH:** Blue grey wrinkle.
6. **DIMENSIONS:** L.: 12"; W.: 15"; H.: 1⅜" above motor board; 5" below motor board. Weight: 13 lbs.

Model		Net Price
T-12	. . . . .	**$ 79.50**
T-12H	. . . . .	**109.50**
T103A	45 rpm idler and adapter	**6.00**



MODEL LP-743 THREE-SPEED 12" TURNTABLE WITH INSTANTANEOUS SPEED SELECTOR

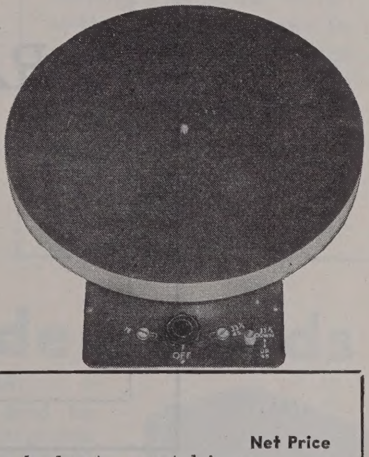
Now you can play 78-45-33⅓ records whenever you wish, without taking your turntable apart. The model 743, by the use of a simple, ingenious speed selector enables you to pre-select your speed by merely pressing a button, like this:

1. **78 rpm:** slide shift-lever to the left.
2. **45 rpm:** slide shift-lever to the right.
3. **33⅓ rpm:** press selector button down, slide shift-lever to right.

SPECIFICATIONS:

1. **NOISE LEVEL:** 30 db below maximum recording level.
2. **TURNTABLE:** Lathe-turned and balanced. Made of laboratory tested aluminum casting.
3. **MOTOR:** Constant speed, designed for smooth, quiet, vibration-free operation, fitted with a Lamitex motor pulley.
4. **SHAFT:** Turntable shaft hardened, ground and polished.
5. **SPEEDS:** Adjustable stops permit regulation of all three speeds.
6. **FINISH:** Brown hammertone to match mahogany or walnut.
7. **DIMENSIONS:** L.: 12"; W.: 15"; H.: 1⅜" above mtor panel; 5" below motor panel. Weight: 10 lbs.

Model	Speeds	Net Price
LP-743	78 - 45 - 33⅓	**$49.95**
LP-12	78 - 33⅓	**39.95**
LP-35	45 - 33⅓	**39.95**
LP-45	78 - 45	**39.95**



ACCESSORIES

LEADSCREWS

Specify "Inside Out" or "Outside In" by letters IO or OI after part number.

Lines Per In.	For Model M-5	Net Price	For Model M-5S	Net Price
105	M-105	$26.25	MS-105	$37.50
120	M-120	26.25	MS-120	37.50
135	M-135	26.25	MS-135	37.50
*210	M-210	36.25	MS-210*	47.50
	Model M-12		**Model M-16**	
108	M12-108	17.95	M16-108	22.95
120	M12-120	17.95	M16-120	22.95
144	M12-144	17.95	M16-144	22.95
*192	M12-192	17.95	M16-192*	27.95

*Micro-Groove.

No.		Net Price
VM-2	Recording level meter mounted in an unbreakable, cast aluminum case. Operates from the output of an 8, 15, 200 or a 500 ohm terminal..................	**$29.50**
P-11	Portable case for 16" recording table and cutting mechanism, constructed of heavy plywood reinforced with a steel band, built to withstand rough usage..	**$59.00**
C-7	Console cabinet, with record drawer for storing 100 transcriptions, beautifully finished in metallic grey. 4 adjustable screw jacks. Built-in electrical outlets. Motorboard cutout for instantaneous mounting of Models "V" and "G" Turntables. Ventilated compartment for self-contained amplifier..................	**$129.00**

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

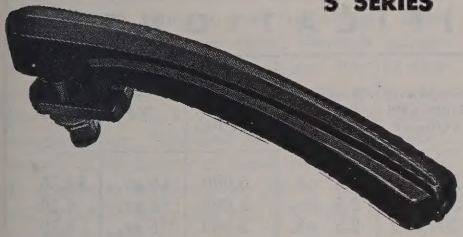
RADIO'S MASTER

WEBSTER ELECTRIC

Established 1909

Tone Arms

In keeping with the Webster Electric tradition for fine design, precise construction and dependable performance, these pickup arms are now being produced for modernization or repair of standard record-playing equipment. Each is a series of precisely-matched components built into an integral unit. All are designed to minimize tracking error, and are coupled to resonate at a very low frequency. Resonance distortion and microphonic feed back tendency have been reduced to the minimum. They will accommodate 10″ or 12″ records. Single-hole mounting. All models are supplied with arm rests and mounting base brackets.



S SERIES

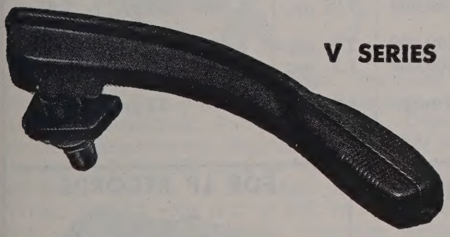
A new die-cast zinc alloy tone arm designed for use with F series cartridge, tracking at very low pressure. Modern design complements the appearance of any record-player. Supplied with cartridge model F2P (see reverse side for response characteristics).

Model SF2-3 List Price $8.50

T SERIES

A lightweight, low-inertia tone arm constructed of stamped aluminum, attractively fluted and internally braced. Designed for use with N series cartridges; currently supplied with N8P and N10P cartridges (see reverse side).

Model TN8-1	List Price $7.50
Model TN10-1	List Price $7.50



V SERIES

Combines beautiful styling with exceptional rigidity, incorporating a high lateral ridge as an integral feature of the design. Supplied with N7P and F7P high fidelity cartridges, and with Model M1 Magnetic Cartridge (see reverse side) complete with needle.

Model VN7-1	List Price $11.50
Model VF7	List Price $11.50
Model VM1	List Price $11.50

THE NEW

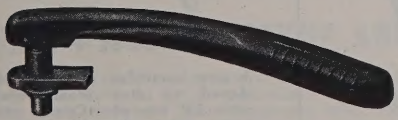
WEBSTER ELECTRIC

Featheride

RETRACTABLE

Tone arms shown at the left are now available with the new retractable cartridge, Webster Electric Company's latest development. If the arm is accidentally dropped or scraped across the record, there is no damage to record, crystal or needle Finest response in normal playing, exceptionally quiet, low tracking pressure. Supplied with Q1 and Q2 cartridges (see reverse side for detailed specifications) complete with osmium-tipped offset needle and guard.

Model VQ1	**List Price $12.50**
Model VQ2	**List Price $11.50**
Model TQ2	**List Price $ 9.75**



P SERIES FOR LP RECORDS

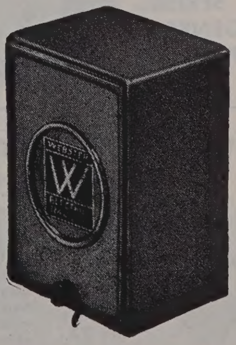
Designed specifically for LP microgroove use, this arm and cartridge assembly is exceptionally well suited for conversion use, as well as on new LP record players. Tracks at only 7 grams, providing .8 volts output at 1000 cps. Supplied with needle.

Model PF13 List Price $9.50

Recorder Heads

MODEL R-84

A magnetic cutting head for professional and semi-professional use. 8 ohms impedance at 400 cps. Frequency range 30-6000 cps. Less than 1½% distortion at 400 cps. Input power 1 watt nominal for maximum recording level. Standard 1⅛ inch spacing between mounting holes. LIST PRICE...$27.50



MODEL R-84G

Similar to above but with 500 ohms impedance at 400 cps. LIST PRICE..........$27.50

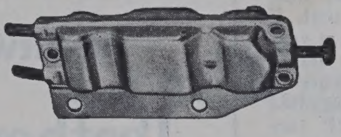
WEBSTER ELECTRIC

Established 1909

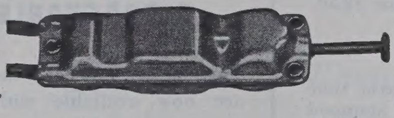
Crystal Cartridges

Webster Electric Crystal Cartridges are supplied in four general styles having universal replacement application. They are manufactured under exceptionally high standards of precision, and each cartridge is individually tested before release, assuring flawless performance and maximum customer satisfaction. The range of characteristics described below permits exact replacement of original cartridges found in the majority of record-players, record-changers and radio-phonograph combinations.

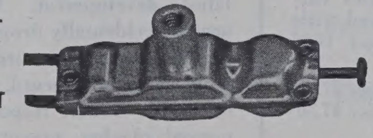
MODEL C2 FLANGE MOUNT



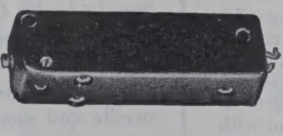
MODEL C3 CLAMP MOUNT



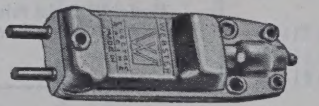
MODEL C4 STUD MOUNT



D SERIES SIDE-HOLE MOUNT



F SERIES LIGHT WEIGHT



N SERIES GENERAL PURPOSE

THE NEW RETRACTABLE CARTRIDGE

Model Q1 and Q2

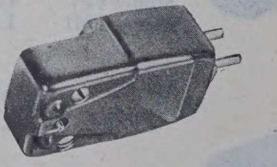
Protects record, needle and crystal from accidental injury due to rough handling of the tone arm. Supplied in 1 volt or 2 volt models to replace most standard cartridges. Exceptionally quiet playing. Simple to install. Supplied complete with osmium-tipped needle (replaceable) and guard.

SPECIFICATIONS

Model No.	Average Output at 1000 CPS (Volts)	Impedance 1000 CPS (Ohms)	Minimum Tracking Pressure	Approx. Cut-Off Frequency (CPS)	NET WT.	LIST PRICE
C 2	2.3	200,000	2.5 oz.	5,000	16 gr.	$4.50
C 3	2.3	200,000	2.5 oz.	5,000	16 gr.	4.50
C 4	2.3	200,000	2.5 oz.	5,000	16 gr.	4.50
D 2	2.3	80,000	2.5 oz.	5,000	25 gr.	5.40
D 3	.7	80,000	1.25 oz.	6,000	25 gr.	5.55
F 1P	1.0	200,000	1.0 oz.	5,000	8 gr.	5.00
F 2P	1.0	200,000	1.0 oz.	5,000	18 gr.	5.00
F 7P	1.0	200,000	1.0 oz.	8,000	18 gr.	7.50*
F 7P-2	1.2	200,000	1.0 oz.	5,000	18 gr.	6.50*
F 13M	.8	200,000	7 gr.	6,000	8 gr.	6.50*
F 14M	(33⅓) .8 (78) 1.2	200,000	7 gr. .75 oz.	6,000	10 gr.	8.50*
M 1	.1	7,300	1.0 oz.	5,000	26 gr.	7.50*
N 6P	1.0	200,000	1.0 oz.	5,500	25 gr.	5.25
N 7P	.5	200,000	.75 oz.	10,000	25 gr.	6.50
N 10P	3.0	200,000	1.25 oz.	5,000	25 gr.	5.25
Q 1	1.0	200,000	1.0 oz.	8,000	23 gr.	8.50*
Q 2	2.0	200,000	1.5 oz.	8,000	23 gr.	7.50*
YN 2	.7	2 meg.	1.0 oz.	5,000	25 gr.	10.75

* Includes Needle

MAGNETIC CARTRIDGE



MODEL M1

A new magnetic cartridge incorporating latest refinements for superior playing performance. Provides .1 volt output at 1000 cps. Complete with osmium-tipped, replaceable needle.

PRE-AMPLIFIER

Pre-amplifier for use with above, giving 1 volt output. Supplied without tube. (Uses 6SF5 tube.) List price on application.

FOR LP RECORDS

MODEL F 13M

A new cartridge especially designed to give ideal results with LP records. Comes complete with replaceable osmium-tipped needle, and guard.

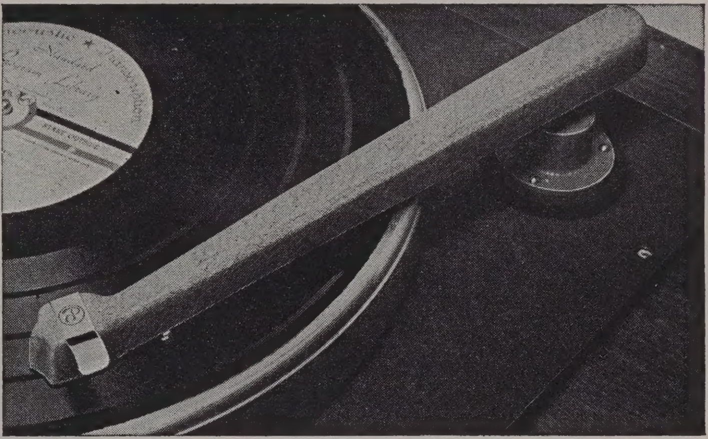
MODEL F 14M

A double-needle cartridge for playing both standard and LP records in tone arms adapted for its use, in conjunction with two-speed turntable. Complete with needles and guard assembly.

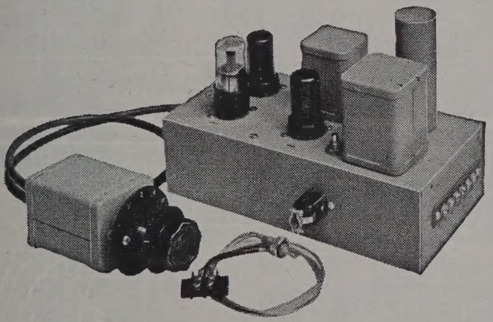
THE PICKERING PICKUP

THE QUALITY UNIT THAT EXCELS THEM ALL!

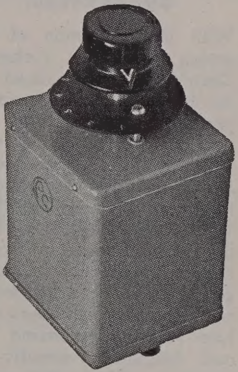
Model 161 with Diamond Stylus. A professional magnetic type reproducer for lateral-cut phonograph records and transcriptions. It has virtually no intermodulation nor harmonic distortion at any amplitude capable of being recorded. There is no frequency discrimination over the range from 30 to 15,000 cycles per second and is completely free from any vertical response. Tracking pressure is 18 grams. Diamond stylus has .0025 inch radius for use with all 88 to 136 lines-per-inch recordings. Withstands practically any shock through unique guard into which stylus recedes. Arm is supported on frictionless hardened steel alloy cone pivots for perfect tracking, even on badly warped discs. Diamond stylus life is approximately 5,000 hours, at least ten times the life of sapphire. Overall length of arm, 14¾"; height, 2¾". Supplied with arm rest. Shipping weight, 2 lbs.



MODEL 161 L—500/600 ohms output, —40 db. . . . . . List price $165.00
MODEL 161M—10,000 ohms output, .05 volt. . . . . . List price $165.00



Model 165L Equalizer-Amplifier Designed for use with Model 161M Pickup. Five-position equalizer switch compensates for American, European, N.A.B., Orthacoustic, etc., record characteristics. Supplied with output impedances of 30, 250 and 500/600 ohms at "0" db. Uses 6SJ7, 6SN7 and 6J5 tubes. Size 5 x 6 x 10 inches. Requires 250 volts D.C. at 15 ma. and 6.3 volts A.C. or D.C. at 1.2 Amperes. Supplied with tubes and input cable. Shipping weight, 9 lbs.
List price $200.00



Model 163A Equalizer A loss-type equalizing network for use with the Model 161M Pickup. It is designed to compensate for most of the commonly encountered record characteristics. Position 1 — flat high frequency response to over 15,000 cps. Low frequency rise to give full compensation from 500 to 40 cycles. Position 2 — flat high frequency response. Low frequency response approximately 5 db. below position 1. Position 3 — for NAB or Orthacoustic transcriptions. Position 4 — Low frequencies same as position 2. High frequencies sharply attenuated to reduce surface noise. Attenuation starts at 4000 cycles. Position 5 — low frequencies same as position 1. High frequencies same as position 4. 250/600 ohms output, —60 db. Size 3½ x 3¾ x 5 inches. Shipping weight 2 lbs. **List price $70.00**

EACH PICKERING PICKUP AND CARTRIDGE IS UNCONDITIONALLY GUARANTEED

Pickering reproducing equipment, with the exception of the stylus point, is fully covered by an unconditional guarantee provided that the units have not been tampered with, nor subjected to extraordinary abuse. Replacement styli can be installed in cartridge reproducers for the following net charges: .0027" sapphire — $2.50; sapphire stylus of special radius $5.00; diamond stylus $15.00. Replacement diamond styli for the Model 161 transcription pickup can be installed for $22.50 net. Unless otherwise specified diamond styli will be supplied with a radius of .0025". Other diamond stylus radii can be supplied at no additional charge.
All returns should be sent direct to factory at Oceanside, L. I., N. Y.

Equipment returned to the laboratory for service will be reshipped within 24 hours after receipt. All frequency ranges indicated above denote region of response flat within 2 db.
Voltage and db levels (6 mw/500 ohms) based on 10 cm/sec. stylus velocity.

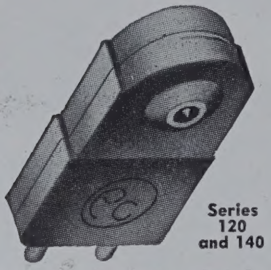
Pickering Reproducing Equipment is Sold by All Principal Distributors

Pickering & Company Inc.

Audio Laboratories, Oceanside, Long Island, New York

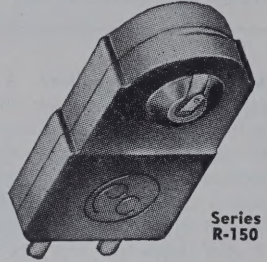
THE PICKERING CARTRIDGE

THERE IS A PICKERING CARTRIDGE REPRODUCER FOR EVERY RECORD PLAYING AND TRANSCRIPTION USE . . . PROFESSIONAL, LABORATORY AND HOME PHONOGRAPH

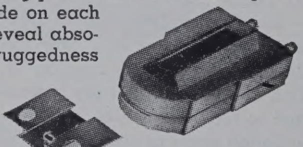

Series 120 and 140

Models D-120M, S-120M, D-140S and S-140S, with diamond or sapphire stylus, are without peer; they produce the finest quality reproduction of lateral recordings and may be used in professional as well as non-professional record players. Model R-150, available with either sapphire or diamond stylus, is specifically designed and manufactured to embody all of the features necessary to produce optimum quality record response with standard home record playing phonographs. The R-150 features a replaceable stylus. The R-150 is not for professional, laboratory or transcription use — but for home use only.

PICKERING CARTRIDGES ARE UNCONDITIONALLY GUARANTEED.


Series R-150

With the exception of the stylus point, all Pickering Cartridges are covered by an unconditional guarantee, provided the cartridge has not been opened nor subjected to extraordinary abuse. Every Pickering Cartridge, before leaving the factory, is carefully tested for FREQUENCY RESPONSE, WAVEFORM DISTORTION, OUTPUT LEVEL, TRACKING PRESSURE; in addition, optical inspection of the stylus polish and shape; mechanical inspection of moving parts and electrical inspection of the pickup coil are made on each unit. Reports from users reveal absolute stability, amazing ruggedness and complete insensitivity to the effects of temperature and humidity.



Model S-120M with .0027" Sapphire stylus . . . **List price $16.50**

Model D-120M with .0025" Diamond stylus . . . **List price $41.50**

Model D-140S with .001" Diamond stylus for long-playing MICROGROOVE recordings . **List price $60.00**

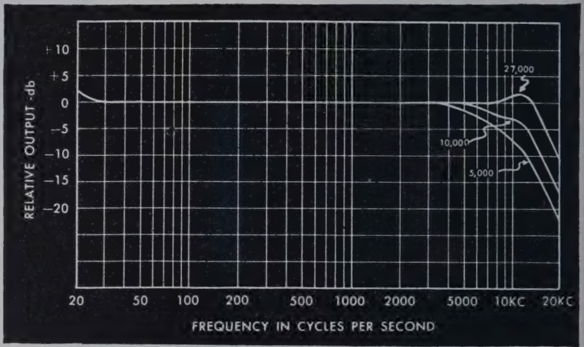
Model S-140S with .001" Sapphire stylus for long-playing MICROGROOVE recordings . **List price $25.00**

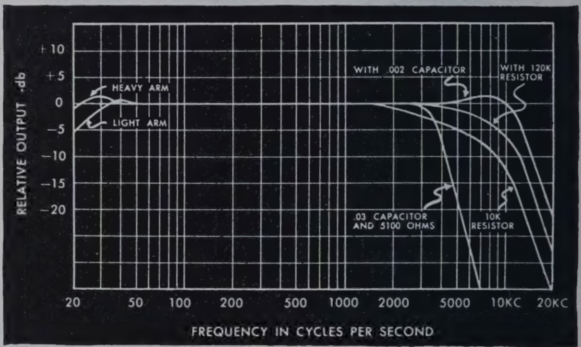
Model R-150 without stylus for home phonographs . . **List Price $16.50**

Styli for Model R-150 Cartridge Reproducer

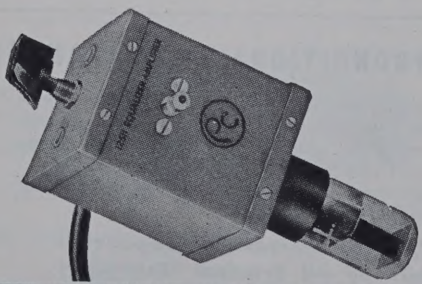
S-20 —	.002"	Sapphire	**List price $4.00**
S-25 —	.0025"	Sapphire	**List price $4.00**
S-30 —	.003"	Sapphire	**List price $4.00**
D-20 —	.002"	Diamond	**List price $25.00**
D-25 —	.0025"	Diamond	**List price $25.00**
D-30 —	.003"	Diamond	**List price $25.00**

No Other Pickup Can Quite Match the Performance of Pickering Cartridges The frequency response characteristics with various load impedance values are shown in the accompanying curves. Series 140 and 120 above and R-150 below.





All Pickering Cartridges will fit practically any arm that will accommodate a crystal pickup. Their ingenious "Keystone Clip" mounting permits adaptation to a wide variety of arm shapes and sizes; also permits adjustment of the stylus position for minimum tracking error.



Model 125-H Preamplifier. Expressly designed for use with the Series 120 and 140 Pickering Cartridge Reproducers. It compensates for the average recording characteristic, and raises the output voltage to a level at least as high as that obtainable from crystal pickups. It operates from the power supply of the amplifier or radio set with which it is used, saving the cost of a separate power supply. Normal high-frequency characteristic to play new records flat to 15,000 cps; filter cuts off above 4,000 cps at 20 db per octave. Furnished complete with 6SL7GT tube, power input cable and simple installation instructions. **List Price $32.50**

Pickering & Company Inc.

Audio Laboratories, Oceanside, Long Island, New York

REPRODUCERS

AUDAX

RECORDERS

The Standard by which Others are Judged and Valued

for

MICROGROOVE DISCS VERTICAL DISCS STANDARD DISCS

LM-61 . . . For Microgroove discs up to 12″.
Response linear 50 cyc. to over 8 k.c. Point Pressure about 6 grams. Genuine Sapphire Stylus, EASILY REPLACED BY USER. Output about —25 db. High or low impedance. Plug-in connectors. Arm is Tangent-Tracking, ball-thrust and pivot-point bearings. Bronze finish. Turntable center to rear end of arm 10″.
Listed at $49.75

R-61 . . . For standard discs. Specifications and price same as for LM-61.

LM-62 . . . For Microgroove discs up to 18″.
Performance identical with LM-61. French Grey and Chrome finish. Turntable center to rear end of arm $13\frac{9}{16}$″.
Listed at $64.75

R-62 . . . For standard discs. Specifications and price same as for LM-62.

LM-73 . . . For Microgroove discs up to 12″.
Response linear 50 cyc. to 10 k.c. Point Pressure about 6 grams. Genuine Sapphire Stylus, EASILY REPLACED BY USER. Output about —30 db. High or low impedance. Vibratory momentum very low. Quick plug-in connectors. Arm is Tangent-Tracking, ball-thrust and pivot-point bearings. Bronze and Chrome finish. Turntable center to rear end of arm 10″.
Listed at $66.50

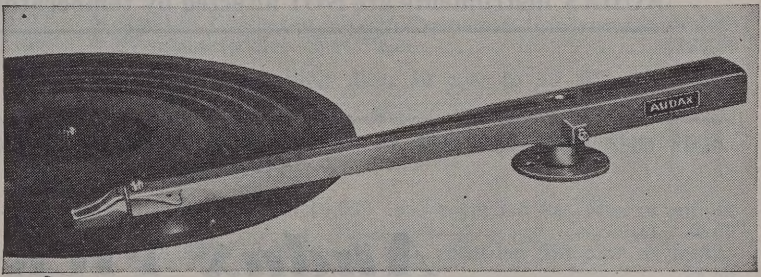
73-A . . . For standard discs. Specifications and price same as for LM-73.

LM-74 . . . For Microgroove discs up to 18″.
Performance identical with LM-73 above. French Grey and Chrome finish. Turntable center to rear end of arm $13\frac{9}{16}$″.
Listed at $83.00

74-A . . . For standard discs. Specifications and price same as for LM-74.

LM-79—STUDIO ARM, identical with Model 81 (at right). Linear 40 cyc to 10 k.c. Point-pressure about 6 grams. Genuine Sapphire *replaceable* stylus. Output about —30 db. High or low impedance. Listed at $115.00

SA-79—For standard discs. Specifications and price same as for LM-79.



STUDIO - 81
For LATERAL recordings up to 18″.

For use in Radio Stations, Studios and wherever superb-quality performance is paramount. Response Linear 20 cyc. to about 15 k.c. Point Pressure about 14 grams. Diamond Stylus. Output about —35 db. Impedance 200 ohms. Moving Mass Near Zero. Quick plug-in connectors. Arm is Special Studio Design, aluminum, Tangent-Tracking, ball-thrust and pivot-point bearings in gimbal mounting — eliminating side-thrust and drag. French Grey and Chrome finish. Turntable-center to rear end of arm 18½″.
Listed at $165.00 (less equalizer)

LM-81 . . . For Microgroove discs. Specifications and price same as for STUDIO-81.

STUDIO - 99
For VERTICAL recordings up to 18″.

For use in Radio Stations, Studios and wherever superb-quality performance is paramount. Response Linear 20 cyc. to about 15 k.c. Point Pressure about 25 grams. Diamond Stylus. Output about —40 db. Impedance 200 ohms. Moving Mass Near Zero. Quick plug-in connectors. Arm is Special Studio Design, aluminum, Tangent-Tracking, ball-thrust and pivot-point bearings in gimbal mounting — eliminating side-thrust and drag. French Grey and Chrome finish. Turntable-center to rear end of arm 18½″.
Listed at $195.00 (less equalizer)

AUDAX EQUALIZER — 200 ohms input affording NAB. Orthocoustic Vertical, 78 RPM — and Filter positions. **Listed at $83.00**

AUDAX REPLACEMENT STYLUS — Genuine Sapphire Jewel — Designed expressly for Fine Groove and Standard Discs. **Listed at $3.00**

Any of the above models may be had with Diamond Points when desired.

PICK-UP UNITS **AUDAX** **RECORDERS**

The Standard by which Others are Judged and Valued

NEW AUDAX
HIGH FIDELITY CUTTERS

AUDAX CUTTER H-5—Substantially FLAT to 10,000 cycles. Distortion about 1.2% at 1000 cycles. Fully modulates groove with input of about 18 db with 96 lines. Impedances up to 500 ohms.
Listed at...$185.00

AUDAX CUTTER H-4—Substantially FLAT to 8,000 cycles. Distortion about 1.7% at 1000 cycles. Fully modulates groove with input of about 16 db with 96 lines. Impedances up to 500 ohms.
Listed at...$125.00

AUDAX
PAT'S. PEND.
AUDAX COMPANY. NEW YORK, U.S.A.

AUDAX CUTTER H-3—Substantially FLAT to about 7500 cycles. Distortion about 2.1% at 1000 cycles. Fully modulates groove with input of about 18 db with 96 lines. Impedances up to 4000 ohms.
Listed at...$83.00

AUDAX CUTTERS are magnetically powered — their characteristics are not affected by temperature or atmospheric changes. **They are readily interchangeable on most recording machines.**

AUDAX instruments are NOT affected by temperatures or atmospheric changes.

Also available . . .

Audax PICKUPS

using conventional needles

There Is No Substitute for *EXPERIENCE*

When you are buying a motor car, washing machine or refrigerator, almost instinctively you know that of first consideration is the experience of the manufacturer behind the product. Has he the all-important KNOW-HOW that comes only with years of experience? In no other field of endeavor is this KNOW-HOW more important than in the field of ELECTRONIC Sound Apparatus, where AUDAX has set the pace for over twenty-five years.

CLARKSTAN

CORPORATION
11927 W. Pico Blvd.
Los Angeles 34, Cal.

Manufacturing Engineers

SWEEP FREQUENCY GENERATOR
Model 125

The Clarkstan Sweep Frequency Generator is an electronic device used to determine quickly the behavior of audio and other alternating electrical apparatus with respect to frequency and associated phenomena.

The complex signal is produced by scanning photo-electrically a synchronously rotating disc. The modulation on the disc is the photographic reduction of a precision pattern.

The accuracy of the original disc assures a positive signal which limits anomalous distortion, frequency and other discriminations which could be introduced by non-stable reactive components of more complex circuits.

The Model 125 Sweep Frequency Generator is recommended for use in production testing, development laboratories, schools and colleges, motion picture sound equipment, magnetic recorder development, radio stations and maintenance and service technicians.

SPECIFICATIONS — Model 125A S.F. Generator

OUTPUT — 7 volts, open circuit; 50 milliwatts or 5 volts into 500 ohms. IMPEDANCE — Internal impedance 200 ohms. POWER CONSUMPTION — 25 watts, 115 v., 50 & 60 cycles. CABINET MOUNTED — $15\frac{3}{16}$″ x 8″ x $8\frac{3}{16}$″ deep. WEIGHT — 18½ lbs. FINISH — Dark Maroon Burlene baked enamel. All tubes supplied, 2 - 7C7; 1 - 7C5; 1 - 5AZ4; 1 - 927. Will operate with any standard oscilloscope.

CLARKSTAN
SWEEP FREQUENCY GENERATOR

FREQUENCY RANGE — 40 cps. to 10 KC with 60 cycle AC. MARKER PULSES — at 1, 3, 5, 7, and 10 KC. SWEEP FREQUENCY governed by 20 synchronizing pulses per second. (With 50 cycle AC current, the range is 33 cps. to 8333 cps. with frequency markers at 833, 2500, 4170, 5840, and 8333 cps.)

Model 125 Clarkstan Sweep Frequency Generator complete with scanning disc. **Net Price**........................**$165.00**

Model 130.1 Scanning disc, 40 cps. to 10 KC, disc only. **Net Price**........................**$12.20**

AUDIO SWEEP FREQUENCY TRANSCRIPTIONS (20 SPS) RECORDS AND FILM
— By Wayne R. Johnson

No. 1000A—12″ Vinylite record, 78 RPM, 70 to 10,000 cps., recorded flat plus or minus 1 db. **Net Price**........................**$6.60**
No. 1000D—12″ Vinylite record, 78 RPM, 5 KC to 15 KC, recorded flat plus or minus 1 db. **Net Price**........................**$6.60**
No. 100A—16″ Vinylite record, 33⅓ RPM, 60 to 10,000 cps., recorded with NAB curve. **Net Price**........................**$10.00**
No. 102M—12″ Vinylite record, 33⅓ RPM, 60 to 10,000 cps, microgroove recording. **Net Price**........................**$6.60**
No. 115—35 mm film, variable density in 10 ft. strips. **Net Price**........................**$10.00**
No. 117—16 mm film, variable density in 10 ft. strips. **Net Price**........................**$10.00**

WIDE RANGE RV PICKUP

The Clarkstan RV Wide Range Pickup is a variable reluctance reproducer featuring a removable stylus, and offering Flat Response, Low Distortion, in addition to featherweight needle force.

SPECIFICATIONS: **TYPE**—Magnetic, variable reluctance with removable stylus. **ARMATURE**—Stylus is the armature; weight 31 mg. (.031 g.) **RESPONSE** — Exactly velocity responsive to 15,000 cps. **STYLUS** — Sapphire with standard .003″ radius ball point, 50° cone angle. Other sizes available. **NEEDLE FORCE** — 20 grams optimum for commercial pressings. **OUTPUT** — 60 millivolts at 1000 cps with lateral displacement of .001″. **IMPEDANCE** — Standard cartridge, high impedance. May also be had in impedances of 5, 50, 250 and 500 ohms. **RECOMMENDED TERMINATION** — High impedance.

ELECTRICAL CHARACTERISTICS — Inductance 350 millihenries at 1000 cps.; "Q" 1.05; DC Resistance 1450 ohms. **MOUNTING** — Standard mounting holes, ½″ between centers 3-48 screws. **WEIGHT** — 30 grams.

No. 211 RV Wide Range Pickup & Transcription Tone Arm complete with standard sapphire stylus. **Net Price**........................**$34.50**

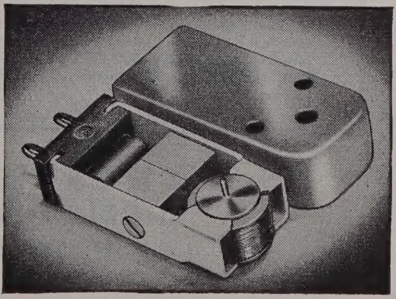
No. 212 Trionic Arm with "Slide-In" cartridge holder for 16″ Records. **Net Price $22.50**

No. 201 RV Wide Range cartridge only (with standard sapphire stylus). **Net Price**........**$15.00**

Extra sapphire stylii (tubular shank) for Clarkstan RV Pickup:

Sapphire No.	Ball Point Radius
251.10	.0010″
251.15	.0015″
251.2	.0022″
251.5	.0025″
251.3	.003″

Net Price..........**$2.40 each**



(All prices subject to change without notice.)

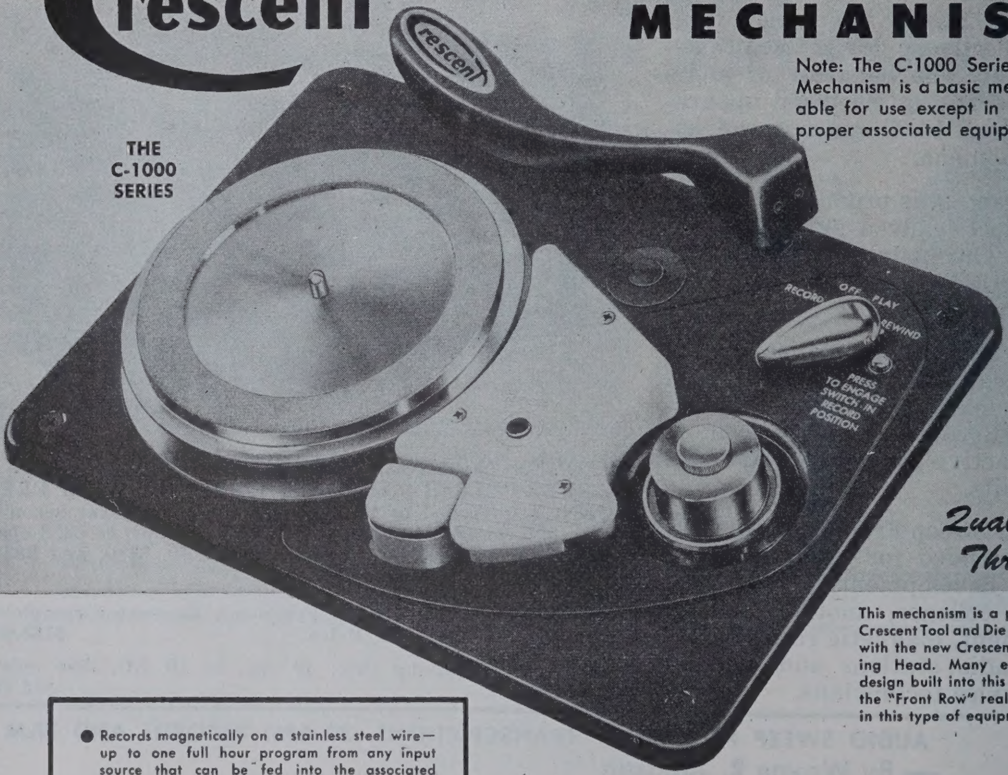
Designed for DOUBLE DUTY...

Crescent

COMBINATION WIRE RECORDER MECHANISM

Note: The C-1000 Series Wire Recorder Mechanism is a basic mechanism not suitable for use except in combination with proper associated equipment.

THE
C-1000
SERIES



Quality Built Throughout!

This mechanism is a product of the famous Crescent Tool and Die shops and is equipped with the new Crescent-engineered Recording Head. Many exclusive features of design built into this head give recordings the "Front Row" realism so much desired in this type of equipment.

- Records magnetically on a stainless steel wire—up to one full hour program from any input source that can be fed into the associated amplifier equipment.
- Plays back magnetically with a fidelity, dynamic range, and absence of background noise that accounts for the present heavy demand for Crescent Wire Recorder mechanisms.
- Plays or records on the wire from phonograph records much better than most single purpose record players... because the heavy duty recording motor and the heavy, accurately machined, die cast take-up drum are used as a phonoturntable. The new Crescent tone arm, originally designed for Crescent Automatic Record Changers, adds its share to listening and recording pleasure.
- Rewinds at fast speed . . . 5 times as fast as recording speed . . . so that it takes only a short time to reach any part of the wire to Record, Play, Erase, or Re-record.
- One single knob controls the mechanism . . . because a special control assembly combines the electrical and mechanical control functions. Wire recorder automatically shuts itself off, at end of wire, in all positions of operation . . . recording, playing, or rewind.

A New Combination Record Player and Magnetic Recorder-Reproducer

Combined with proper associated equipment, the new Crescent Wire Recorder Mechanism becomes one of the most interesting devices now available to amateurs, experimenters, sound men, service men, or anyone else interested in the field of electronic equipment. There are at least a dozen practical uses for a good wire recorder in every home and office in America.

The current public demand for wire recorders is directly traceable to the last war. War production helped materially to expand the plant, personnel, machinery and engineering facilities of Crescent Industries to a position of leadership in the design and manufacture of wire recording equipment. The Crescent Recording Head is a specific example of Crescent engineering and manufacturing skill.

This is not the whole story behind Crescent's dominant position in the field, however. It remained for the men who originally made famous the name Crescent Tool and Die Co., to turn Crescent engineering developments and specifications into reality. Their experience, skill and precision workmanship achieved a steady, day-by-day production of wire recorder mechanisms that perform so fine they enhance the value and prestige of any other equipment with which they are combined to make up a complete system.

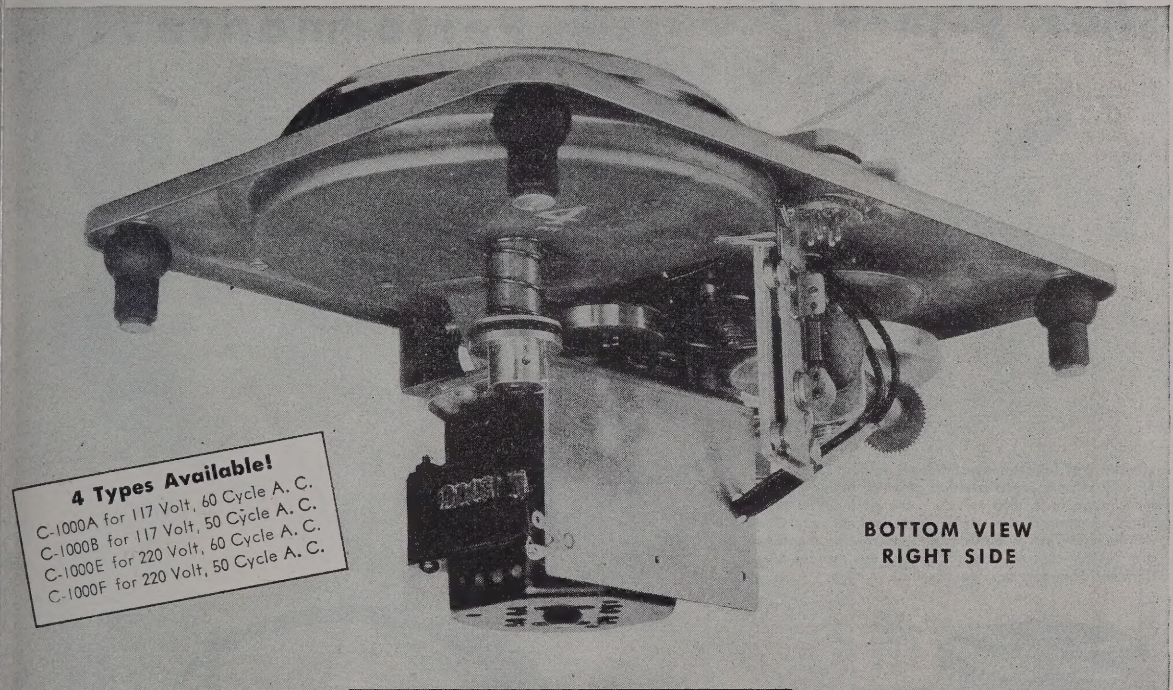
CRESCENT INDUSTRIES, INC.

4140 WEST BELMONT AVENUE • CHICAGO 41, ILLINOIS

EXPORT: SCHEEL INTERNATIONAL, INC., CHICAGO 18, ILLINOIS, U. S. A.

Printed in U. S. A.

Crescent C-1000 SERIES WIRE RECORDER MECHANISMS


4 Types Available!
C-1000A for 117 Volt, 60 Cycle A. C.
C-1000B for 117 Volt, 50 Cycle A. C.
C-1000E for 220 Volt, 60 Cycle A. C.
C-1000F for 220 Volt, 50 Cycle A. C.

BOTTOM VIEW
RIGHT SIDE

TECHNICAL DATA

ELECTRICAL

Power, Input . . . . See Types Listed Above

Motor . . . . Underwriters' Approved
Heavy duty, even speed recording motor

Motor Switch . . . . Underwriters' Approved

Erase Current Switch . . . . S. P. D. T.

Crescent Recording Head . . . . Type No. WR45-C

Voice Coil Impedance

At 10,000 Cycles . . . . Approx. 12,000 ohms
At 5,000 Cycles . . . . Approx. 7,600 ohms
At 1,000 Cycles . . . . Approx. 2,240 ohms
At 100 Cycles . . . . Approx. 500 ohms

Input to Voice Coil (Recording)
Peak recording level 0.6 volt rms at 1000 cycles.

Output from Voice Coil (Playback)
Recording at a level of 0.6 volt rms 1000 cycles, on standard recording wire will give approximately 2 millivolts output on playback.

Recording Wire
Uses .004 or .0036 stainless steel wire, spools, and leaders conforming to proposed R. M. A. standards.

Wire Speed

Recording and playback . . . . 2 feet per second
Rewind . . . . Average of 10 feet per second

Erase and Bias Coil . . . . Designed to operate at 30.000 cycles

Impedance at 30,000 cycles . . . . . . Approx. 6.4 ohms
Requires 700 milliamps at 4.5 volts . . . . . 30,000 cycles

Compensation . . . . Simplest form
Shunt a .001 mfd condenser across a 100.000 ohm resistor and connect this combination in series with the voice coil. An input of 15 volts rms at 1000 cycles to the circuit mentioned above will give 0.6 volts rms across the voice coil. Total audio power required is less than 2¼ milliwatts.

If additional compensation is desired, it should be included in the amplifier circuit, as any substantial reduction of the value of the series resistance will materially reduce the signal to noise ratio.

Phono-Record Player

Take Up Drum
Also serves as a *turntable* for records. The turntable is rim driven from the powerful recording motor and operates at 78 RPM. Accommodates either 10 or 12 inch records.

Phono Pick Up
Lightweight, scientifically designed arm equipped with L70 or P928 crystal cartridge accommodates all standard types of modern needles.

PHYSICAL

Dimensions . . . . Mounting Plate 9″ x 13″
Requires inside cabinet space of 12½″ x 15¾″ to play 12″ record with lid closed.

Requires 3″ above cabinet mounting board and 5″ below surface of cabinet mounting board.

Mounting . . . . Floating
Mechanism "floats" on four live rubber "Barry" mounts. Mounting centers 7½″ x 11½″.

Finish
Mounting plate finished in beautiful mahogany Hammerloid with cream colored plastic shield and chrome trim.

Weight

Actual weight of wire recorder mechanism . . . . 14 lbs.
Shipping weight . . . . 16 lbs.

Operating and Hookup, Service, and Application Data Packed With Each Unit.

CRESCENT INDUSTRIES, INC.

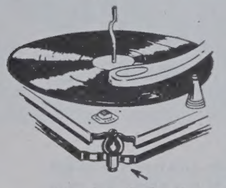
4140 WEST BELMONT AVENUE, CHICAGO 41, ILLINOIS, U.S.A.

MANUFACTURERS OF
RECORD CHANGERS • WIRE RECORDERS • LOUD SPEAKERS • TOYS • METAL STAMPINGS • TOOLS & DIES

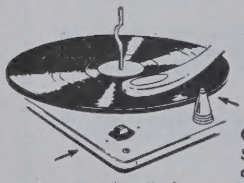
For S-m-o-o-t-h TROUBLE-FREE Performance . . .

crescent
350 SERIES

Simplicity of Adjustment—Sit-down position for 10 and 12 inch records...and position at which tone arm trips the change cycle mechanism . . . are all indexed to a single, stamped control plate which does not vary. One simple screw driver adjustment synchronizes the tone arm to this control plate . . . one of the reasons why Crescent Changers are Trouble-Free.



FREE-FLOATING—
It Floats . . . on 4 live rubber "Barry Mounts" that reduce transfer of vibration and motor rumble to a minimum!
Easy to Mount . . . Drill 4-19/32" holes, then push the "Barry Mounts" into the holes (just try to get them out without tools).
No Shipping Bracket Required . . . After changer has been installed in its cabinet, "Barry Mounts" help protect it during transportation.



CONTROLS—
Single Knob...controls ON-OFF and AUTOMATIC or MANUAL operation. Knob moves in four directions and is clearly marked.
Reject Button . . . is conveniently located on top of the tone arm support. Operated by pushing down on the tone arm when the tone arm rests on the support, or by pushing the button itself when record is being played.

CHILD-PROOF — JAM-PROOF
Tone arm may be moved to any position at any time without jamming machine and without any danger of changing adjustments.

Crescent

AUTOMATIC RECORD CHANGERS

You'll like this practical, precision built, high quality record changer. *It's Trouble-Free!* Ideal both as original or replacement equipment. Simplicity of design and durability of construction assure a minimum of trouble after installation . . . cut profit losses due to extra servicing.

Changer is of the single post type to avoid chipping or cracking of records. Center post is scientifically shaped to guide the records down, on an air cushion, to the thick, velvet-like coating on the turntable which runs on a shock absorbing cork washer.

Tone arm design is such that it trips and functions perfectly with no more needle pressure than that required by any of the modern, high grade crystal cartridges. This means reduced needle scratch, reduced "needle talk", and longer record life.

Plays, automatically, 12 ten inch or 10 twelve inch records. (Not intermixed). Plays, manually, home recordings and single records. Less than 5 second change cycle for greater continuity of music.

Powerful even speed motor, special turntable bearing design, smooth rim drive and many other Crescent-engineered features combine to reduce noise, wobble and wow in this changer, and to lengthen its life.

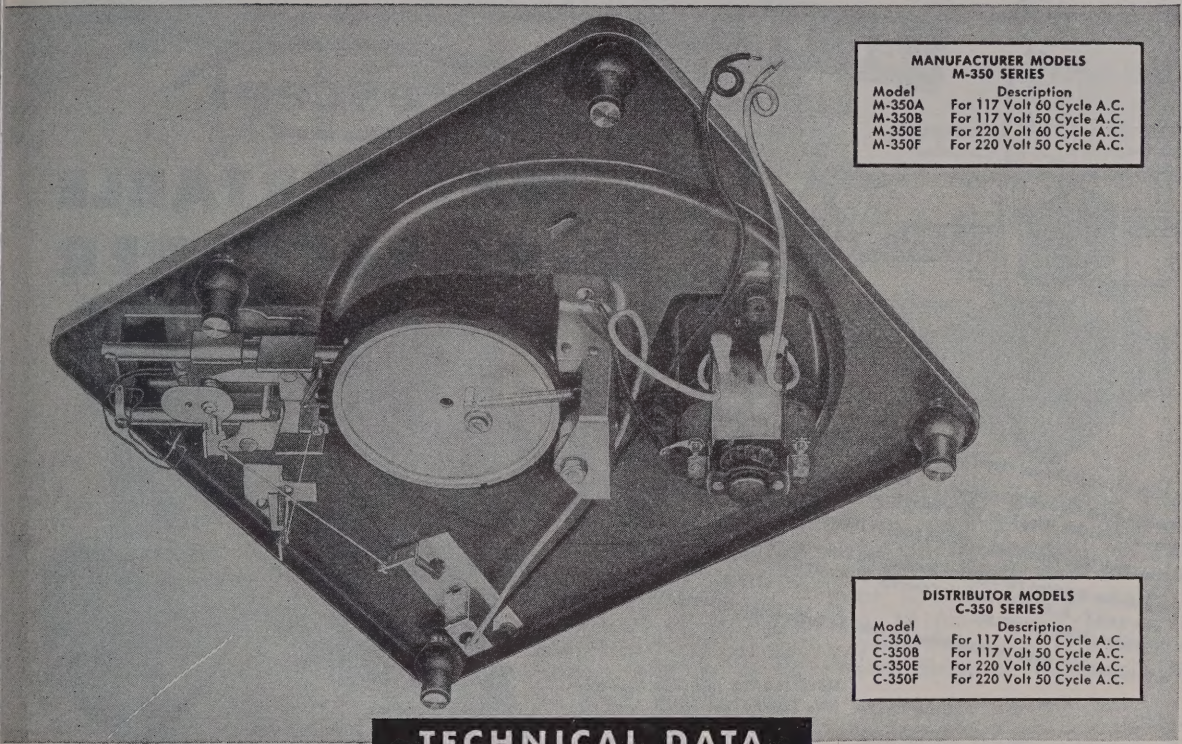
Beautiful mahogany Hammerloid finish with deep maroon turntable, tone arm, record shelf support casting, and plastic trim, gives just the right color contrast for plenty of eye appeal.

CRESCENT INDUSTRIES, INC.

4140 WEST BELMONT AVENUE • CHICAGO 41, ILLINOIS
EXPORT: SCHEEL INTERNATIONAL, INC., CHICAGO 18, ILLINOIS, U. S. A.

PRINTED IN U.S.A.

Crescent 350 Series Automatic Record Changers



MANUFACTURER MODELS
M-350 SERIES

Model	Description
M-350A	For 117 Volt 60 Cycle A.C.
M-350B	For 117 Volt 50 Cycle A.C.
M-350E	For 220 Volt 60 Cycle A.C.
M-350F	For 220 Volt 50 Cycle A.C.

DISTRIBUTOR MODELS
C-350 SERIES

Model	Description
C-350A	For 117 Volt 60 Cycle A.C.
C-350B	For 117 Volt 50 Cycle A.C.
C-350E	For 220 Volt 60 Cycle A.C.
C-350F	For 220 Volt 50 Cycle A.C.

TECHNICAL DATA

ELECTRICAL

Power Input	See Models Listed Above
Motor	Underwriters' Approved
Type	Shaded Pole Induction Noiseless, constant speed, rubber mounted.
Insulated	To Withstand 1000 Volts
Pick-up	
Frequency Range	Standard
Output Volts, Rated	1.0-1.6 Volts
Pick-up, Crystal	Astatic L 70 or Shure Bros. P 92 B
Switch	Underwriters' Approved Mounted on Automatic-Manual Control. Lever makes only one control knob necessary.

MECHANICAL

Spindle	Nickel Plated Steel Especially designed to permit wider record shelf which prevents more than one record dropping at same time. Records drop flat to turntable where air cushion effect reduces chance of chipping and cracking.
Turntable	
Size	9"
Speed	78 R. P. M.
Drive	Rim Direct, cushioned, rim drive eliminates wow.
Bearings	Ball Thrust Stress-proof steel. Shock mounted on cork supports.
Eccentricity	.010 Max.
Tone Arm	
Weight	According To Cartridge Used
Mounting	Smooth, Free-Floating
Needle Accommodation	All Standard Types
Trip	No Extra Force Beyond Tone Arm Torque required to actuate automatic trip.

Automatic Push-Off Mechanism

Operates with stack of ten 12-inch or twelve 10-inch records (not mixed), dropping one record at a time. Automatically tripped at end of each record.

Lubrication . . . None required. Lubricated for life at the factory.

PHYSICAL

Changer Base Plate	11½" x 13⅛"
Mounting	Floats On 4 "Barry Mounts" No shipping brackets required.
Mounting Hole Centers	Back Side 8½"—Left side 10"—Front Side 11⅝"
Mounting Hole Diameters	.593 or 19/32"
Clearance Required	
Above Cabinet Mounting Board	5⅞" Includes stack of records and "Barry" mounts.
Below Cabinet Mounting Board	2"
Minimum Inside Cabinet Measurements	12½" x 14⅛"
Finish	
Motor Board	Mahogany Hammerloid Baked Enamel
Tone Arm	Deep Maroon Baked Enamel
Tone Arm Support	Deep Maroon Plastic
Turntable	Deep Maroon Flock
Record Shelf Support Casting	Deep Maroon Plastic
Control Knob	Deep Maroon Plastic
Weight	
Record Changer Only	
Model 350	Approx. 8½ lbs.
Packed for Shipping	
Model 350	Approx. 11 lbs.

Operating Instructions and Service Manual Packed With Each Distributor Unit

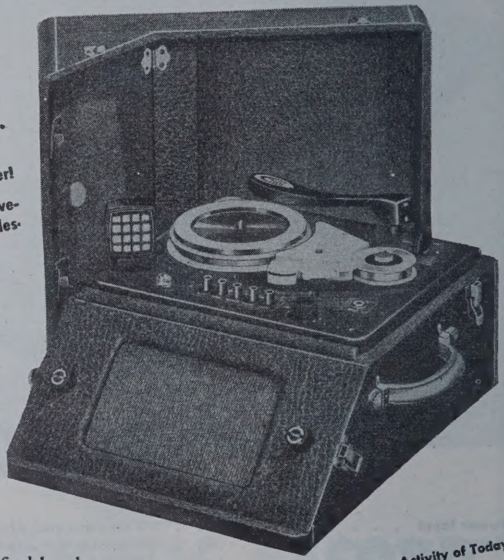
CRESCENT INDUSTRIES, INC.
4140 WEST BELMONT AVENUE, CHICAGO 41, ILLINOIS, U.S.A.
MANUFACTURERS OF
RECORD CHANGERS • WIRE RECORDERS • LOUD SPEAKERS • TOYS • METAL STAMPINGS • TOOLS AND DIES

Be Up-To-Date with a . . .

Crescent

3-WAY PORTABLE WIRE RECORDER

- A Wire Recorder, Record Player and Public Address System In One Fine Instrument!
- Records From Its Own Microphone . . . Copies Phono Records From Its Own Record Player . . . Records Speeches, Etc., Even While Being Used As a Public Address System!
- Plays Back Wire Recordings or Phono Records Through a Built-In Playback Amplifier and Speaker!
- Connection Provided For External Speaker. An Extension Speaker Increases Recorder's Effectiveness As a P. A. System. Permits Coverage Of Larger Groups and Adds To Usefulness For Sales-meetings, Small Dances, Etc.
- Provision Also Made For Connecting Recorder To Radio or Larger Sound Systems!



Model H-2A1C *In Brown Boar Rawhide Fabric-Covered Carrying Case*

Comes Complete With . . . Microphone • One-Quarter Hour Spool of Wire • Permanent Needle Pick-Up Cartridge • Three 6-ft. Shielded Connector Cables • One 6-ft. Detachable Power Cord

Pleasure trips are more enjoyable . . . and many business trips more profitable when a Crescent 3-way Wire Recorder is included in the list of "things to take with."

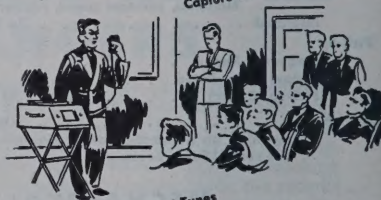
IT'S A COMPLETE WIRE RECORDER . . . Makes and plays back recordings on wire of commercial programs, broadcast programs, phono records, business conferences, or anything you wish to reproduce at a later date.

IT'S A PUBLIC ADDRESS SYSTEM . . . Can be used "as is" for salesmeetings, small gatherings, speech training, schoolwork, entertainment, etc.

IT'S A PORTABLE RECORD PLAYER . . . Has high quality turntable and pick-up equipment suitable for commercial or home use. And you don't have to carry an extra case to have this available!

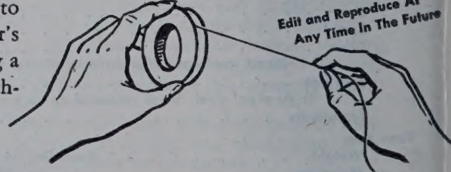
You'll like the Crescent H-2A1C. Records program material continuously up to one hour. Wire can be used over and over again or kept forever. It's an engineer's dream come to life . . . A matched mechanical and electrical system comprising a 6-tube plus rectifier electronic unit, a 6″ Alnico V speaker, and with five push-button controls. To hear it is to buy it!

Capture The Activity of Today



Add The Spice Of The Latest Tunes

Edit and Reproduce At Any Time In The Future



CRESCENT INDUSTRIES, INC.

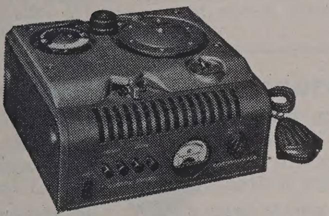
4140 WEST BELMONT AVENUE, CHICAGO 41, ILLINOIS, U. S. A.
EXPORT: SCHEEL INTERNATIONAL, INC., CHICAGO 18, ILLINOIS, U. S. A.

Form-No. WDSL-4 Printed in U.S.A. 1-10-49

WEBSTER-CHICAGO

FAMOUS FOR QUALITY RECORD CHANGERS, ELECTRONIC MEMORY WIRE RECORDERS

Wire Recorder Model 178



Can be used with any radio. Push-button controls. Meter type recording level indicator. Contains built-in pre-amplifier, inter-stage amplifier, oscillator, power supply. Comes with microphone, spool of wire. Size: 11″ x 11⅜″ x 5⅝″. Shipping weight: 22 lbs.

List Price..........$107.50
West of the Rockies..........$109.75

Model 357-1

This deluxe three-speed changer features the famous basic changer Model 356 enclosed in a base for semi-portable use. The Model 357-1 incorporates all the finest features of changer design. Plays through radio or amplifier. Velocity-Trip mechanism, Tandem-Tip Needle. Shipping weight: 16 lbs.

List Price..........$58.25
West of the Rockies..........$60.00

Model 357-27

Same as above but equipped with interchangeable tone-arm plug-in heads for G. E. Variable Reluctance Pick-ups. (Pick-ups not furnished.)

List Price..........$49.50
West of the Rockies..........$51.00

Model 364

Portable three-speed automatic record changer in luggage-type all wood carrying case covered in burgundy leatherette—Plays one-inch stack of 7-, 10- or 12-inch records at 33⅓, 45 or 78 rpm, with cover closed. Ready to play by attaching to amplifier or radio-phone input or to wire recorder. Shpg. weight: 24 lbs.

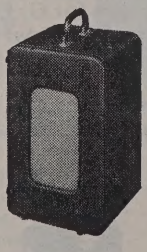
List Price..........$63.25
West of the Rockies..........$65.25

Model 164

Portable single-speed for playing standard records—Similar in appearance to Model 364 above. Connects to radio, amplifier, or wire recorder. Shipping weight: 24 lbs.

List Price..........$53.50
West of the Rockies..........$55.50

Model 66



Portable amplifier to use with record changer or wire recorder. Attractive burgundy leatherette over wood. 8-watt push-pull amplifier with 8-inch Alnico speaker. Shpg. weight: 22 lbs.

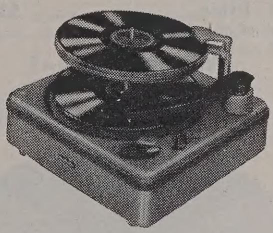
List Price..........$58.50
West of the Rockies..........$59.95

Model 355

The Model 355 is the Model 346 completely enclosed in a base for semi-portable use. Plays a full one-inch stack of 7-, 10- or 12-inch records—33⅓, 45 or 78 rpm through radio or amplifier. Velocity-Trip mechanism. Shipping weight: 18 lbs.

List Price..........$51.00
West of the Rockies..........$52.50

Model 155



The Model 155 (similar in appearance to above Model 355) plays a full one-inch stack of standard 78 rpm records. Shipping weight: 18 lbs.

List Price..........$38.00
West of the Rockies..........$40.00

Model 755

Plays up to eight 7-inch records automatically 33⅓ or 45 rpm. Quick 3-second change cycle. Balanced tone arm. Velocity-Trip. Plays through radio or amplifier. Shpg. weight: 9 lbs.

List Price..........$29.75
West of the Rockies..........$30.50

WEBSTER-CHICAGO
RECORD CHANGER CHASSIS

FOR ORIGINAL OR CUSTOM INSTALLATION

Model 346

A high quality changer in the medium price range. Plays a full one-inch stack of 7-, 10- or 12-inch records—33⅓, 45 or 78 rpm. Velocity-Trip mechanism, Tandem-Tip Needle. Dimensions: 12″ x 12¾″ x 7¾″. Shipping weight: 14 lbs.

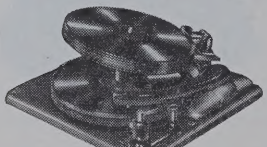
List Price..........$46.50
West of the Rockies..........$47.75

Model 146

Plays a full one-inch stack of standard 78 rpm records only. Similar in appearance, dimensions and shipping weight to above (Model 346).

List Price..........$34.75
West of the Rockies..........$36.00

Model 156-1



The Model 156-1 is the single-speed version of the Model 356-1 (illustrated above). Plays a full one-inch stack of standard 78 rpm. records. Dimensions: 14″x14″x9″. Shipping weight: 18 lbs.

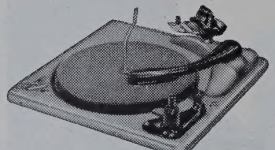
List Price..........$38.50
West of the Rockies..........$39.75

Model 156-27

Same as above but equipped with G. E. Variable Reluctance Pick-up.

List Price..........$41.50
West of the Rockies..........$43.00

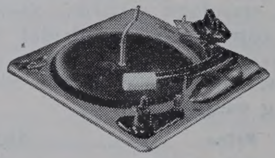
Model 356-1



This automatic three-speed changer plays a full one-inch stack of 7-, 10- or 12-inch records—33⅓, 45 or 78 rpm. Velocity-Trip mechanism. Tandem-Tip Needle. Tone arm comes to rest after last record has been played, repeats last seven-inch record until attended. Dimensions: 14¼″ x 14″ x 8¾″. Shipping weight: 18 lbs.

List Price..........$51.75
West of the Rockies..........$53.25

Model 356-27



Same as above but equipped with interchangeable tone-arm plug-in heads for G. E. Variable Reluctance Pick-ups. (Pick-ups not supplied.)

List Price..........$43.00
West of the Rockies..........$44.50

Model 70-1

A deluxe unit for intermixed 10- or 12-inch standard 78 rpm records. Plays a full 1⅛-inch stack either size or intermixed. Stops automatically after last record has been played. Dimensions: 14″ x 14″ x 8½″. Shipping weight: 18 lbs.

List Price..........$58.50
West of the Rockies..........$60.00

Model 70-27

Same as above but equipped with G. E. Variable Reluctance Pick-up.

List Price..........$61.50
West of the Rockies..........$63.25

Model 77

The little "giant" in the new seven-inch field. Plays up to eight records—33⅓ or 45 rpm. Quick 3-second change cycle. Balanced tone arm. Velocity-Trip mechanism. Dimensions: 7⅛″ x 10⅛″ x 6¾″. Shipping weight: 7 lbs.

List Price..........$27.50
West of the Rockies..........$28.00

WEBSTER-CHICAGO

GARRARD GARRARD

IMPORTANT NOTICE

AVAILABLE EARLY IN 1949—THE NEWEST IN A LONG LINE OF TOP QUALITY GARRARD INSTRUMENTS! A completely automatic record changer, designed to play every type of record on one turntable! It will accommodate 7", 10" and 12" records at 33⅓ rpm, 45 rpm and 78 rpm, regardless of size of center hole and regardless of grooves.

Tonearm will be available with every type of quality pickup including Magnetic, Crystal and Variable Reluctance. The new GARRARD, a masterpiece of modern industrial design will be moderately priced.

GARRARD RC65 Record Changer

Radically improved in design and in mechanical operating features. Incorporates all the scientific and technical knowledge acquired through many years of critical testing, experimentation and manufacture.

Through the years, discriminating music lovers have learned to depend on this superior mechanism as the World's Finest in record playing equipment. They know that they can rely on a GARRARD to give them consistently quiet, efficient performance. The GARRARD RC65 is built to rigid standards and is fastidiously machined and assembled to assure trouble-free performance.

GARRARD's speed regulated, governor-controlled motor, using a steel governor disc, is fashioned to give powerful and regulated running at all times. The motor runs silently at maximum record loads without vibration, rumble or speed variations. The speed regulator feature permits adjustment of motor speed to 78 rpm or to retard or accelerate the tempo of any any record to suit individual tastes or to adjust for varying line voltages. The motor has a positive automatic stop which shuts the motor off after the last record is played. The on-off switch is located on the mounting plate in such a position as to prevent interference with the free movement of the tonearm.

The RC65 is a "mixer" Changer. It accommodates both 10" and 12" records intermixed in any assortment and in any combination. There are no buttons or switches to throw. It is entirely automatic.

GARRARD's exclusive true-tangent tone arm is jewel-mounted and equipped with ball-bearings. It is constructed to give perfect parallel lift, to set down on records gently, to track silently and to give genuine "floating" response.

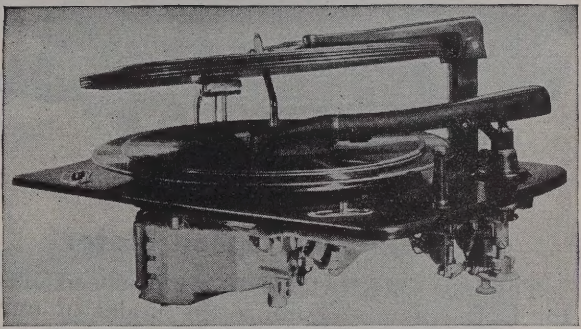
GARRARD Type V Phono Assembly

The newest unit of a long line of high quality phono assemblies for playing single records.

Here again, GARRARD has spared no effort or expense to produce the finest possible player for those who demand the best in record reproduction.

The entire assembly is typically GARRARD in that it features the finest type of phono motor—speed-regulated and governor-controlled. This exclusive feature makes it possible to adjust to perfect speed (78 rpm) or to accelerate or retard the tempo to suit the listener.

The Type V Assembly features an entirely new, unique mounting arrangement which represents the first genuine forward step in mounting design. This "bow" mounting is so efficient that even a blow struck on the motor board will not cause the tone arm to skip or repeat a groove. This is another exclusive feature and another GARRARD **"first."**



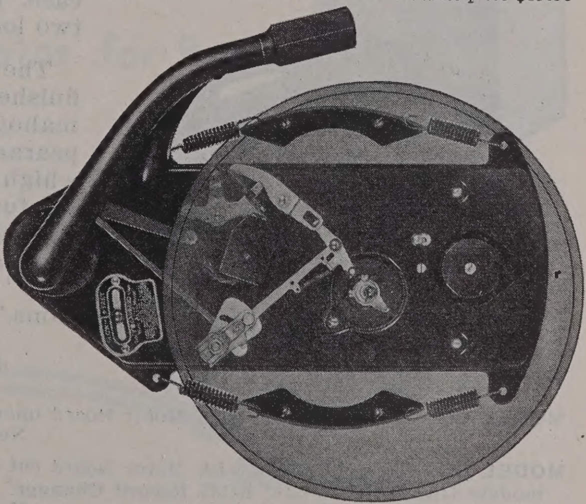
Available with your choice of quality pickups: (a) high fidelity Crystal pickup with permanent stylus, (b) Crystal pickup for use with replaceable needles, (c) GARRARD Magnetic Pickup, (d) G.E. Variable Reluctance Pickup.

GARRARD offers the unique advantage of having a replaceable pickup head which can accommodate **any** of the popular cartridges available. It is also initially offered to you with **your choice** of either a low-pressure Crystal with permanent needle **OR** Crystal for use with replaceable needles **OR** with the GARRARD Standard Magnetic Pickup **OR** with the GE Variable Reluctance Pickup. There is no change in price in any case. Simply specify which is preferred when ordering.

Minimum cabinet dimensions are 15" wide x 13" deep x 5½" clearance above the unit plate and 4½" clearance below the unit plate.

Model 65/D — AC. Model, Dual Voltage Motor for 110/130 and 200/250 volts, 50/60 cycles; furnished with your choice of pickup as described above..Net price **$69.50**

Model 65/U — Universal AC-DC Model; 25/60 cycles; 110/130 and 200/250 volts; furnished with your choice of pickup as described above ....Net price **$89.50**



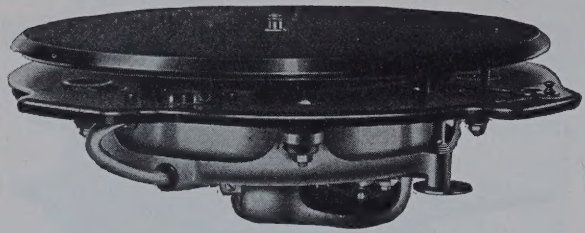
Minimum cabinet dimensions are 15" wide x 13" deep x 4" clearance below the motorboard and 3½" clearance above.

Type V/D — AC Model, for 110/130 and 200/250 volts, 50/60 cycles; furnished with your choice of pickup as described at left. Net Price **$33.50**

Type V/U — Universal AC-DC Model; 25/60 cycles; 110/130 and 200/250 volts; furnished with your choice of pickup as described at left...Net price **$45.00**

NOTE: ALL OF THE ABOVE PRICES INCLUDE FEDERAL EXCISE TAX.

GARRARD GARRARD



GARRARD Two-Speed Motor

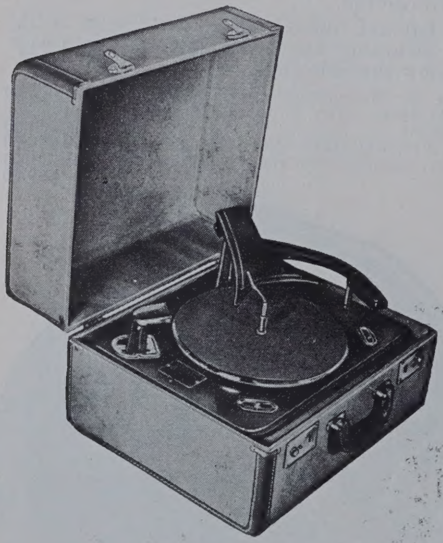
The new GARRARD 201-V two-speed motor is the new and improved model of our internationally famous 201T. It is now offered in its latest trouble-free form exactly as produced for the U. S. Navy and British Admiralty during the War.

The governor-controlled motor operates at either 33-1/3 or 78 rpm with absolute constancy and without waver or rumble. It is ideally suited for use where truly superior reproduction is desired.

Because of its extra-heavy rotor, which is slow-running, the resulting torque makes this motor amazingly smooth and silent. In sheer performance, it is the finest we have to offer. It is a self-starting induction type unit and is fitted with the patented GARRARD governor to insure perfect regularity.

The 201-V is equipped with Speed Regulator by means of which a wide range of speeds is possible—as well as perfect adjustment at 33-1/3 or 78 rpm. This regulator is on an extension arm so that 16″ records can be speed-controlled.

MODEL 201-V—Two speeds, 33⅓ and 78 rpm; dual voltage, AC-110/130 and 200/250 volts, 40/60 cycles. Net Price **$65.00**



GARRARD Carrying Cases and **GARRARD Table Model Cabinets** are made especially for us, to our standards.

The Carrying Case is of solid wood throughout and is covered with finest procurable parchment type material. Sewn leather edges run **completely around** the case. The Hardware used is the very finest and it has two locking snaps, with keys.

The Table Model Cabinet is a hand-finished case finished in striking mahogany. Its appearance is that of a high quality piece of furniture, and it makes possible the easy creation of "Combinations."

PRICES

MODEL CC1—Carrying Case with Motor Board uncut. Net Price **$19.50**

MODEL CC6—Carrying Case with Motor Board cut out to accommodate GARRARD Model RC65 Record Changer. Net Price **$19.50**

MODEL TM1—Table Model Cabinet with Motor Board uncut. Net Price **$25.00**

MODEL TM6—Table Model Cabinet with Motor Board cut out to accommodate Model RC65 Record changer. Net Price **$25.00**

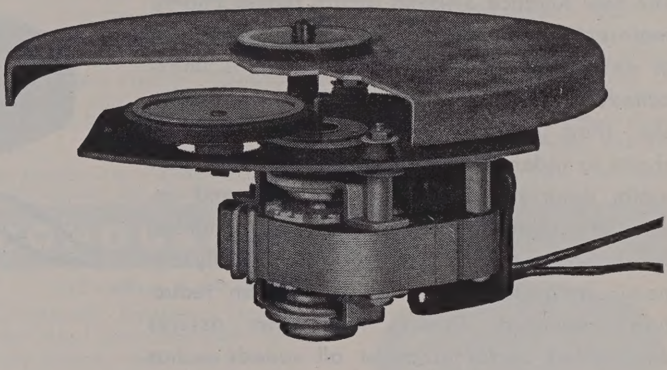
GARRARD SALES CORPORATION

alliance PHONOMOTORS

New 45 r.p.m. Phonomotor for Record Players

The new 45 r.p.m. record player Phonomotor, Model JP45, features a new motor which is designed specifically for this type of application. Exceptional features are quietness, freedom from mechanical vibration, no external fan, decreased height, and excellent speed regulation. On this unit the center disc is permanently fastened to the turntable and is designed for ease of record placement and removal. The unit is furnished with a 6½″ O.D. turntable for RCA records with the 1½″ diameter center hole.

NOMINAL RATING—45 r.p.m. for 5 gram stylus force with 117 volts, 60 cycles, 0.2 amps., and 10 watts input.



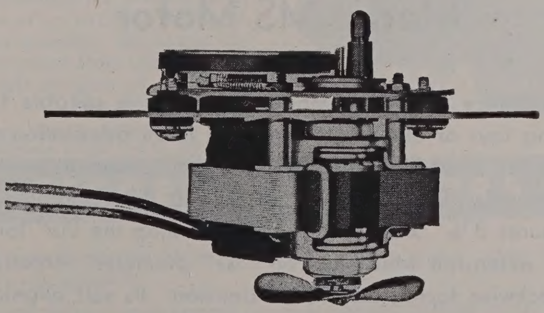
PHONOMOTOR MODEL JP45

New 45 r.p.m. record player PHONOMOTOR is designed for ease of record placement and removal.

New 33⅓ r.p.m. Phonomotor for Record Players

Here are three excellent record player phonomotors, Models MPS8, MPS9, and MPS10, for the 33⅓ r.p.m. long-play Micro-groove records. The idler tires are precision ground to extremely close limits, thus minimizing "wow." In each case the motor drive shaft is ground in its own bearings in order to minimize run-out. As is also the case with the Alliance 45 r.p.m. and 3-speed phonomotors for record players, each turntable bearing is rotary burnished to assure smoothness of operation. These units are furnished with 8″, 9″, or 10″ O.D. turntables for records with conventional center holes.

NOMINAL RATING—33⅓ r.p.m. for 5 gram stylus force with 117 volts, 60 cycles, 0.3 amps., and 14½ watts input.



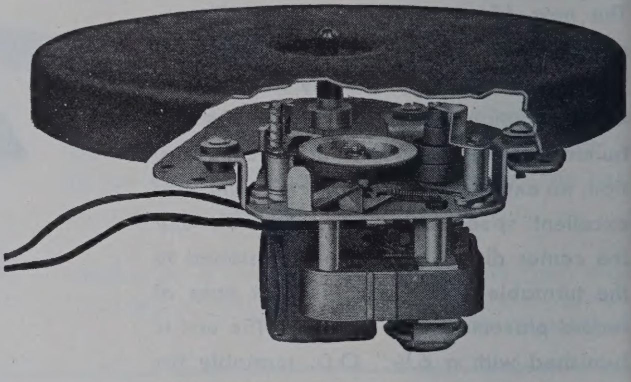
PHONOMOTOR MODELS MPS8, MPS9, AND MPS10
(with 8″, 9″, and 10″ O.D. turntables, respectively).

alliance Powr-Pakt MOTORS

New 3-Speed Phonomotors for Record Players

Drive 33⅓, 45, and 78.26 r.p.m. Records

The new Alliance 3-speed record player Phonomotors, Models JPT8 and JPT9, are so advanced in design that mechanical operation is unexcelled! There are no rubber bands or belts to slip, snap, distort, or stretch . . . no needle shafts to indent tires under stall. A totally new motor assures minimum rumble, hum, and unequalled speed regulation! Motor has minimum height — no external fan — electronically dynamic balanced rotor — new vibration reduction mounting! Driving mechanism assures unimpaired performance at all speeds — has fewer moving parts! These units are furnished with 8″ or 9″ O.D. turntables designed for records with either the conventional or the RCA 1½″ diameter center holes. A removable center disc is provided to fit the 1½″ diameter center holes. This disc is reversible and will go on either way. Its height is designed for ease of record handling.



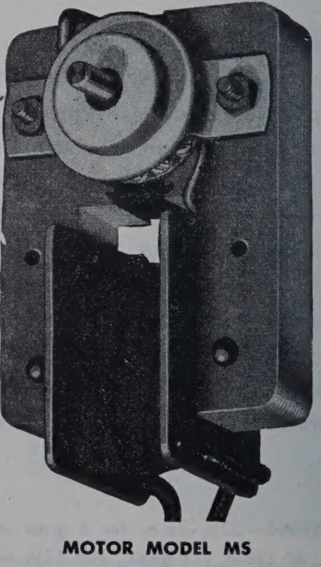
PHONOMOTOR MODELS JPT 8 AND JPT9
(with 8″ and 9″ O.D. turntables, respectively).

NOMINAL RATING—33⅓ or 45 r.p.m. for 5 gram stylus force and 78.26 r.p.m. for 10 gram stylus force with 117 volts, 60 cycles, 0.3 amps., and 14½ watts input.

Powr-Pakt Model MS Motor

The Alliance Powr-Pakt Model MS motor is suitable for driving toys or other light loads. It is an adaptation of the quiet, smooth running motor which is used to power the Models MPS8, MPS9, and MPS10 Phonomotors. It measures 3⅛″ x 2″ x 1¾″ not including the 7/16″ long shaft extension which has an 11/64″ diameter. Rotation is clockwise facing the shaft extension. Its self aligning bearings are of the porous bronze oilless type.

NOMINAL RATING—2800 r.p.m. at full load with 117 volts, 60 cycles, 0.3 amps., and 16 watts input. More detailed specifications are available upon request.

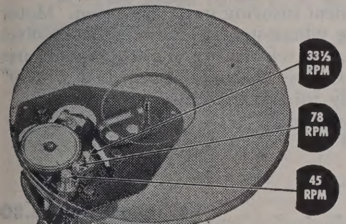


MOTOR MODEL MS

GENERAL INDUSTRIES
Smooth Power PHONOGRAPH MOTORS, RECORDERS AND RECORD CHANGER-RECORDERS

Suitable for every phonograph instrument where low cost, dependable performance, compactness, light weight and quietness of operation are important considerations. GI phonomotors are even in speed and have ample power to play 10″ and 12″ records. Fan cooling permits use in partially closed cabinets. Designed to comply with Underwriters' Laboratories' requirements.

THREE-SPEED PHONOGRAPH MOTOR



MODEL TS — 45, 78, 33-1/3 R. P. M. **115 volts a. c., 60 cycles**

A novel 45-78-33⅓ R.P.M. rim drive, 2-pole motor. Very compact. Employs two identical Neoprene belts for 45 and 33⅓ R.P.M. speeds. 78 R.P.M. speed is obtained direct from rotor shaft. Speed is changed by a simple external lever movement. Specially designed and manufactured to hold wow and rumble to a minimum for excellent reproduction of the new records. Turntable shaft revolves with turntable, and is grooved for turntable clip. Available with 6½″, 8″ or 9″ turntable, using same mounting plate. A 45 R.P.M. record adaptor and a speed indicator dial are furnished with each motor. **List Price, $10.85**

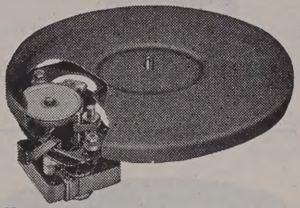
Dimensions: Length—3⅛″; Width—2¼″; Depth—2 9/16″ below mounting plate. Furnished complete with turntable and mounting plate ready for installation. Shipping weight—4 lbs.

DUAL-SPEED PHONOGRAPH MOTORS

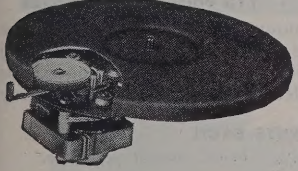
MODEL DS — 45, 33-1/3 R. P. M. **115 volts a. c., 60 cycles**

A novel 45-33⅓ R.P.M. rim drive, 2-pole motor. Very compact. Employs a Neoprene belt for the 33⅓ R.P.M. speed. 45 R.P.M. speed is obtained direct from rotor shaft. Speed is changed by a simple external lever movement. Specially designd and manufactured to hold wow and rumble to a minimum for excellent reproduction of the new records. Turntable shaft revolves with turntable, and is grooved for turntable clip. Available with 6½″, 8″ or 9″ turntable, using same mounting plate. **List Price, $10.75**

Dimensions: Length—3⅛″; Width—2¼″; Depth—2 9/16″ below mounting plate. Furnished complete with turntable and mounting plate ready for installation. Shipping weight—4 lbs.



MODEL DM — 33-1/3, 78 R. P. M. • MODEL DE — 45, 78 R.P.M.
115 volts a. c., 60 cycles



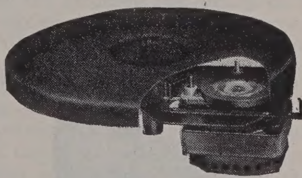
Novel and ingenious rim drive, 2-pole motors. Very compact. Employs a Neoprene belt for slow speeds. 78 R.P.M. speed is obtained direct from rotor shaft. Speed is changed by a simple external lever movement. Specially designed and manufactured to hold wow and rumble to a minimum for excellent reproduction of new records. Turntable shaft revolves with turntable, and is grooved for turntable clip. Available with 9″ turntable. **List Price, $10.75**

Dimensions: Length—3⅛″; Width—2¼″; Depth—2⅜″ below mounting plate. Furnished complete with 9″ turntable and mounting plate ready for installation. Shipping weight—4 lbs.

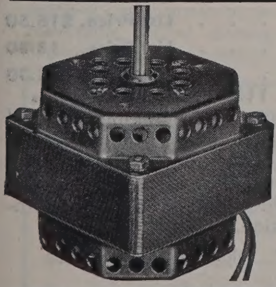
MODEL DR — 78, 33-1/3 R. P. M. • MODEL DZ — 78, 45 R. P. M.
MODEL DV — 45, 33-1/3 R. P. M. **115 volts a. c., 60 cycles**

Deluxe rim drive, 4-pole motors with a simple and positive mechanism for shifting from one speed to the other. Speed change is accomplished by means of an external push-pull lever. An ingenious mechanism raises and lowers the entire idler assembly, disengages the idler wheel from the two-diameter motor shaft and moves the idler wheel from one diameter to the other. At the slow speed the idler wheel engages the small diameter of the motor shaft; at the fast speed it engages the large diameter. **List Price, $18.50**

Dimensions: Length—6″; Width—5⅝″; Depth—2⅝″ below mounting plate. Furnished complete with 10″ turntable and mounting plate ready for installation. Shipping weight—6½ lbs.



TAPE, WIRE AND DISC RECORDING MOTORS



Heavy duty 4-pole, shaded pole induction motors. 1/70 H.P. Free speed: 1740 R.P.M. Maximum running torque: 12 ounce-inches.

Features include: A locating and locking arrangement for both top and bottom covers which assures high accuracy in alignment of rotor within the stator bore; new air intake; dual cooling fans and self-aligning, oil-impregnated sleeve bearings.

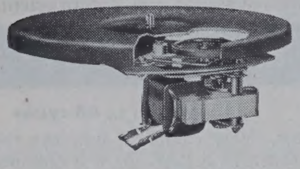
These high torque motors are used in practically all tape, wire and disc recorders now being manufactured. **List Price, $12.00**

Dimensions: Length—3⅜″; Width—3⅜″; Depth 3″ below mounting plate; Shaft diameter—5/16″

115 volts a. c., 60 cycles

GENERAL INDUSTRIES
Smooth Power PHONOGRAPH MOTORS, RECORDERS AND RECORD CHANGER-RECORDERS

CONSTANT SPEED ELECTRIC PHONOMOTORS



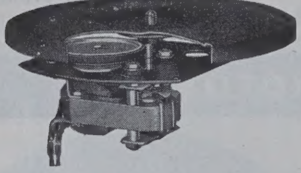
Model MX Model MX-3
Model MX-45

MODEL MX	— 78 R. P. M.	List Price, $7.95
MODEL MX3	— 33-1/3 R. P. M.	List Price, 9.15
MODEL MX45	— 45 R. P. M.	List Price, 9.15

115 volts a. c., 60 cycles

Rim drive, 2-pole motor with novel idler arrangement insuring quiet operation. Motor is also insulated from mounting plate to eliminate vibration. Turntable shaft revolves with turntable, and is grooved for turntable clip. Novel bearing construction insures rigid and permanent alignment of motor shaft. Oilless bearings. Furnished with 9″ turntable and complete with mounting plate ready for installation.

Dimensions: Length—3 1/8″; Width—2 1/4″; Depth—2 1/4″ below mounting plate.
Packed in individual cartons. Shipping weight—4 lbs.



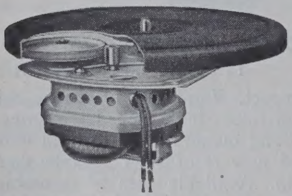
Model LX Model LX-3
Model LX-45

MODEL LX	— 78 R. P. M.	List Price, $6.80
MODEL LX3	— 33-1/3 R. P. M.	List Price, 8.00
MODEL LX45	— 45 R. P. M.	List Price, 8.00

115 volts a. c., 60 cycles

Rim drive, 2-pole motor. Rubber insulated from both mounting plate and turntable for quiet operation. Turntable shaft revolves with turntable, and is grooved for turntable clip. Furnished with 9″ turntable and complete with mounting plate ready for installation.

Dimensions: Length—3 1/2″; Width—2″; Depth—2″ below mounting plate.
Packed in individual cartons. Shipping weight—4 lbs.



Model RX Model RX-3
Model RX-45

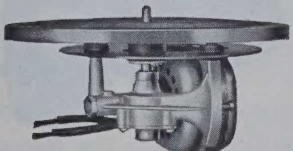
MODEL RX	— 78 R. P. M.	List Price, $10.25
MODEL RX3	— 33-1/3 R. P. M.	List Price, 11.95
MODEL RX45	— 45 R. P. M.	List Price, 11.95

115 volts a. c., 60 cycles

Rim drive, 4-pole motor. Rubber insulated from both mounting plate and turntable for quiet operation. Driving pulley, idler and turntable are positively aligned in one plane for efficient performance. Turntable shaft revolves with turntable and is grooved for turntable clip. Furnished with 9″ turntable and complete with mounting plate, ready for installation.

EXTRA FOR 10'' TURNTABLE, 20 CENTS EACH

Dimensions: Length—4 1/16″; Width—3 3/8″; Depth—2 5/16″ below mounting plate.
Packed in individual cartons. Shipping weight—5 lbs.



Models CX & CX3

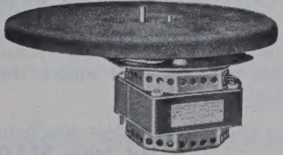
MODEL CX	— 78 R. P. M.	List Price, $14.25
MODEL CX3	— 33-1/3 R. P. M.	List Price, 16.00

115 volts a. c., 60 cycles

Gear drive, 4-pole motor. Fully enclosed, with silent, helical-cut gears running in oil bath within the sealed housing. Patented combination rubber turntable drive sleeve and record centering tip insure mechanical and electrical insulation between turntable and motor. Furnished complete with mounting plate, ready for installation; available with 9″ turntable.

EXTRA FOR 10'' TURNTABLE, 30 CENTS EACH

Dimensions: Length—4 1/4″; Width—4 1/8″; Depth—3 1/8″ below mounting plate.
Packed in individual cartons. Shipping weight—6 lbs.



Model RM4 Model RM4-3
Model RM4-45

MODEL RM4	— 78 R. P. M.	List Price, $16.50
MODEL RM4-3	— 33-1/3 R. P. M.	List Price, 18.30
MODEL RM4-45	— 45 R. P. M.	List Price, 18.30

115 volts a. c., 60 cycles

Heavy duty, rim drive, 4-pole motor. Rubber insulated from both mounting plate and turntable for exceptionally quiet operation. Turntable shaft revolves with turntable and is grooved for holding clip. Retractable pin in turntable permits playing standard records without adjustment. Efficient performance is assured by positive alignment of driving pulleys, idler and turntable in one plane. Furnished with 10″ weighted turntable and complete with mounting plate ready for installation.

Dimensions: Length—3 3/8″; Width—3 3/8″; Depth—2 15/16″ below mounting plate.
Packed in individual cartons. Shipping weight—9 lbs.

GI GENERAL INDUSTRIES GI

Smooth Power PHONOGRAPH MOTORS, RECORDERS AND RECORD CHANGER-RECORDERS

HOME RECORDING AND PHONOGRAPH ASSEMBLIES

MODEL GI-R85L — LP, 78 and 33-1/3 R. P. M. with conversion spring for changing the 33-1/3 R. P. M. speed to 45 R. P. M.

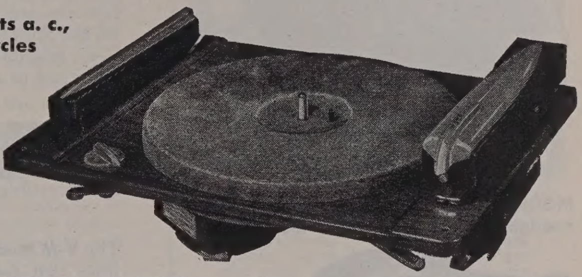
MODEL GI-R90L — 78 & 33-1/3 R. P. M. — Standard

115 volts a. c., 60 cycles

Model GI-R90L is the standard model which has been in the GI line for several years. It cuts 120 lines per inch, and plays back records with the standard needle pressure.

The Model GI-R85L incorporates a dual purpose pickup cartridge and an excellent and simple adjustment for playing the LP records and standard records. It cuts 160 lines per inch. In a separate envelope is furnished a conversion spring for changing the 33⅓ R.P.M. speed to 45 R.P.M. with mounting instructions printed thereon.

Both models cut records up to 10″ diameter . . . play records up to 12″ diameter. To shift motor from one speed to the other, merely turn the speed change dial. Beautiful walnut wood grain on steel base plate. Streamline plastic trim on pickup and cutter arm attractively engraved with legends "Reproducer" and "Recorder". Turntable recessed into well in base plate. Merely lower cutting arm over record disc to start recording. Convenient, depth-of-cut adjustment. Dynamically-balanced, rim drive, 4-pole motor. Compensating switch operated by speed change dial.



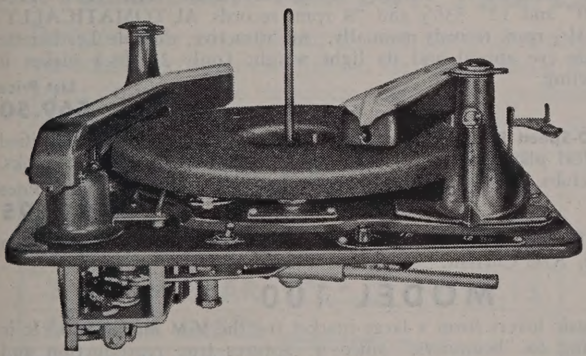
MODEL GI-R85L — LP . . . . List Price, $53.50

MODEL GI-R90L — STANDARD . List Price, 47.50

Assembly includes dual speed motor; 10″ weighted turntable; cutting mechanism; crystal pickup; compensation switch; pickup and cutter arm rests; drawn steel base plate with formed down edges.

Dimensions: Base plate—15″ wide; 11½″ front to back; height above lower edge of base plate—2¾″; depth below lower edge of base plate—3⅞″. Packed in individual cartons. Shipping weight—17 lbs.

COMBINATION RECORD-CHANGER RECORDER



MODEL GI-RC130L — 78 R. P. M.

115 volts a. c., 60 cycles **List Price, $69.75**

Cuts records up to 10″ diameter. Plays twelve 10″ or ten 12″ records automatically. Only necessary to lower cutting arm over record disc to start recording operation. Convenient depth-of-cut adjustment on top of cutting arm. Turntable has retractable record driving pin. Heavy duty, dynamically-balanced, recording motor.

One lever to move when changing from 10″ to 12″ records, removing records or to set for manual operation and recording. With lever in extreme position, all sizes of records can be removed from the turntable without interference. In manual position, tripping mechanism is inoperative. Non-jamming record handling fingers which do not extend past record lead-in space. Pressing reject button drops the first record onto the turntable and automatically positions the pickup on the record. Records may be ejected instantly. Handles records with either run-in or oscillating trip grooves. Means provided for guiding pickup needle into the playing grooves on records without lead-in grooves. Pickup arm supported at all times when not resting on record. Changing mechanism is positive and quiet in operation. Shock mounting provided which permits isolation of the entire assembly from the cabinet. Brown iridescent finish, streamline plastic trim on pickup and cutter arms attractively engraved with legends "Reproducer" and "Recorder".

Furnished with crystal pickup, 10″ weighted turntable, on and off switch and spring mounting hardware.

Dimensions: Base plate—14″ x 14″ x ⅜″; height above lower edge of base plate—5 7/16″; depth below edge of base plate—2¾″. Packed in individual cartons. Shipping weight—24½ lbs.

MASTER JR. SPRING MOTOR

Plays two 10″ selections from one winding. Exceptionally quiet and uniform in speed. Turntable is held in place by turntable-holding clip. Furnished with 9″ turntable, winding crank and escutcheon; turntable brake; dial and pointer speed regulator; mounting screws and washers. **Dimensions:** Length—5⅜″; Width—4¾″; Depth—2 5/16″ from top surface of casting to bottom.

MODEL: MASTER JR. — 78 R. P. M. **List, $10.25**

Single Spring Type. Price includes 9″ turntable and parts.

AUTOMATIC STOP SWITCH

Furnished optionally for use with electric motors. Cannot be used with spring motors, recording units or record changers.

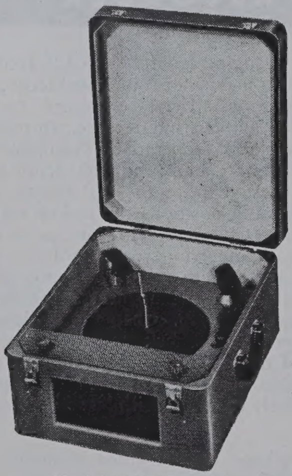
MODEL 12670 **List, $1.45**

Automatic Stop Switch for use with 9″ or 10″ turntables.

V-M *Automatic* RECORD CHANGERS

MODEL 4060 on "plug-in" base. Also available as replacement unit (Model 406).

MODEL 4070 on "plug-in" base. Also available as replacement unit (Model 407).



Model 8025 Portable

Model 100

TRI-O-MATIC

The new **V-M Model 4060** Tri-O-Matic AUTOMATICALLY plays all records, all sizes, all speeds. While "Automatic Operation for all records" is the outstanding sales feature, from a practical standpoint the many record protecting features are equally important. Records are LOWERED—NOT DROPPED—on the Spindle Shelf. There is no wobbling down the spindle—no slap or scrape—no possibility of the tiny microscopic grooves of the new type records being damaged in any way.

Controls are simple and located at the front, easily accessible in any installation. All moving parts in Tri-O-Matic Changers are factory-adjusted—riveted or pinned in adjustment—insuring years of trouble-free performance. Actually, only two adjustments are ever needed—needle height and setdown—and both are accessible from above the base plate.

List Price
$59.50

The **V-M Model 4070** is a custom-styled version of the 4060, with smooth-flowing lines that readily adapt themselves to either modern or period cabinets. It is especially recommended for "custom built" installations.

List Price
$63.50

OTHER FEATURES: Plays any ten 12″ or 10″ records of the same speed INTERMIXED—AUTOMATICALLY SHUTS OFF after last record—velvet action Velocity Trip—Dual Needle, Reversible Cartridge—Quick, Quiet Change Cycle—Minimum Mounting Space (13 13/16″ wide, 12¼″ long, 7¼″ overall height).

Models 4070, 407, 4060 and 406 also available with G.E. Variable Reluctance Cartridges.

TRI-O-SPEED

Available in two styles—as a Portable unit, and on an Amplified Base—the V-M Tri-O-Speed Series has many outstanding sales features. The **Portable Model 8025** plays all records now being manufactured, yet it is priced competitively with many single speed Portables. It has an exceptional amplifying system and a "jam-proof" and "child-proof" changer of simple design. The Tri-O-Speed Portable plays 10″ and 12″ 33⅓ and 78 rpm. records AUTOMATICALLY, and 7″ 45 and 33⅓ rpm. records manually. An attractive, durable Leatherette carrying case adds eye appeal and its light weight (only 23 lbs.) makes it practical for traveling.

List Price
$69.50

Model 8022 Tri-O-Speed Record Player is the same basic unit, on an amplified base. It is an ideal player for commercial sound installations—skating rinks, dancing schools, clubs, etc.—as well as for home use.

List Price
$59.95

Both units carry full Underwriter's Laboratory Approval, and both operate on 110-volt, 60-cycle, A/C Current.

MODEL 100

Cost-conscious music lovers form a large market for the **V-M Model 100.** It is especially appealing to "beginners," since it captures true reproduction and exquisite tonal quality from *all* types of recordings—yet is priced to fit within modest budgets. The Model 100 is a completely self-contained unit with its own amplifier, loudspeaker and tone and volume controls. As simple to operate as a single speed player, the **Model 100** plays all records, all sizes, all speeds, manually. It carries full Underwriter's Laboratory Approval.

List Price
$34.95

V-M *Corporation*
BENTON HARBOR, MICHIGAN

THE RECORDISC CORP.

395 BROADWAY, NEW YORK 13, N. Y., • CABLE ADDRESS: RECORDISC, NEW YORK, N. Y.
EXPORT DEPT.: ROYAL NATIONAL COMPANY, INC., 89 BROAD STREET, NEW YORK

WORLD-FAMOUS HOME RECORDING BLANKS

ORANGE LABEL

Popular composition base disc . . . a party favorite! Heavy and firm, it will take punishment, yet it is coated carefully with our standard RECORDISC surface compound. The acme of amateur transcription blanks.

"GM" LABEL

Available in the three larger sizes only, these discs are made on heavy .021 aluminum base, coated with critically selected compound. Precision-made, and minutely inspected, they are guaranteed for perfect performance and long use.

PURPLE LABEL

Lightweight aluminum base disc with heavyweight selling power! The lowest-priced high-quality disc with an inexpensive .012 aluminum base, designed for amateurs desiring semi-professional reproduction.

SPECIAL ORDER

At no increase in cost, made up to order, with the same quality and in the same sizes as the Orange and Red label blanks, RECORDISC offer their YELLOW and BROWN labels, using ethyl cellulose coating with the U.L. approved film, instead of regular cellulose nitrate.

RED LABEL

High-fidelity, volume selling disc with .021 aluminum base. Coated with flawless RECORDISC compound. Professional quality in smaller sizes for those who want the finest. Professional nitrate coating.

ECONOMY LABEL

To meet the huge demand for extra-low-cost blanks, RECORDISC offers these slightly imperfect Red Label blanks which have failed to meet our rigid inspection. They do not bear the RECORDISC trademark. They will give at least the equivalent of one full side of perfect recording.

LIST PRICES†

LABEL	BASE	6½"	8"	10"	12"
ORANGE	Bond	15c	25c	35c	
PURPLE	Aluminum	20c	30c	45c	
RED	Aluminum	30c	40c	60c	80c
"GM"	Aluminum		60c	80c	$1.00
ECONOMY	Aluminum	15c	20c	30c	

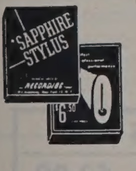
PRECISION-PERFECT PROFESSIONAL RECORDING DISCS

Designed for broadcasting stations and recording studios. Years of costly research and the valuable experience gained as the world's largest producer of home recording blanks have been combined to produce the perfect professional recording disc . . . possessing a fidelity heretofore thought impossible. Each blank guaranteed for five full years.

LIST PRICES†		10"	11⅞"	12"	13¼"	16"	17¼"
1 ★ STAR	consistently dependable, single face	$ .85		$1.40		$2.35	
2 ★ ★ STAR	precision-processed, double-face	$ .90		$1.50		$2.70	
3 ★ ★ ★ STAR	perfectly flawless, double-face	$1.15		$1.85		$3.40	
MASTER DISCS	double-face		$2.35		$3.05		$5.10

RECORDISC RECORDING STYLI Best Suited for Best Recordings

SAPPHIRE STYLUS



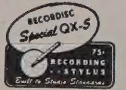
A specially lapped sapphire point on each stylus cuts clean shiny grooves with less surface noise than any similar stylus. As much as 10 hours of recording time . . can be sharpened as many as 15 times. Packed in individual jewel box. LIST PRICE‡ 6.50

STELLITE STYLUS

Super
STELLITE STYLUS
$2
RECORDISC

Carefully machined of special, hardened metal alloy . . . less fragile than costly sapphire styli. Recommended for less experienced recording operators. Packed one to a protective card. LIST PRICE‡ 2.00

SPECIAL QX-5



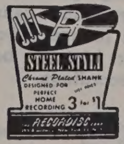
A precision-made stylus made of processed and tempered steel . . . with an expensive filter cutting point and recessed shank. Smooth easy cutting for those who seek a fine but non-fragile recording tip. LIST PRICE‡ 75¢

HAND-LAPPED
STEEL STYLUS

MICRO-INSPECTED
Hand Lapped STEEL STYLUS
RECORDISC

Carefully hand-lapped and micro-inspected for greatest fidelity at lowest price. A specially designed stylus that gives good service to semi-professional and amateur recordists. Packed one to the protective card. LIST PRICE‡ 50¢

STEEL STYLI
(CHROME PLATED)



A fine economy stylus that gives excellent service during its recording life of approximately one hour. Shiny chrome-plate on hardened steel. Packed in protective cards. LIST‡ 3 for $1

RECORDISC ACCESSORIES

STROBOSCOPE. Determines turntable speed accurately for better recordings.................$1
RECORD PRESERVER. Cleans and preserves freshly-cut surfaces. 2 oz. bot....45c
TURNTABLE LUBRICANT. For smooth operation on all parts subject to friction......40c
MAILING ENVELOPES. Heavy brown, Kraft, lined. 6½"...10c 8"...12c 10"...15c

INSTANTANEOUS RECORDING BLANKS

THE RECORDISC CORP.

395 BROADWAY, NEW YORK 13, N. Y., • CABLE ADDRESS: RECORDISC, NEW YORK, N. Y.
EXPORT DEPT.: ROYAL NATIONAL COMPANY, INC., 89 BROAD STREET, NEW YORK

BETTER PLAYBACK NEEDLES

SAPPHIRE

RECORDISC
SAPPHIRE
PHONOGRAPH NEEDLE
$2.50

Critical music lovers and discerning artists prefer this most perfect of precious needles! Designed by RECORDISC engineers for top tone-fidelity, bell-like clarity and uniform performance. Guaranteed for 7000 plays.

$2.50 LIST PRICE‡

IMPERIAL

RECORDISC
Imperial
PRECIOUS METAL TIP
PHONOGRAPH NEEDLE
$1.50

Made to our own formula, "Imperial" needles provide full tonal range without scratch or hiss. Minimum of needle "talk" and record wear. Perfect playbacks up to 5000 times.

$1.50 LIST PRICE‡

CORONET

RECORDISC
CORONET
PHONOGRAPH NEEDLE
Tone Tested
$1.

A precious metal alloy needle with a satin-smooth, non-corrosive tip. Clear, clean reproduction makes this needle the favorite of juke box and record changer owners. 3000 plays.

$1.00 LIST PRICE‡

SHADOWGRAPHED

SHADOWGRAPHED
25 PHONOGRAPH NEEDLES 25¢
THE RECORDISC CORP.
395 Broadway, New York 13, N. Y.

Scientifically designed transcription needle to fit perfectly into the grooves of recording and transcription blanks. Wide frequency response and unusual tonal brilliance.
25 in envelope.

25¢ Pkg. LIST PRICE‡

→Super-Tone* ← RECORDING WIRE

DESIGNED for SATISFACTION

Super-Tone
RECORDING WIRE
by Recordisc
Designed for True Sound Reproduction
HIGH TEST
Precision Processed for Perfection
RecordisC RECORDING WIRE
Super-Tone
THE RECORDISC CORP. New York • MADE IN U.S.A.
The Recordisc Guide to Better Wire Recording

This handy wire recording guide and program data listing chart in every box. Expert hints for better recordings.

Like all the other fine RECORDISC products this stainless steel recording wire is the result of ceaseless study. Made with all the experience and training at our command, Super-Tone* is truly designed for satisfaction. Super-Tone* features outstanding durability, ultra-high fidelity, and ease of erasability. It needs no oil or grease for superb results.

3 SIZES
¼ hour • ½ hour • 1 hour
to meet all needs

Super-Tone* is ready for immediate use. Each spool contains a serrated plastic leader, supplied by RECORDISC without extra cost, for machines with a turntable attachment. If not desired, it is simply cut off with a scissors.

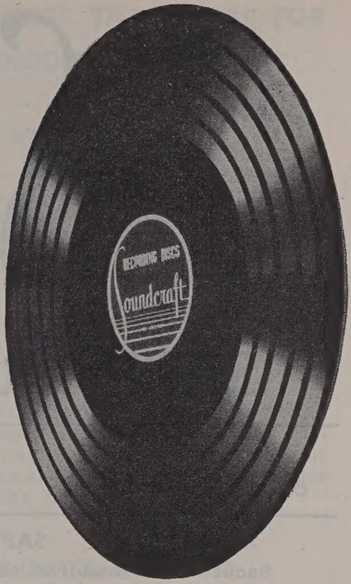
Super-Tone* is carefully wound on standardized spools that meet R.M.A. specifications, and will fit any machine except magazine loader type. Packaged in a sturdy box for convenient storage, with no detail overlooked, Super-Tone* will meet the needs of every wire recording enthusiast.

LIST PRICES†	
¼ hour spool	$2.00
½ hour spool	3.00
1 hour spool	5.00
Empty spool	.75

*Reg. U. S. Pat. Off.

REEVES

Soundcraft



FAMOUS NAME SOUND RECORDING DISCS

"THE BROADCASTING STATION STANDARD"

The 'BROADCASTER'

A MASTER selection in instantaneous sizes for vitally important recordings. An "extra fare" product in a class by itself. Perfect recording area, perfect edges, flat bases guaranteed.

Size	Standard Package	List Price each	Your Net at 40% off List in Std. Pkgs.
10″ Double Face	20	$1.40	$0.84
12″ " "	20	2.20	1.32
16″ " "	20	3.95	2.37
10″ Single Face	20	.90	.54
12″ " "	20	1.50	.90
16″ " "	20	2.75	1.65

The 'PLAYBACK'

A standard broadcasting-quality blank record for all professional uses in radio stations, recording and motion picture studios. Physical and sound properties equal to the best competitive blanks plus Soundcraft's many extra features.

Size	Standard Package	List Price each	Your Net at 40% off List in Std. Pkgs.
6½″ Double Face	20	$0.55	$0.33
8″ " "	20	.80	.48
10″ " "	20	1.15	.69
12″ " "	20	1.90	1.14
16″ " "	20	3.45	2.07
10″ Single Face	20	.80	.48
12″ " "	20	1.40	.84
16″ " "	20	2.40	1.44

The 'AUDITION'

A selection from the runs of 'BROADCASTERS' and 'PLAYBACKS' having minor physical defects outside of the recording areas. Suitable for less important radio and sound studio applications, for schools, amateur, and better home recording. Competitive with other 2nd quality blanks.

Size	Standard Package	List Price each	Your Net at 40% off List in Std. Pkgs.
6½″ Double Face	10*	$0.45	$0.27
8″ " "	10*	.70	.42
10″ " "	10*	1.00	.60
12″ " "	20	1.55	.93
16″ " "	20	2.65	1.59

*Distributor's unit is carton of four folders of ten discs each

The 'MAESTRO'

Oversize MASTER discs for originals in making phonograph records and transcriptions. No trademarks, only one drive hole to comply with processing requirements.

Use 12″ for 10″ phono records
" 13¼″ " 12″ " "
" 17¼″ " 16″ transcriptions
"The kind the processors like"

Size	Standard Package	List Price each	Your Net at 40% off List in Std. Pkgs.
12″ Double Face	20	$2.40	$1.44
13¼″ " "	20	3.10	1.86
17¼″ " "	20	5.25	3.15
12″ Single Face	20	1.65	.99
13¼″ " "	20	2.20	1.32
17¼″ " "	20	3.25	1.95

Technical specifications of *Soundcraft* discs and *Soundcraft* stylus information on reverse of this sheet

REEVES

Soundcraft

"MAKING THE RECORDINGS MILLIONS LISTEN TO"

SAPPHIRES—CUTTING & PLAYING

Code Word	Description	List Price	Net to Radio Station, Studio, etc. Less 50%
	SAPPHIRE CUTTING STYLUS		
Sacut	Broadcast quality, dural shank, maximum length jewel Standard 87 deg. angle, 1.5 mil radius. (Specify long shank or short shank. Short will be sent if long is not specified.)	$7.50	$3.75
	STELLITE CUTTING STYLUS		
Stell	For semi-professional recording. (Specify long or short shank as above.)	$2.00	$1.00
	SAPPHIRE TRANSCRIPTION PLAYBACK NEEDLE		
Sapla	Straight dural shank, 2.5 mil radius.	$6.50	$3.25
	RESHARPENING SERVICE		
	Sapphire Cutting Stylus	$3.25	$1.63
	Stellite Cutting Stylus	1.00	.50
	Sapphire Transcription Playback	2.50	1.25

Mail styli for resharpening in original packaging to your distributor.

TECHNICAL SPECIFICATIONS OF SOUNDCRAFT DISCS

PHYSICAL PROPERTIES OF BLANK DISCS

Aluminum Bases: Alcoa #2 Reflector Sheet Stretcher-leveled for flatness ¾ hard.

Base Thicknesses: 17¼" & 13¼" — .050
16" — .040; 12" — .032
10", 8", 6½" — .025

Center Hole: .2845" + or — .001"

Drive Pin Holes: .284" + or — .010

Coating: Recording lacquer applied by flow method.

Coating Thickness: .007 to .008
Coating thickness increases slightly toward outer edge so that weight of pile of discs is carried on outer edges in recording margin.

Thread Behavior: Thread throws inward ½" to ¼". Can be picked up with minimum suction.

CHEMICAL PROPERTIES OF COATINGS

Free from foreign matter down to size of 1 micron (thoroughly filtered).
Free from hard or soft spots (thoroughly mixed).
No deterioration with age (inert plasticizers).
Free from solvents (thoroughly dried).

Free from excess lubricant (successfully processed regularly by RCA, NBC, CRC, BART, AUDIO MATRIX, etc.).

Free from lacquer impurities to cause grey cutting.

SOUND PROPERTIES OF COATINGS

Frequency Response: Indefinable (due to factors of temperature, diameter, stylus tip dimensions, pickup characteristics, playback needle dimensions, etc.), but will playback at least 10,000 cycles per second under commercial conditions.

Surface Noise: — 55 to 60 db below maximum signal level commonly recordable.

Wearlife: At least 100 playings of unmodulated groove without noticeable noise increase using W. E. 9A pickup, if kept dust-free.

audiodiscs

ALUMINUM BASE RECORDING DISCS

First produced in 1939, Audiodiscs quickly won the acceptance of both professional and amateur recordists. Because of their many superior qualities, these instantaneous recording discs have gained a place of eminent leadership in the recording world.

AN AUDIODISC FOR EVERY RECORDING NEED

RED LABEL AUDIODISCS are standard throughout the recording profession exceeding the professional demands of broadcasting stations, sound and movie studios and other exacting applications when top quality and dependability are essential requirements. Their many exclusive features have given new meaning to high fidelity recording and life-like reproduction. They are the finest discs obtainable.

SINGLE FACE RED LABEL AUDIODISCS have exactly the same fine qualities as standard Red Label and bring real economy to applications requiring but one side. Both sides are coated with the recordable side identified with embossed label.

YELLOW LABEL AUDIODISCS are the popular choice for all general purpose recording. Of high uniform quality, they are designed primarily for commercial recording studios, educational institutions, home recordists and other applications where the super quality Red Label Audiodiscs are not required.

REFERENCE LABEL AUDIODISCS are especially adapted for making test cuts, filing and reference recordings, auditions and equipment adjustments. Their unusually low price gives maximum economy.

BLUE LABEL AUDIODISCS offer the very best in recording quality for schools, homes, amateur and demonstration work. Made of exactly the same materials used in the manufacture of professional type Audiodiscs—except on a thinner aluminum base—these discs have brilliant tone, long-playing life, no audible needle scratch and are of consistent quality.

MASTER AUDIODISCS are the outstanding choice where copies of recordings (pressings) are to be made by the electroplating process. The excellence and consistent quality of these discs are well known to all record processors.

TYPE	Size (in.)	List Price Per Disc	Box Contains
RED LABEL	6½	$ .55	25
	8	.80	25
	10	1.15	25
	12	1.85	25
	16	3.40	25
SINGLE FACE RED LABEL	10	.85	25
	12	1.40	25
	16	2.35	25
YELLOW LABEL	6½	.45	25
	8	.70	25
	10	.90	25
	12	1.50	25
	16	2.70	25
REFERENCE LABEL	10	.70	25
	12	1.05	25
	16	1.90	25
BLUE LABEL	6½	.35	50
	8	.50	50
	10	.75	50
MASTERS	12	2.35	25
	13¼	3.05	25
	17¼	5.10	25
	13¼ S.F.*	2.05	25
	17¼ S.F.*	3.05	25

*Single Face

Prices slightly higher in Pacific Coast and Southwestern Areas.

THEY SPEAK FOR THEMSELVES
AUDIODISC NEW YORK U.S.A.
7083
. . . they speak for themselves audiodiscs

PROPERTIES THAT MAKE FOR AUDIODISC LEADERSHIP

UNIFORM COATING

Audiodiscs' exclusive machine process produces a smooth flat coating seven thousandths of an inch thick, free from swirls, waves and "orange peel" effect. The depth of the coating is consistent within one-half thousandth of an inch.

LONGER STYLUS LIFE

The homogeneous coating is free from microscopic abrasive materials and surface imperfection which, in inferior discs, damage cutting points and cause extraneous noises in playback.

SILENT BACKGROUND

Audiodiscs, cut under good recording conditions, are entirely free from audible "background scratch."

LONG PLAYBACK LIFE

With correct playing equipment an Audiodisc can be played for more than a hundred times with no noticeable increase in surface noise.

BRILLIANT FREQUENCY RESPONSE

These discs are noted for their brilliant high frequency response. Audiodiscs "speak for themselves" with quality performance that pleases the most critical recordist.

NO DETERIORATION WITH AGE

A special curing process removes from Audiodiscs the last trace of volatile constituents. Discs made over six years ago still cut easily and play back perfectly.

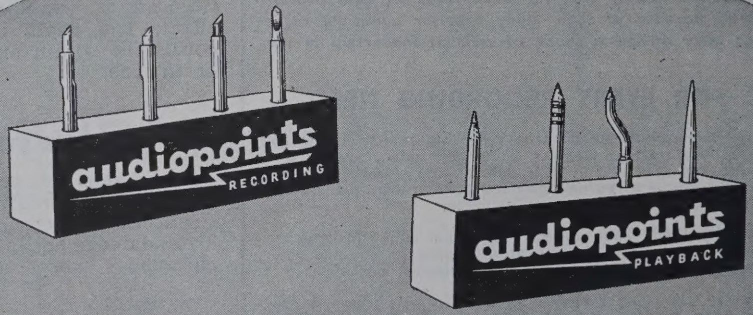
CONSISTENT QUALITY

Audiodiscs are manufactured by a unique automatic precision-machine process which assures consistent quality. This uniformity is a feature that helps engineer and amateur attain the highest degree of recording excellence.

GENERAL NOTE:

All Audiodiscs are manufactured on aluminum base. Red Label discs are embossed, Yellow and Reference discs have paper labels—Master Audiodiscs have no labels. All Audiodiscs have center-pin holes and three drive-pin holes except Master discs, which have one drive-pin hole. Lint-free envelopes are supplied in the packages of Red Label and Master discs. Other discs are packaged in their envelopes.

audiopoints



MICROSCOPICALLY MATCHED RECORDING AND PLAYBACK STYLI

THE NEWLY EXPANDED LINE of Audiopoints now covers the full range of recording and playback needs. There are Audiopoints that fully meet the requirements of the most exacting professional recordists. There are also Audiopoints which these engineers unhesitatingly recommend to the non-professional and the general public. Made by skilled craftsmen and conveniently packaged in cards, boxes or envelopes, Audiopoints are available in four types of recording styli and four types of playback points. Recording and playback Audiopoints for microgroove are also available.

RECORDING AUDIOPOINTS

SAPPHIRE No. 14. Long recognized by recording engineers as the best recording stylus obtainable. Manufactured to rigid specifications, the jeweled point with 87° included angle, correct radius and fine polish, cuts a silent, shiny groove for many hours. Disc-tested on a recording machine just before packaging. Also supplied with 70° included angle. List price $7.25 (Resharpening cost $3.25)

SAPPHIRE No. 202. A fine quality brass shank stylus, ideally suited for those recordists not requiring the super quality of Sapphire Audiopoint No. 14. List price $5.25 (Resharpening cost $2.60)

STELLITE No. 34. A favorite recording stylus with many professional and non-professional recordists. Though moderately priced, it is the very best stellite stylus produced. List price $1.75 (Resharpening cost $.85)

DIAMOND-LAPPED STEEL No. 50. Most practical stylus for home recordists when "first cost" is important. Being diamond-lapped, it cuts a quiet, shiny groove and gives from 15 to 30 minutes actual recording time. List price 3 for $1.00

PLAYBACK AUDIOPOINTS

SAPPHIRE No. 113. Materials, workmanship and design make this playback point the finest made for original recordings and vinyl transcriptions. For years the outstanding choice of professional recordists. (Should not be used on shellac pressings.) List price $6.50 (Resharpening cost $2.25)

"RED CIRCLE" SAPPHIRE No. 103. With straight dural shank and fine polished jewel point. Excellent for original recordings, vinyl pressings and phonograph records. List price $2.00 (Resharpening cost $1.00)

"RED CIRCLE" SAPPHIRE No. 303. Bent dural shank sapphire needle that is tops for phonograph records. For the first time a phonograph needle with a resharpening feature. List price $2.00 (Resharpening cost $1.00)

STEEL TRANSCRIPTION NEEDLE No. 151. The ideal all-purpose transcription needle for original recordings, vinyl pressings and phonograph records. Quality performance is assured since each point undergoes a shadowgraph test. List price 100 for $1.25—20 for $.25

RESHARPENING SERVICE

Established years ago, our Resharpening Service gives real economy in the use of Audiopoints No. 14, No. 202, No. 34, No. 113, No. 103 and No. 303. (When returning points, care should be taken to package them individually. For this purpose the original protective package cards are strongly recommended.)

AUDIOPOINT PACKAGING

All Audiopoints except the No. 151 Steel Transcription needles are packaged in attractive cards. No. 151 are packaged 20 to the envelope or 100 to the box. Cards containing points No. 34, No. 50, No. 103 and No. 303 are mounted on colorful display cards—one dozen package cards to each display card. The package cards are cellophane wrapped and mounted in slots in the display cards. A strip of Scotch Tape in the back holds these cards in place and permits easy, neat removal that does not tear the cellophane wrapper. Envelopes containing No. 151 points are similarly mounted on display cards—50 envelopes per card or 1,000 needles. Package cards containing points No. 14, No. 202 and No. 113 are shipped in small boxes. **NOTE:** Points No. 14, No. 202 and No. 34 are supplied in standard short shank and long shank.

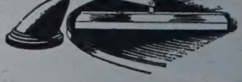
"HOW TO MAKE GOOD RECORDINGS"

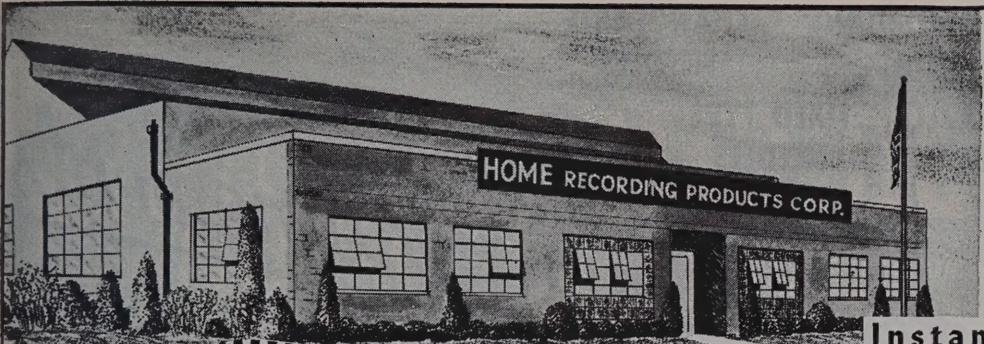
"How to Make Good Recordings" is an authoritative handbook on all phases of recording equipment, materials and technique. Now in its ninth printing, the new edition has been completely revised and expanded to 140 pages. Profusely illustrated with scores of photographs, charts and drawings, this book is written in non-technical language that all can understand. List price $2.00.

HOW TO
MAKE GOOD
RECORDINGS

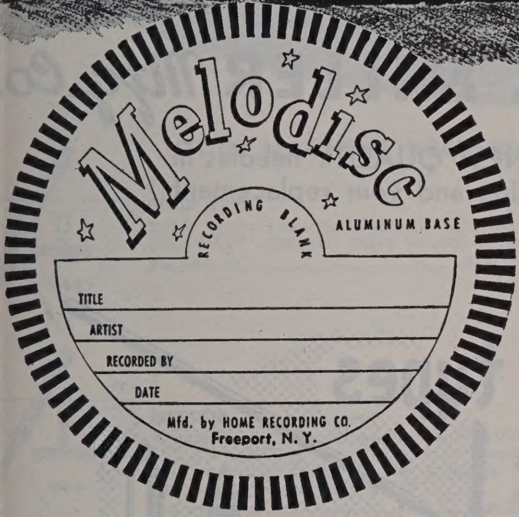
AUDIODISC CHIP-CHASER

When making a disc recording with outside-in feed, it is necessary to have some way of brushing the thread out of the way of the stylus. The AUDIODISC Chip-Chaser is a perfect solution to this problem. It has a heavy base which is placed beside the turntable and requires no fastening down or adjusting. The Chip-Chaser automatically and infallibly brushes the thread toward the center, winding it up on the overhead post or drive pins, as the case may be. Available in two sizes: for 16" turntables and up to 12" turntables. List prices $6.25 and $5.00.




HOME RECORDING PRODUCTS CORP.

Instantaneous recording blanks for home and commercial use.



. . your guarantee of consistently fine performance

melodisc establishes new standards of disc quality with ultra-fine grain lacquer and coating-control technique. No longer need you endure inconsistent performance from inferior recording discs. Today, with blanks available in quantity from many sources, you can pick and choose . . . selecting the one brand that consistently gives the best performance under your particular conditions.

No wartime substitute or "by-product", the new MELODISC blank is offered to the profession and hobbyist only after exhaustive tests have earned it the critical approval of many engineers, and recording studios. Ten years of patient research and practical development have resulted in MELODISC's radically new lacquer, and also a control technique which guards every step in the manufacture of the blank. BOTH of these exclusive factors combine to make the MELODISC an agent of *consistently* superior performance . . . . . and at an amazingly low price.

- ✓ HIGH FREQUENCY RESPONSE
- ✓ CUTTING CLEANLINESS
- ✓ CORRECT CHIP THROW
- ✓ LOW NOISE LEVEL
- ✓ FREEDOM FROM STATIC
- ✓ LONG-LIFE STABILITY
- ✓ FLAWLESS SURFACE
- ✓ *consistently*

LIST PRICES

White Label Heavy Aluminum Base		Standard Package		Red Label Light Aluminum Base	
6½"	.30	100	100	6½"	.20
8"	.40	50	100	8"	.30
10"	.60	50	100	10"	.45
12"	.80	25			

FINEST PROFESSIONAL NITRATE COATING

AMERICA'S LARGEST MANUFACTURERS OF FINE HOME RECORDING BLANKS EXCLUSIVELY

Melodisc
ALUMINUM BASE

HOME RECORDING PRODUCTS CORP.
50 MILL ROAD FREEPORT LONG ISLAND

PLAYBACK NEEDLES **RECORDING NEEDLES** **CHANGEABLE NEEDLES**

PRIVATE LABEL NEEDLES **FIXED TYPE NEEDLES**

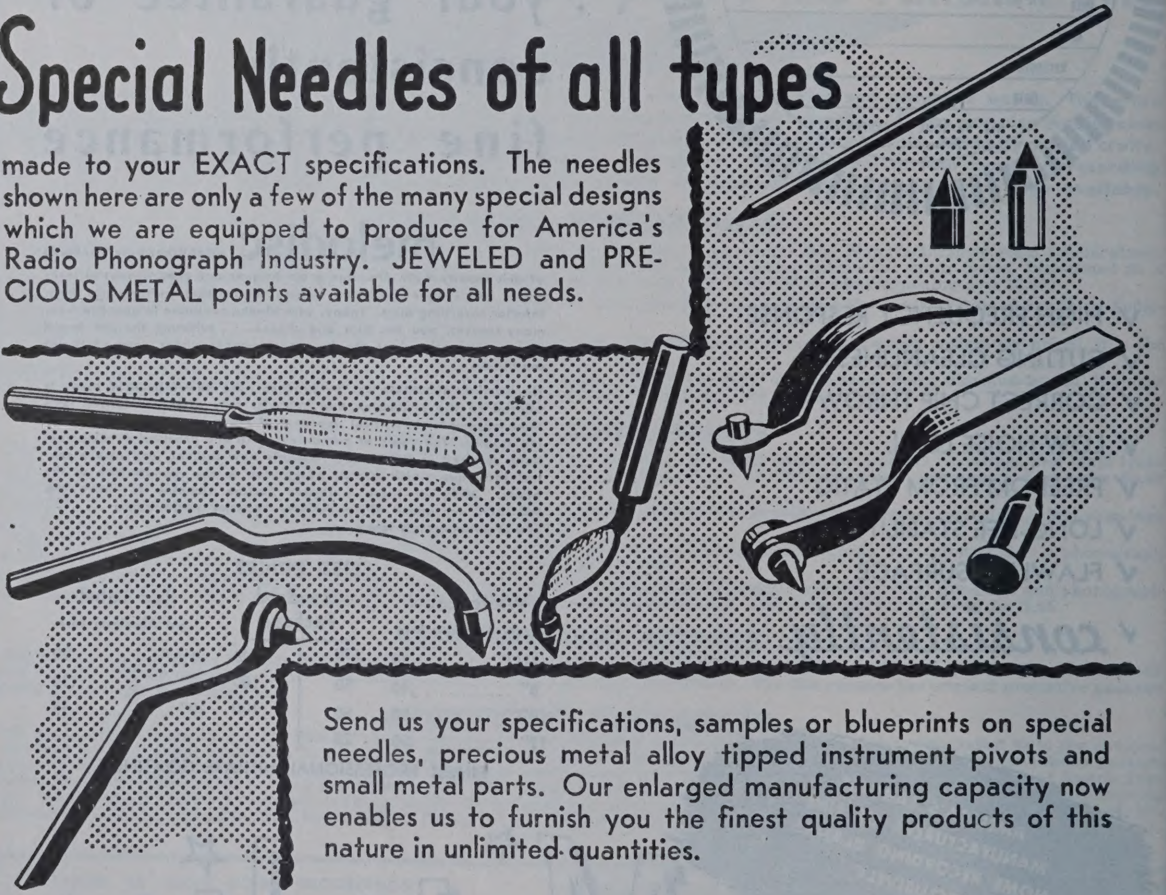
Whatever your requirements

M. A. MILLER *Mfg. Co.*

can supply you with America's FINEST QUALITY needles in any quantity, for original installation and your replacement needs.

Special Needles of all types

made to your EXACT specifications. The needles shown here are only a few of the many special designs which we are equipped to produce for America's Radio Phonograph Industry. JEWELED and PRECIOUS METAL points available for all needs.



Send us your specifications, samples or blueprints on special needles, precious metal alloy tipped instrument pivots and small metal parts. Our enlarged manufacturing capacity now enables us to furnish you the finest quality products of this nature in unlimited quantities.

Manufacturers of the World's Largest Line of Long Life Recording and Playback Needles

M. A. MILLER MANUFACTURING CO. Inc.

Carillon Dynamic NEEDLES

COIN MACHINE NEEDLES

RIGID TYPE

Loud. A rigid needle especially adapted for the HEAVY pickups. Plays to 5000 records.

No. 544......**List $1.00**

MEDIUM

A semi-flexible type needle for HEAVY or LIGHTWEIGHT pickups, giving a medium tone and designed for the average juke installation. Up to 5000 plays.

No. 549......**List $1.00**

SOFT

A flexible type needle giving a high fidelity reproduction. Especially recommended for the LIGHTWEIGHT pickups. Unsurpassed for reproducing beautiful music. Plays up to 5000 records.

No. 547......**List $1.00**

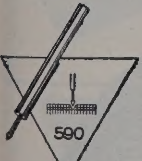
SAPPHIRE POINT

The best of quality in coin phonograph needles, especially designed for the new lightweight pickups. Tipped with sapphire, this needle cannot be excelled for true economical operation. Up to 7,500 plays per needle.

No. 1003......**List $1.50**

HOME PLAY BACK NEEDLES

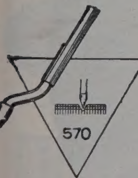
MOUNTED ON HANDSOME COUNTER DISPLAYS HOLDING ONE DOZEN NEEDLES EACH



ALUMINUM SHANK

Osmium-alloy tip for high fidelity reproduction is carried on .020 needle shaft for low scratch level. The aluminum sleeves reduces vibration and needle-talk, minimizes record wear. One of the newer needle types.

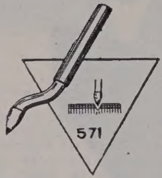
No. 590......**List 50c**



OSMIUM ALLOY

Scientific construction gives highest possible fidelity and full tone with lowest possible distortion and scratch. 1/8″ offset. Precision shaped osmium alloy tip for long playing life.

No. 570......**List $1.50**

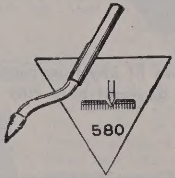


SAPPHIRE POINT . . . RUBY POINT

Our finest permanent type full tone needle with 1/8″ offset Duraluminum shank and precision ground point set with finest quality long wearing jewel, good for 10,000 plays.

No. 571-S (Sapphire)......**List $2.00**

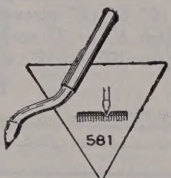
No. 571-R (Ruby)......**List $2.50**



OSMIUM ALLOY

Similar in all respects to our No. 570 needle, but has 3/16″ offset shank which gives a softer tone. A very high fidelity needle with a minimum of scratch and noise.

No. 580......**List $1.50**



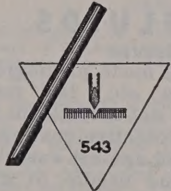
SAPPHIRE POINT . . . RUBY POINT

In all respects similar to our No. 571, but has 3/16″ offset shank for softer tone. You cannot obtain a finer jeweled needle anywhere, regardless of price. Good for 10,000 plays.

No. 581-S (Sapphire)......**List $2.00**

No. 581-R (Ruby)......**List $2.50**

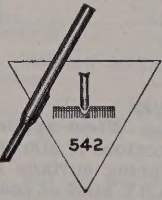
CUTTING NEEDLES



ALLOY TOOL STEEL

Made of the finest alloy tool steel, microscopically ground and polished with diamond dust. Recommended for amateur home use. Will cut approximately twenty-five six-inch records.

No. 543......**List 35c**



STELLITE

This patented Stellite recording stylus, when used by the advanced amateur or professional, will give results closely approximating the finest Sapphire. Hand-finished tip, cuts quiet smooth groove. Will cut approximately five hundred six-inch records.

No. 542......**List $1.50**

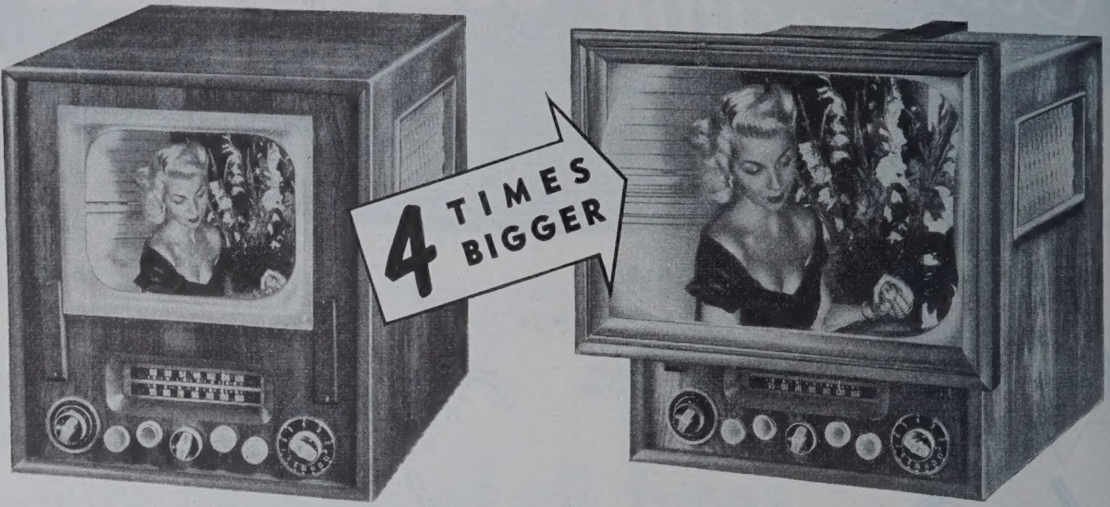
MICROGROOVE-LP-FINE GROOVE NEEDLES

All Carillon Dynamic Needles are available with small Radii—made to RMA Standards—to play all Microgroove, LP, or fine groove records.

Manufacturers of the World's Largest Line of Long Life Recording and Playback Needles

M. A. MILLER MANUFACTURING CO. Inc.

DUOTONE DAYLIGHT TELEVISION ENLARGING LENSES



These high-quality Television Enlarging Lenses fit any television set. No eye-strain—no distortion—more contrast and three dimensional wide angle view. Available in both daylight-blue tint or in clear lucite.

TINTED

		LIST PRIC
250F	WITH MAHOGANY FRAME (for 5" or 7" screens)	$29.95
500F	WITH MAHOGANY FRAME (for 10" or 12" screens)	$59.95
250	WITHOUT MAHOGANY FRAME (for 5" or 7" screens)	$24.95
500	WITHOUT MAHOGANY FRAME (for 10" or 12" screens)	$49.95

CLEAR

200	(for 5" or 7" screens)	$19.95
300	(for 10" screens)	$29.95

RECORDING FLUIDS

DUOTONE RECORD PRESERVER

A newly developed fluid that helps make phonograph records (Victor, Columbia, Decca, etc.) last much longer. Duotone Record Preserver not only cleans the record, but actually puts a thin protective coating on it. This coating protects the record against excessive wear and in addition enables the needle to glide smoothly, thus reducing surface noise.

	List
Each Bottle	$0.50

Cat. No. 105-B

Attractive display carton of twelve 2-oz. bottles	6.00

PRE-RECORDING FLUID

For use on the disc before cutting. When applied to the surface with a piece of soft cotton, it allows the needle to cut smoothly, thus reducing surface noise and needle wear. Will not harm ANY kind of coating.

	List
Each Bottle	$0.50

Cat. No. 101-B

Carton of 12 Bottles	6.00

HARDENING FLUID

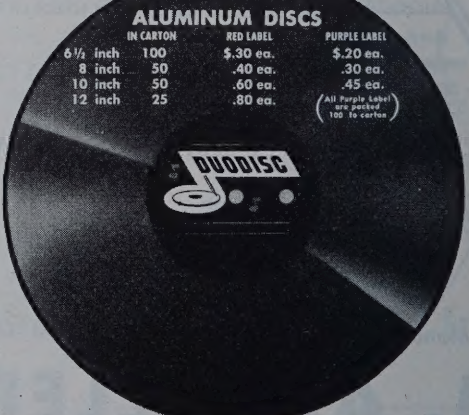
For use on home recorded records after cutting. Apply to surface with piece of soft cotton, covering entire surface of record. Preserves groove structure and record life. Materially reduces surface tension. Restores original tone quality on older records.

	List
Each Bottle	$0.50

Cat. No. 102-B

Carton of 12 Bottles	6.00

DUOTONE RECORDING BLANKS



ALUMINUM DISCS

	IN CARTON	RED LABEL	PURPLE LABEL
6½ inch	100	$.30 ea.	$.20 ea.
8 inch	50	.40 ea.	.30 ea.
10 inch	50	.60 ea.	.45 ea.
12 inch	25	.80 ea.	(All Purple Label are packed 100 to carton)

DUOTONE NEEDLES

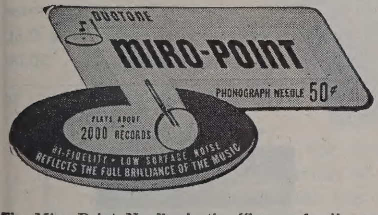
FILTER POINT
No. 6

DUOTONE
FILTER POINT

The Filter Point needle is a newly developed needle which actually filters surface noise, yet retains the brilliance of your recordings. The highly polished and rounded point assures smooth movement in the record groove, reducing record wear to a minimum. The needles are hand picked and will play from 12 to 15 records without frequency loss or distortion. The specially designed point is guaranteed not to break when used with any type of record changer.

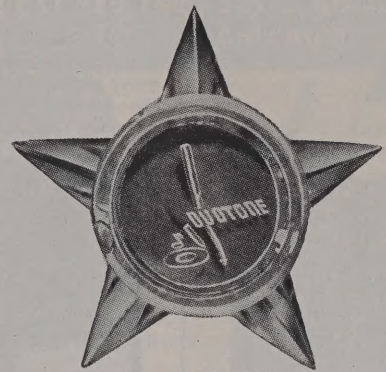
	List
Package of 10 needles	$ 0.10
Cat. No. 610-B—Carton of 100 pkgs	10.00
Cat. No. 610-C—Display card of 50 pkgs	5.00
Package of 25 needles	$ 0.25
Cat. No. 625-B—Carton of 50 pkgs	12.50
Cat. No. 625-C—Display card of 50 pkgs	12.50

MIRO-POINT No. 21


DUOTONE
MIRO-POINT
PHONOGRAPH NEEDLE 50¢
PLAYS ABOUT
2000 RECORDS
HI-FIDELITY • LOW SURFACE NOISE
REFLECTS THE FULL BRILLIANCE OF THE MUSIC

The Miro Point Needle is the "low surface" specialist of the Duotone Line. Despite this fact it still brings out the highs in a manner never before attained by a needle of this type. Designed to play at least 2000 records the Miro Point is the outstanding needle in the field today.

	List Price
Needle list price, each	$0.50
Cat. 21-B—Carton of 18 needles	9.00
Cat. No. 21-C—Display card of 18 needles	9.00

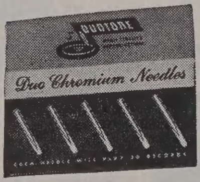


No. 19 "STAR"

Reproduces any type of record without surface noise yet maintains brilliant high frequencies. Finest quality gem, brightly polished for smooth riding in groove. Special design filters out all noise and needle talk. Has flat on shank for easy insertion in pickup. May be removed if desired. Individually packed in beautiful lucite box. Ideal for dubbing.

	List Price
Each Needle	$ 5.00
Cat. No. 19-B—Carton of 12 needles	60.00

CHROMIUM No. 17



The Duotone Chromium needle is Duo Chrome plated to insure long life and minimum record wear. Ideally suited for use on record changers. Each needle has a highly polished surface, and is shadowgraphed. Being of a semi-permanent type, the Chromium needle avoids the necessity of constantly changing needles. Each needle is guaranteed to play at least 50 records, assuring a full evening of music without requiring a change of needle.

	List Price
Package of 5 needles	$ 0.25
Cat. No. 17-B—Carton of 50 pkgs	12.50
Cat. No. 17-C—Display card of 25 pkgs	6.25

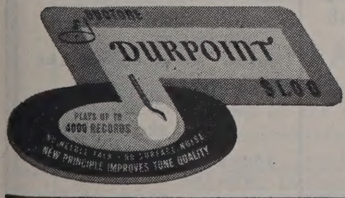
TRANSCRIPTION No. 7

DUOTONE
TRANSCRIPTION NEEDLES
SHADOWGRAPHED
Ideal for use on home recording blanks and regular records

Transcription needles are individually shadowgraphed to insure each needle being perfect. They are especially designed to reduce record wear on home recordings and will give life-like reproductions when used on commercial or home records. This needle, because of its perfect point and fine frequency response, is extensively used by broadcasting stations, and recording studios. Economically packed for use in home and studios.

	List Price
Package of 10 needles	$ 0.10
Cat. No. 710-B—Carton of 100 packages	10.00
Cat. No. 710-C—Display card of 50 packages	5.00
Package of 25 needles	$ 0.25
Cat. No. 725-B—Carton of 50 packages	12.50
Cat. No. 725-C—Display card of 50 packages	12.50
Package of 75 needles	$ 0.50
Cat. No. 750-B—Carton of 20 packages	10.00

DURPOINT No. 15


DUOTONE
DURPOINT
$1.00
PLAYS UP TO
4000 RECORDS
NO NEEDLE TALK • NO SURFACE NOISE
NEW PRINCIPLE IMPROVES TONE QUALITY

Permanent needle for home use. Will play over 4000 records without changing. Takes additional polish from the groove of the record thus minimizing record wear, and reducing surface noise. Because of this feature the Durpoint should not be removed from pick up until replacement is necessary. Packed on individual cards.

	List Price
Each Needle	$ 1.00
Cat. No. 15-C—Display card of 12 needles	12.00
Cat. No. 15-B—Carton of 12 needles	12.00

CACTUS NEEDLES No. 18

Duotone
CACTUS
NEEDLES

Made from specially selected cactus thorns chemically treated to prolong life of point and assure quiet reproduction. Each needle may be re-sharpened many times. Can be used on record changers as well as ordinary phonographs. Especially recommended for use on records with high surface noise.

	List Price
Package of 12 needles	$ 0.35
Cat. No. 18-B—Carton of 50 packages	17.50
Cat. No. 18-C—Display card of 25 pkgs	8.75

MANUFACTURER'S DEPT.

Duotone's Manufacturing Department will be glad to quote on any special needles for manufacturing requirements.

ENGINEERING DEPT.

Duotone's Engineering Department will design special needles for your requirements or supply needles according to your own specifications.

DUOTONE
No. 20
"LIFETONE"
OSMIUM TIPPED
5000 PERFECT PLAYINGS

The Duotone Lifetone Needle was especially designed for use with record changers. Its brilliant performance coupled with low surface noise makes it ideal for this purpose. When properly used, it will give at least 5000 perfect playings, maintaining throughout its life the same bright reproductive qualities. Packed in beautiful plastic container.

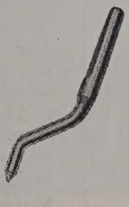
	List Price
Each needle	$ 1.50
Cat. No. 20-B—Carton of 12 needles	18.00
Cat. No. 20-C—Display card of 12 needles	18.00

NEW REGENT SAPPHIRE
(Double Bend)
No. 13

A permanent needle with a flat on the shank allowing removal from, and insertion into pickup as required. Will play approximately 6000 home recordings, or 5000 commercial recordings. Finest quality jewel assures natural tone reproduction and very low record wear. Especially recommended for use in lightweight pickups. Packed on individual card.

	List Price
Each Needle	$ 2.00
Cat. No. 13-B—Carton of 12 needles	24.00
Cat. No. 13-C—Display card of 12 needles	24.00

RUBY NEEDLE No. 35



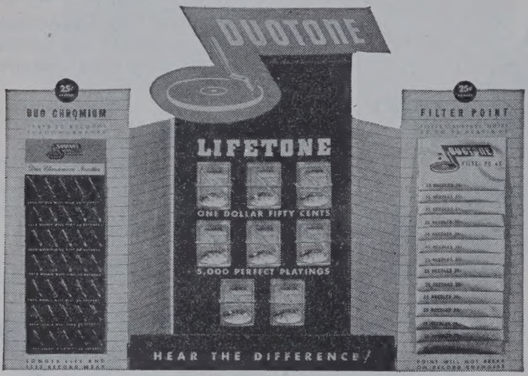
The Ruby tops everything else in its price class. Second only to the famous Duotone "Star" Sapphire, the Ruby is known for its lifelike reproduction with minimum of surface noise. A display is included with each dozen needles.

	List Price
Each Needle	$ 3.50
Cat. No. 35B—Carton of 12 Needles	42.00

DUOTONE NEEDLES

LUCKY SEVEN DEAL No. 777

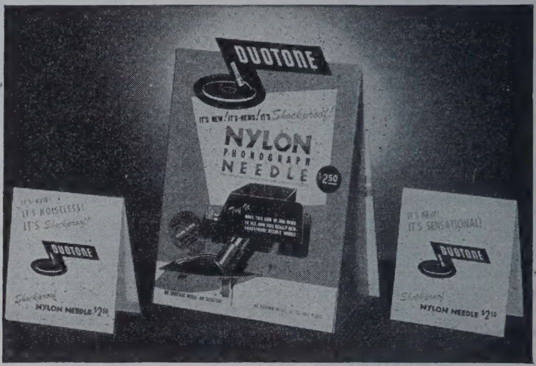
This popular deal includes three of our most popular numbers, all on one attractive display. In consists of the following:


DUOTONE
25¢
DUO CHROMIUM
LIFETONE
ONE DOLLAR FIFTY CENTS
5,000 PERFECT PLAYINGS
HEAR THE DIFFERENCE!
25¢
FILTER POINT

		List Price
14 packages Filter Point needles	@ 25c..	$ 3.50
7 packages Duo Chrome needles	25c..	1.75
7 packages New Lifetone needles	1.50 ..	10.50
		$15.75
1 new Lifetone needle FREE		1.50
Total Value		**$17.25**

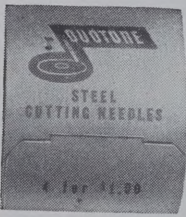
SHOCKPROOF NYLON NEEDLE No. 25

Unique in design, this needle has an osmium tip on spring steel set into a Nylon bumper. This eliminates damage to either needle or record should the pickup arm be accidentally dropped. This needle also eliminates surface noise. Individually packed in attractive lucite container. This needle will play up to 5,000 recordings.


DUOTONE
IT'S NEW! IT'S NEWS! IT'S Shockproof!
NYLON PHONOGRAPH NEEDLE
25¢
IT'S NEW! IT'S NOISELESS! IT'S Shockproof!
IT'S NEW! IT'S SENSATIONAL!
NYLON NEEDLE $2.50

	List Price
Each needle	$ 2.50
Cat. No. 25-C—Display card of 12 needles	30.00

STEEL CUTTING STYLUS No. 8


DUOTONE
STEEL CUTTING NEEDLES
4 for $1.00

The ideal needle for use in homes by amateur record makers. With ordinary care will make a quiet record of good quality, which can be played back many times. Will make approximately 15 to 25 10″ records. Packed 4 to handy point-protecting felt-lined package.

Price $1.00

	List
Cat. No. 8-B—Carton of 25 pkgs.	$25.00
Cat. No. 8-C—Display card of 25 pkgs.	25.00

STELLITE CUTTING STYLUS No. 9

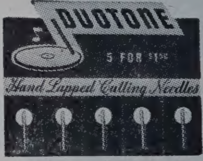
Available in Long and Short Shank

Stellite Cutter
$2.00
MAKES MORE THAN 500 6" RECORDS

The Stellite cutting stylus with proper care, will make a record that compares favorably with a professional cutting. Its hand-lapped edge cuts a groove which assures a noiseless recording. Stellite styli are recommended after some cutting experience has been acquired. The reduction in surface noise and the improved quality of the recording will be instantly noticeable, and will be well worth the difference in cost. Will cut approximately 500 6″ records. Individually packed on cards. **Price $2.00.**

	List
Cat. No. 9-B—Carton of 12 needles	$24.00
Cat. No. 9-C—Display card of 12 needles	24.00

LAPPED *STEEL* CUTTING STYLUS No. 10

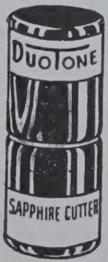

DUOTONE
5 FOR $1.50
Hand Lapped Cutting Needles

This new hand-made lap on the cutting edge of the needle makes a much smoother cut, thereby reducing surface noise and adding to the life of the needle. Especially recommended for making vocal recordings. **List Price,** 5 Needles on card.....**$1.50**

Cat. No. 10-B—Carton of 10 cards	**$15.00**
Cat. No. 10-C—Display card of 10 cards	**15.00**

SAPPHIRE STYLUS No. 12

Available in Long and Short Shank


DUOTONE
SAPPHIRE CUTTER

No. 11
No. 12

The sapphire Professional cutting stylus is the finest available. The cutting jewel is very highly polished and has a patented hand-lapped edge, which cuts and polishes the groove, making a record with the lowest surface noise. With proper handling will give 10-15 hours of cutting and can be resharpened many times.

DO NOT DROP

Packed in plastic container.

Cat. No. 12—Needle, list price, each $5.50
(Resharpening—**Each $1.75**)

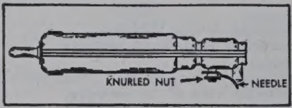
DURAL SHANK No. 11

Available in Long and Short Shank

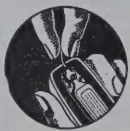
This needle is similar to No. 12, and in addition is held to more exacting specifications, as established by leading engineers. Mounted in Dural shank. Packed in plastic container. **Each $7.25**

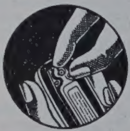
(Resharpening—**Each $1.75**)

"MUTED STYLUS" NEEDLES


KNURLED NUT
NEEDLE

This drawing shows the "muted" or curved shank characteristic of needles used with the new Shure cartridges, and the location of the knurled thumb nut on the bottom of the cartridge.





Duotone "Muted Stylus" Needles for Shure cartridges are easy to install. The customer loosens the knurled thumb nut and pulls out the old needle; inserts the new needle, and tightens thumb nut securely.

Muted Stylus Osmium Tip Needle $1.50 each, List
Muted Stylus Sapphire Tip Needle $2.50 each, List

"MICRO-GROOVE" NEEDLES

The Star Needle as well as the Shockproof Nylon Needle are available with the one mill radius for use on micro-groove records.

19-M Star Needle with One Mill Radius,
$5.00 each, List

25-M Shockproof Nylon Needle with One Mill Radius,
$2.50 each, List

13-M Regent Sapphire Needle with One Mill Radius,
$2.00 each, List

CUTTING NEEDLES

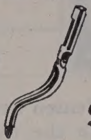
11-M Special Sapphire Cutting Stylus, for use with Micro-Groove Equipment,
$7.25 each, List

"For the WORLD'S FINEST music"

Jensen PHONOGRAPH NEEDLES

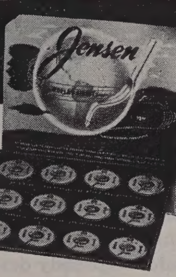
JENSEN INDUSTRIES, INC., 329 S. WOOD ST.
CHICAGO 12, ILL.

Royal Jewel
PRICE $2.50
Jensen



Catalog No. 25

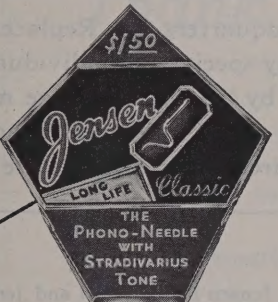
List Price $2.50

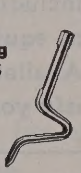


ROYAL JEWEL

The *famous* Jensen Royal Jewel phonograph needle with the *genuine* sapphire tip, and the modified stylus shank. Designed by Peter L. Jensen, the Royal Jewel reduces surface scratch to an irreducible minimum and increases the clarity of definition. It delivers greater brilliance than ever before by the delicately balanced reproduction of high frequency notes exactly as transcribed. This outstanding stylus absorbs vibration, prolongs the life of valuable records. Attractively packaged in a rich gold, red and black oval tray.

Colorful, point-of-sales, Royal Jewel Display with 12 Genuine Sapphire needles.
Cat. No. 25D.......List price $30.00


$1.50
Jensen
LONG LIFE
Classic
THE PHONO-NEEDLE WITH STRADIVARIUS TONE



Catalog No. 15

List Price $1.50

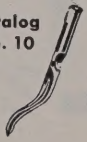
THE Jensen Classic Phono-Needle

CLASSIC

The Jensen Classic—the needle designed especially for brilliant reproduction of instrumental and vocal recordings. The Classic has a wide tonal range and longer life with fidelity all the way. Its new spring construction minimizes hiss and scratch—delivers a "Stradivarius tone." Its osmium alloy tip assures a long service life. Packaged in a pentagonal red and gold tray.

The Jensen Classic Miniature Display, small enough to fit nicely under glass counters — or stand on top of counters as preferred.
Cat. No. 15M. Unit of 1 Display and 12 individually packaged needles.......List price $18.00

Jensen
CONCERT NEEDLE
CUSHION ACTION
LONG LIFE
$1.00
PROTECTS TREASURED RECORDS



Catalog No. 10

List Price $1.00

Jensen
FOR 5000 PLAYS
for the World's Finest Music

THE Jensen Concert Phono-Needle
$1.00
Jensen Quality

CONCERT

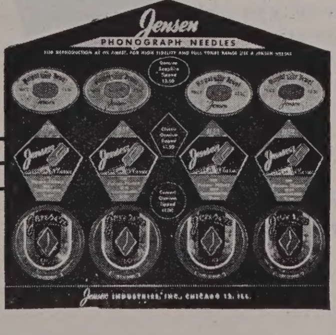
The ever popular Jensen Concert Phonograph Needle is the finest $1 needle ever offered. Its full tonal range and long playing qualities are assured by its flanged design and new 1949 notched shank. The spring action preserves the surface of records, lengthens their service life, provides clear, undistorted reproduction. Well over a million needles are in use. Packaged in a circular red, gold and blue tray.

The Miniature Jensen Concert Needle display — the type that was introduced by Jensen. Supplied as standard display with Concert needles.
Cat. No. 10M. Unit of 1 Display and 12 individually packaged needles.......List price $12.00

The familiar Jensen Counter display for Concert needles, holds twelve individual circular packages. Available on special order.
Cat. No. 10D.......List price $12.00

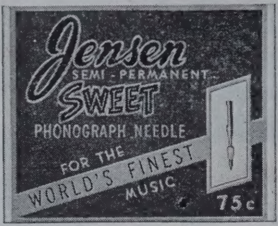
4-4-4 DISPLAY CARD

The Jensen *Combination* Display Card, known as the 4-4-4 Card because it holds 12 individually packaged Jensen needles: 4 Royal Jewel, 4 Classic and 4 Concert needles. Definitely desirable for dealers who wish to provide a choice of needles of varying price to their customers. Advantageous where display space is limited. An *ideal* Point-of-Sales help for gauging buying preferences. A practical, profit-building sales aid.
Cat. No. 444.......List price $20.00


Jensen
PHONOGRAPH NEEDLES
Jensen INDUSTRIES, INC., CHICAGO 12, ILL.

Jensen PHONOGRAPH NEEDLES

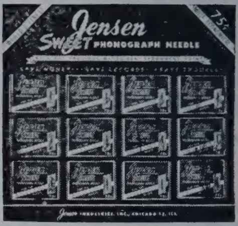
SWEET


Jensen
SEMI-PERMANENT
SWEET
PHONOGRAPH NEEDLE
FOR THE WORLD'S FINEST MUSIC
75c

Catalog No. 75

List Price

75c

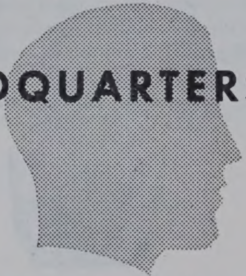

Jensen
SWEET PHONOGRAPH NEEDLE
75c

The Jensen Sweet—an outstanding Jensen needle at a low price. Especially popular with the teen age trade. Expressly designed for playing popular music. Remarkable tonal qualities, however, make it ideal for all good records. Individually packaged in a gold foil holder printed in green and black.

The Jensen Sweet display holds 12 Jensen Sweet needles packaged in gold foil holders printed in green and black.

Cat. No. 75M.......List price $9.00

HEADQUARTERS



Jensen is headquarters for Replacement Needles including many special and individual types issued as equipment by leading cartridge manufacturers. Available in 1 and 3 mil radius. Packaged to satisfy your requirements. Inquiries are invited.

Royal Jewel
PRICE $2.50
MICRO-GROOVE
Jensen LP
1 MIL.
$1.50
LP 1 MIL
Jensen
LONG LIFE
Classic
THE PHONO-NEEDLE WITH STRADIVARIUS TONE

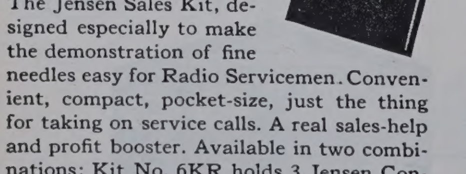
LP

Jensen Royal Jewel and Jensen Classic phonograph needles are now available for the new L-P (long-playing) records. The Royal Jewel (genuine sapphire) and Classic (osmium) have precision-sized, 1 mil radius tips. Both have micrometric accuracy, assured by shadowgraph and microscopic inspection. They provide extreme vertical compliance adapted to 6-gram R.M.A. specification. Surface hiss is reduced to a minimum, no blur-r-ring sound.

Cat. No. 25LP ....$ 2.50
Unit of 1 Dozen 30.00

Cat. No. 15LP ....$ 1.50
Unit of 1 Dozen. 18.00

SALES KITS


Jensen
Jensen
Jensen
Jensen Phonograph Needles

The Jensen Sales Kit, designed especially to make the demonstration of fine needles easy for Radio Servicemen. Convenient, compact, pocket-size, just the thing for taking on service calls. A real sales-help and profit booster. Available in two combinations: Kit No. 6KR holds 3 Jensen Concert and 3 Jensen Royal Jewel Needles. Kit No. 612 contains 3 Jensen Classic and 3 Royal Jewel Needles.

Cat. No. 6KR ... $ 10.50
Cat. No. 612 ..... 12.00

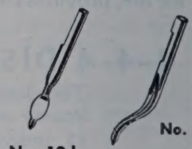
COIN MACHINE NEEDLES

Jensen Coin Machine Needles with the locked-in osmium tip for long service life, and for greater brilliance, minimized surface scratch.

Preferred by many operators—because they assure a definite savings in operating costs, fewer service calls, increased profits. Packaged two needles to a card, five cards to a unit.

Cat. No. 10J. 100 straight shank needles in units of 10
Price on application

Jensen
COIN MACHINE NEEDLE
Designed especially for use in coin operated machines
Tighten set screw firmly against flat side of needle
Never turn or reverse needle in pick-up
REPLACE AFTER 2000 PLAYS
JENSEN INDUSTRIES, INC.
JENSEN INDUSTRIES, INC.



No. 10K

Cat. No. 10J

Jensen Coin Machine needles are supplied with the conventional straight shank design. Available also are curved shank needles (*on special order for Cat. No. 10K*) for greater modulation.

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

WALCO Play Back NEEDLES

Trade Mark

QUANTITY DISCOUNTS QUOTED ON REQUEST

WALCO "400" FLOATING JEWEL SAPPHIRE

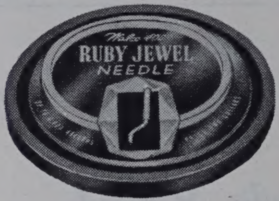
FLOATING JEWEL
SAPPHIRE 250 NEEDLE
UP TO 10,000 PLAYS

MODEL WS-400

RATING: UP TO 10,000 PLAYS

LIST PRICE $2.50

WALCO "400" RUBY JEWEL NEEDLE



MODEL WR-400

RATING: UP TO 6,000 PLAYS

LIST PRICE $2.00

WALCO "400" PRECIOUS METAL NEEDLE

WALCO 400
Precious Metal
PLAYS UP TO 4,000 RECORDS
$1.50

MODEL WA-400

RATING: UP TO 4,000 PLAYS

LIST PRICE $1.50

These three needles are beautifully packaged and are available 12 to a counter-display card or in compact cartons of 12 needles. These needles are also available with microgroove (one mil radius) points for playing 33⅓ RPM LONG PLAYING records.

WALCO DIAMOND NEEDLE MODEL WD-90

The Walco Diamond is the first professional broadcast-type needle to be offered for low cost, mass sale. Once installed in today's pickup, the needle problem is ended.

LIST PRICE $12.50

WALCO "Muted Stylus" NEEDLES for

SHURE

Muted Stylus PICKUP CARTRIDGES

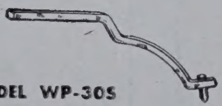
Mfr'd and Sold by Walco under Special Shure License

PROFESSIONAL DIAMOND PLAY BACK STYLUS

MODEL WD-95 — For users who prefer a straight shank needle or where a bent needle cannot be used, Walco provides the WD-95 Straight Shank. TIP: South African diamond; SHANK: 17ST duraluminum; POINT RADIUS: .0025"; INCLUDED ANGLE: 45 degrees; OVERALL LENGTH: Straight shank — $\frac{11}{16}$".

LIST PRICE $12.50

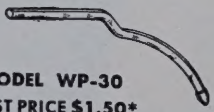
WALCO SAPPHIRE "Muted Stylus" NEEDLE



MODEL WP-30S

LIST PRICE $2.50*

WALCO PRECIOUS METAL "Muted Stylus" NEEDLE



MODEL WP-30

LIST PRICE $1.50*

THE ENCORE MODEL WA-100

An exceptionally fine needle priced for volume sales. Precious metal tipped.

LIST PRICE $1.00

STRAIGHT SHANK SAPPHIRE MODEL WN-55

Especially recommended for low-pressure pickup and professional use. Notched dural shank.

LIST PRICE $1.00

BENT SHANK SAPPHIRE MODEL WN-50

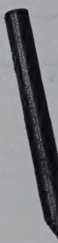
For use on older type phonos with heavier pickups. Hand polished sapphire with dural shank.

LIST PRICE $1.00

GROOVE-MASTER MODEL WA-150

A high fidelity needle tipped with precious metal alloy. Hand polished point with filter type shank.

LIST PRICE $ .50



COIN MACHINE SAPPHIRE MODEL WS-900

For the light weight tone arms in new coin phonographs. Rated at 5,000 record plays.

PRICES ON REQUEST

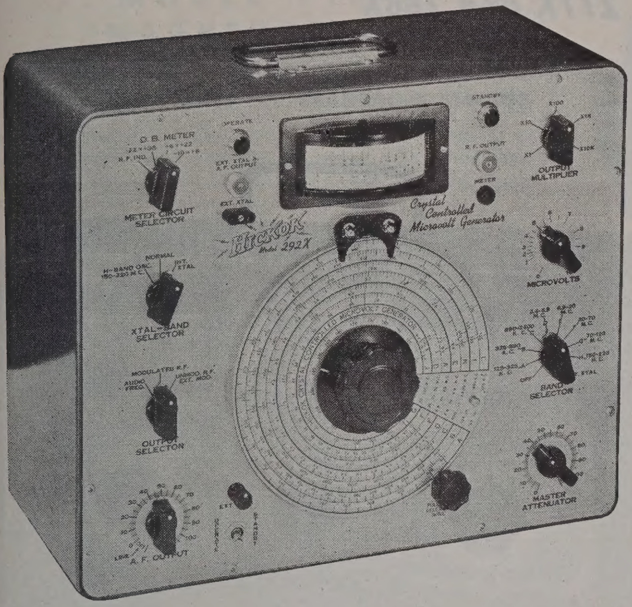
COIN MACHINE PRECIOUS METAL MODEL WA-700

An all-purpose, long-life coin machine needle of superior quality.

PRICES ON REQUEST

HICKOK TEST EQUIPMENT

NEW MICROVOLT SIGNAL GENERATOR for AM, FM, TV and Mobile Bands



Model 292-X **Net Price $195.00**

Model 292-X—125 kc to 220 mc on fundamentals.

THE ONLY SIGNAL GENERATOR WITH ALL THESE

FEATURES

- **Covers all AM, FM, TV and Mobile Frequencies**
- **Measures Input of Units under test**
- **Modulated and Unmodulated Output from 1 to 100,000 microvolts**
- **Cast Aluminum Attenuator for Minimum Signal Leakage**
- **May be externally modulated from 15 to 10,000 cycles per second**
- **Decibel Meter for faster servicing**
- **Self-contained Crystal Oscillator Circuit — Crystals from 250 kc to 20 mc are available**
- **Over 100 inches of scale**
- **Most accurate Microvolt Generator available for practical radio servicing**

●

OPTIONAL

Crystal Oscillator for Accuracy to .005% in 152-162 mc Mobile Range.

●

This new HICKOK Model 292-X is the only popularly priced Microvolt Generator available that covers both Upper Channel TV and Mobile frequencies — on fundamentals.

TECHNICAL CHARACTERISTICS — Fundamental Frequency Coverage: Bands A through G — 125 kc to 110 mc; Band H — 150 to 220 mc. **Output Calibrated:** 1 to 100,000 microvolts. **Output Impedance:** X1, X10, and X100 microvolts — 5 ohms; X1K — 30 ohms. X10K — 0 to 100 ohms. **Modulation Fixed:** 400 cycles. **AF Output:** 0-2 volts. The Model 292-X is wired for a plug-in type crystal (152-162 mc), with accuracy to .005%. Self-Contained crystal oscillator circuit has crystal jack on front panel permitting crystal outputs at any frequency from 250 kc to 20 mc on fundamentals; and to over 250 mc on harmonics. Type CCO-56 Crystal Oscillator unit available with frequency accuracy to .005% for Mobile Band coverage. **Self-Contained Decibel Meter:** —10 to ±38 DB in 3 ranges. **Tube Complement:** 1 6SN7, 2 6J6, 1 6SG7, 1 6X5GT. **Power Consumption:** 35 watts at 115 volts. **Meter Model:** 50; 105-125 V., 50-70 cycles, A.C. 14" x 16½" x 8"; 29 lbs. Net: 38# Ship. Satin Chrome Panel. Blue lacquered steel case.

LINEARITY-PATTERN GENERATOR Model 620—Crystal Controlled (L. P.)

HICKOK Model 620
CHANNEL
CHANNEL NUMBER
Television Generator
STANDBY
OPERATE
POWER
OFF
ON
OUTPUT
OUTPUT CONTROL
OUTPUT SELECTOR

Model 620 **Net Price $144.85**

PROVIDES A STABLE VIDEO PATTERN

***At Any Time* for Alignment and Trouble Shooting**

NOW INDEPENDENT OF STATION OPERATION

THE MODEL 620 GIVES YOU THESE OUTSTANDING

FEATURES

- **Provides Stable Linear TV Pattern at any time**
- **Checks Relative Receiver Sensitivity**
- **Detects Hum in Horizontal Deflection Circuits**
- **Provides Means for Checking and Aligning of:**
  - **Horizontal and Vertical Linearity and Drive Controls**
  - **Horizontal and Vertical Width, Height and Hold Controls**
  - **Horizontal A.F.C. Circuits**
- **Fast and Easy to use: Merely connect to receiver antenna**
- **Extremely useful in fringe areas where reception during installation is lacking or questionable**

Today's Video serviceman needs an independent and more accurate pattern to rapidly trouble shoot in television servicing. The HICKOK Model 620 Cross-Hatch Generator has a high enough output to obtain a clear picture on the screen of any TV receiver. With a HICKOK 620 you can rapidly service in borderline areas where broadcast reception is unpredictable. You can align more hours per day — for more profit.

TECHNICAL CHARACTERISTICS — Output Frequencies: 4 channel — 3 through 5 inclusive. However, for servicing, only one channel is necessary. **Output Voltage: 50 to 5,000 Microvolts.** All modulating frequencies are crystal controlled. **Horizontal lines: 8 or 9. Vertical lines: 12.** Selection of Horizontal or Vertical lines can be made separately or simultaneously as a Cross-Hatch pattern. **Power: 105-125V., 60 cycles AC. Net weight: 11½ lbs. — Ship. weight: 18 lbs.** Beautiful blue hammertex steel case with sation chrome panel. Supplied complete with test leads.

HICKOK TEST EQUIPMENT

UNIVERSAL CRYSTAL CONTROLLED SIGNAL GENERATOR

Models 277, 277X and 288X

The Universal Crystal Controlled Signal Generators, Models 277, 277X and 288X, are specifically designed to meet the many and varied needs of the radio engineer and service man working with frequency and amplitude modulated receivers and with television equipment. The wide range in radio-frequencies and audio-frequencies available, with the many choices of type of modulation, makes these Models most versatile and practical instruments.

All three models are the same except for the following features: 0.01% accurate crystal controlled outputs, both amplitude modulated at 400 cycles and unmodulated, offered in Models 288X and 277X only. Self-contained decibel meter with 42" cable, Model 288X only.

SPECIAL FEATURES

Complete frequency modulation coverage with three variable bandwidths of sweep: 0-30 kc, 0-150 kc, 0-450 kc. Frequency modulation at two self-contained modulating frequencies: 60 cycles and 400 cycles. Provisions for external amplitude and frequency modulation to 15,000 cycles. Self-contained amplitude modulation at 400 cycles. Continuously variable audio frequency from 0-15,000 cycles. Audio frequency and radio frequency outputs are continuously variable from zero to maximum. 60 cycle synchronized sweep voltage is available for use with an oscillograph.

Model 288X
Hickok
Universal
Crystal Controlled
Signal Generator
FREQUENCY MODULATED SWEEP
BAND SELECTOR
FREQUENCY ADJUSTMENT
OUTPUT CONTROL
OUTPUT MULTIPLIER
F.M.-A.M. SELECTOR
OUTPUT SELECTOR
VARIABLE AUDIO FREQUENCY
GROUND
DECIBEL METER
OUTPUT
EXTERNAL MODULATION
SYNCHRONIZED SWEEP VOLTAGE

Model 288-X

Net Price, $169.20

SPECIFICATIONS

Dimensions—14" x 16½" x 7"
Net Weight—25 lbs.—Ship. 36 lbs.
Meter—Model 51X, Model 288X only

Scale—over 100"
Satin-chrome finish panel
Blue baked Hammertex finished case.

POWER SUPPLY: 105-125 V, 50-70 cycles, A-C. Power Consumption: 20 watts at 115 volts. Amplitude Modulated, Pure R-F Frequency Range: 100 kc-110 mc. Frequency Modulated R-F Frequency Ranges: Narrow Band (0-30 kc Sweep): 100 kc to 110 mc in 7 ranges: Wide Band (0-150-450 kc Sweep) 1 mc to 160 mc in 7 ranges. Modulation: Amplitude Modulation—400 cycles; Frequency Modulation—0-450 kc variable sweep, 50 mc. modulating frequency 60 cycles; 0-150 kc variable sweep, 50 mc, modulating frequency 400 cycles; 0-30 kc variable sweep, 1000 kc, modulating frequency 60 cycles; External Modulation—Amplitude or frequency modulation, variable 0-15,000 cycles. A-F Range: Fixed at 400 cycles, variable from 0-15,000 cycles. Crystal Controlled Output (Models 277X and 288X only)—100 kc, Unmodulated: 100 kc-15 mc, utilizing harmonics; 100 kc, 400 cycle amplitude modulated: 100 kc-15 mc, utilizing harmonics; 1000 kc, Unmodulated: 1000 kc-125 mc, utilizing harmonics; 1000 kc, 400 cycle amplitude modulated: 1000 kc-125 mc, utilizing harmonics. Output: R-F, continuously variable from 0 to maximum (with multipliers X1, X10 and X100); A-F, continuously variable from 0 to maximum, linear control, for both 400 cycle and variable frequency outputs. Synchronized Sweep Voltage: for horizontal deflection of oscillograph (60 cycles.) DB Meter Range (Model 288X only): —10 to +6, +6 to +22, +22 to + 38. Tube Complement—1 6C4, 2 6SN7, 1 6SJ7, 1 6X5G.

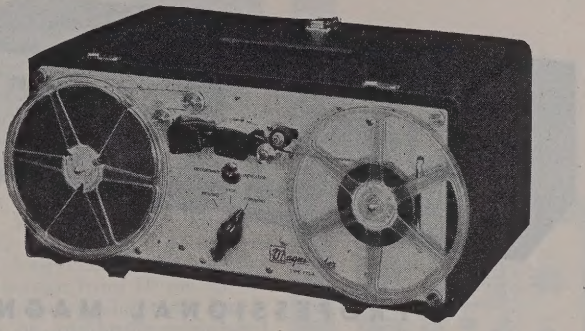
MAGNECORD

FIRST IN THE FIELD OF MAGNETIC RECORDING

MODEL PT6-A

"MAGNECORDING"

★ BROADCASTING ★ BUSINESS ★ CHURCH
★ MOTION PICTURES ★ RECORDING STUDIOS



Magnecord gives wide frequency response with low distortion; light weight with dependability; flexible arrangement and use; and economical first cost and operation. Magnecord is the oldest and largest manufacturer of professional magnetic recorders.

BASIC RECORDING MECHANISM

PT6-A (with case)	$278.00
PT6-AX (without case)	$262.00

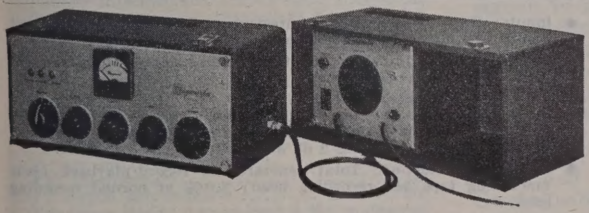
SPECIFICATIONS

- **Recording Speeds:** 15 inches/sec., or 7½ inches/sec. interchangeable. Quick change capstans.
- **Rewind Speed:** Full 7½-inch reel rewound in approx. 40 seconds.
- **Frequency Response:** At 15 inches/sec. from below 40 cps to 15 kc ± 2 db. At 7½ inches/sec. 40 cps to beyond 7 kc when used with proper equalizer.
- **Motors:** Syncronous 117 v. 60-cycle AC motor provides constant speed drive for recording and playback. Shaded pole motor provides high speed rewind.
- **Record-Reproduce Head:** Magnecord RT-61 plug-in type.
- **Erase Head:** Magnecord ET-18 plug-in type.
- **Flutter:** Max. 0.3%.
- **Mechanical Drive:** Positive idler speed reduction system.
- **Power Requirements:** 117 volts 60-cycle single phase AC, 70 watts.
- **PT6-A Case:** 18″ L x 8″ W x 15½″ D. Finish: Black Grain Leatherette.
- **Panel:** Magnecord grey hammered finish. 7″ H x 17″ W.
- **Bias Oscillator:** Built in. Uses single 12AU7 tube. 6.3 at .3 amps and 300 v at 40 ma must be supplied from external source.
- **Connections:** All power connections for motors and 12AU7 are made to Jones plug. Audio connections to Cannon socket.

BASIC RECORDING MECHANISM

PT6-AH (with case)	$284.00
PT6-AXH (without case)	$278.00

- Same as above with addition of Hi Forward Cueing Speed.



MULTI-PURPOSE AMPLIFIER PT6-P

Lightweight combination record/playback/remote amplifier used with Magnecord PT6-A to provide high-fidelity recording.

PT6-P	$462.00

SPECIFICATIONS

- **Inputs:** Three independently mixed low-level microphone channels 30/50 ohms; also, high impedance bridging input.
- **Mixer:** Individual low impedance controls (2 db per step) on each microphone input. Master gain control (2 db per step).
- **Outputs:** + 6 dbm, 600 ohms balanced. (Recording output is equalized signal developing approx. 1 ma in Magnecorder RT-61 recording head used in PT6-A.)
- **Frequency Response:** ± 2 db from 50 to 15,000 cps at a tape speed of 15 inches/sec., and ± 2 db from 50 to 7,000 cps at 7½ inches/sec. when plug-in recorder equalizer for the specific speed is used. Amplifier alone ± 2 db 50 to 15,000 cps.
- **Harmonic Distortion:** Total generated in record-playback cycle, including tape and recording head, 2.0%.
- **Signal/Noise:** Wide band measurement including tape — better than 47 db with total harmonic content less than 2%.
- **Switching:** Three-position switch selects "Record," "Listen" or "Remote" operation.
- **Indicator Lights:** Colored target lights indicate selector switch position.
- **Monitor System:** Small built-in loudspeaker with separate power tube and volume control.
- **Headphone Jack:** Jack for headphone monitoring.
- **Volume Level Meter:** Std. 3″ square V.U. meter, Scale A.
- **Tubes:** PT6-P: 1-12AX7, 2-12AU7. PT6-PS: 1-6V6, 1-6X4.
- **Power Requirements:** 117 v, 60-cycle Single Phase AC, 60 watts. As remote amplifier, may be operated on battery with minor change.
- **Case:** 18″ L x 8″ W x 16½″ D. Finish: Black Grain Leatherette.
- **Panel:** Magnecord grey hammered finish.
- **Weight:** 31 lbs.

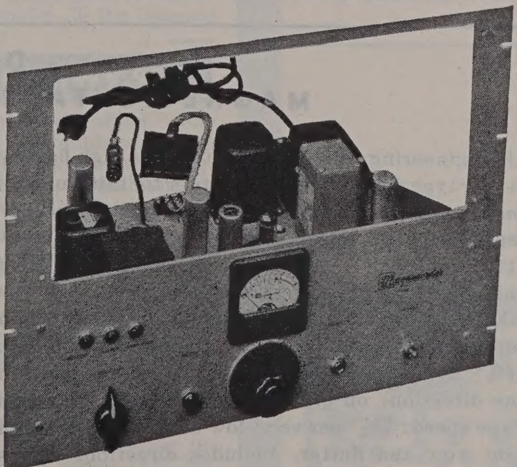
RACK AMPLIFIER PT6-R

Rack mounting recording and reproducing amplifier for use with PT6-A.

PT6-R	$383.00

SPECIFICATIONS

- **Inputs:** 600-ohm balanced; high impedance bridging.
- **Output:** + 6 dbm, 600 ohms balanced. (Recording output is equalized signal developing approx. 1 ma in Magnecorder RT-61 recording head used in PT6-A.)
- **Gain Control:** Single, 2 db per step.
- **Frequency Response:** ± 2 db from 50 to 15,000 cps at a tape speed of 15 inches/sec., and ± 2 db from 50 to 7,000 cps at 7½ inches/sec. when plug-in recorder equalizer for the specific speed is used. Amplifier alone ± 2 db 50 to 15,000 cps.
- **Distortion:** Total generated in record-playback cycle, including tape and recording head, 2.0%.
- **Switching:** Three-position switch selects "Record," "Listen" or "Amplifier."
- **Indicator Lights:** Colored target lights indicate selector switch position.
- **Monitor:** Jack on front panel provides for headphone monitoring.
- **Volume Level Meter:** Standard 3″ square V.U. meter, Scale A.
- **Tubes:** 1-12AX7, 2-12AU7, 1-6X4.
- **Power Requirements:** 117 v, 60-cycle Single Phase AC, 60 watts.
- **Dimensions:** Std. 19″ relay rack panel 14″ H. x 12½″ deep. Has cut-out for mounting PT6-A recording mechanism in face of panel.
- **Panel:** Magnecord grey hammered finish.



AUXILIARY SPOOLING MECHANISM PT6-M

Increases playing time of PT6-R/PT6-AX combination by factor of 2. $128.00

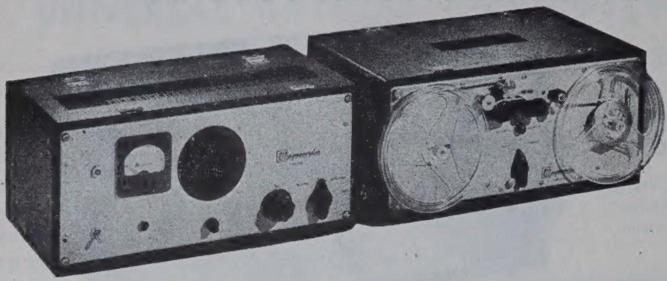
- **Rack Panel & Throwover Switch (PT6-HT), Throwover Switch, Adapter Plug, and Cables (PT6-T), Portable 12 v, DC Power Supply (PT6-S), and Monitor Head Strip (PT6-Q) also available.**

MAGNECORD ACCESSORIES

Allow convenient assembly of custom installation to meet all recording and playback needs at a reasonable cost.

MAGNECORD, INC. ★ **Chicago, Illinois**

MAGNECORD



MAGNECORDER PT6-JA*

FOR ★ BROADCASTERS ★ SCHOOLS
★ INDUSTRY ★ HOMES

The completely portable Magnecorder PT6-JA produces the same professional results achieved in Magnecord units now efficiently serving the radio broadcasting industry throughout the world.

$499.50

PROFESSIONAL MAGNETIC TAPE RECORDER

Engineered by the Oldest and Largest Manufacturers of Professional Magnetic Recorders

SPECIFICATIONS

BASIC RECORDER MECHANISM

Produces high-quality recordings of all program material.

- **Recording Speeds:** 15 inches/sec. or 7½ inches/sec. interchangeable. (No tools required.)
- **Rewind Speed:** Full 7½″ reel (1,200 ft. of tape) rewound in approx. 40 seconds.
- **Frequency Response:** At 15 inches/sec.: from below 50 cps to 15 kc ± 2 db, or 50 to 7,500 cps ± 2 db at 7½ inches/sec., when the proper equalizer for the specific speed is used in the amplifier.
- **Motors:** Synchronous 117 v, 60-cycle AC drive motor. Shaded pole motor for rewind.
- **Flutter:** Max. 0.3%.
- **Power Requirements:** 117 volts, 60-cycle Single Phase AC, 70 watts.
- **Case:** Dimensions: 18″ L x 8″ W x 15½″ D. Finish: Black Grain Leatherette.
- **Panel:** Magnecord grey hammered finish. 7″ H x 17″ W.
- **Bias Oscillator:** Built in. Uses single 12AU7 tube. 6.3 at .3 amps and 300 v at 40 ma supplied from amplifier.

* Hi-forward cueing speed available for an additional **$16.00.**

RECORD, PLAYBACK & 10-WATT AUDIO AMPLIFIER

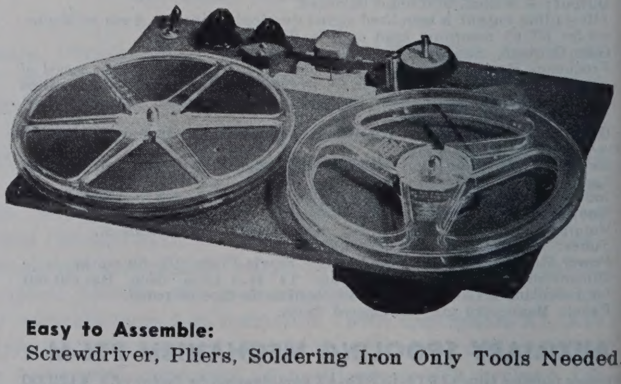
Provides exceptionally clean, top-quality audio. Single low impedance microphone input with gain control, high-level terminal for tuner or amplifier input.

- **Inputs:** One low level, low impedance microphone. High level input: 100,000 ohms, unbalanced.
- **Output:** Line output, + 6 dbm at 600 ohms balanced from terminal strip. Power output, 10 watts, at 4 or 16 ohms.
- **Frequency Response:** ± 2 db from 50 to 15,000 cps at a tape speed of 15 inches/sec., and ± 2 db from 50 to 7,000 cps at 7½ inches/sec. when plug-in recording equalizer for the specific speed is used. Amplifier alone ± 2 db 50 to 15,000 cps.
- **Harmonic Distortion:** Total generated in record/playback cycle (including tape and recording head) 2.0% at normal recording level.
- **Signal/Noise:** Wide band noise including tape, 47 db or better.
- **Switching:** Three-position switch selects "Record," "Listen" or "Amplifier" operation. Inserts proper characteristics for record or playback and removes all equalization for use as a 10-watt audio or P.A. amplifier.
- **Monitor System:** Built-in 5″ P.M. loudspeaker with on-off switch.
- **Volume Control Meter:** 3″ square standard V.U. meter, Scale A.
- **Dimensions:** 18″ L x 8′ W x 12¾″ D.
- **Panel:** Magnecord grey hammered finish. 17″ W x 7″ H.
- **Power Requirements:** 117 volts, 60-cycle Single Phase AC, 60 watts.

DUOTAPE

MAGNETIC TAPE RECORDER PARTS KIT

All engineering completed. Kit makes high-fidelity, bi-filar type magnetic tape recorder for faithful playback of music and voice. Kit includes erase/record/reproduce head, special oscillator coil, drive motor (115 v, 60-cycle), motor switch, capstan flywheel and bearings, pressure roller and arm, tape reel takeup mechanism, motor mounting plate, main support panel, and hardware. Over-all size: 10¼″ x 14¼″. Sound recorded on one-half of tape width in one direction; on other half in opposite direction. Tape speed: 7½″ per sec.; low distortion; insignificant wow and flutter. Includes directions for assembly, circuit diagram, parts lists, and hints on building a high-fidelity record-playback amplifier from parts sold by local dealer.



Easy to Assemble:
Screwdriver, Pliers, Soldering Iron Only Tools Needed.

DUOTAPE CO. ★ **Chicago 1, Ill.**

Net

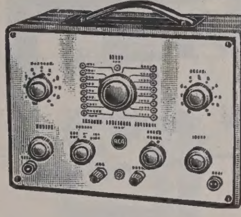
RCA TEST AND MEASURING EQUIPMENT

for SERVICE • LABORATORIES • INDUSTRY • SCHOOLS

TELEVISION CALIBRATOR (WR-39A)

Variable-Frequency Oscillator:
Frequency Ranges (continuous coverage): 19-110 Mc; 170-240 Mc
Output Voltage: Better than 0.28 peak-to-peak volts at any frequency (0.1 RMS volts)
Output Impedance....................100 ohms
Attenuator Range...........................100/1
Impedance at "Mod In" Jack.........5000 ohms
Crystal Oscillators:
Primary Standard Frequency: 2.5 Mc; Accuracy ± 0.01%
Modulating Standard Frequency: 0.25 Mc; Adjustable for exact zero-beat with 2.5 Mc crystal; Accuracy: ± 0.037%
(Modulating crystal can be zero-beat against primary crystal)
Heterodyne Detector Sensitivity:
External Signal Beating Against VFO: 1 millivolt
External Signal Beating Against Crystals: 10 millivolts
Audio Amplifier: Gain (approx.)......1000 times
Output............................0.3 max. watts
Loudspeaker.....3-inch cone, alnico magnet type
Dimensions.......................10" x 13½" x 7½"

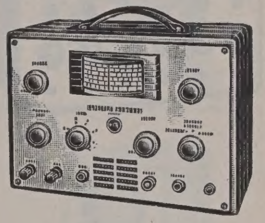
The WR-39A is a marker signal generator, a dual crystal standard, and a heterodyne frequency meter with built-in audio amplifier and speaker. The marker VFO operates on fundamentals, and produces strong marker pips on scope traces anywhere within its specified freqeuncy ranges. For regular signal-generator and calibrator applications, the VFO also can be used on second-harmonic frequencies, thus giving continuous coverage from 19 mc to 480 mc. For stagger-tuned alignment work, the VFO can be amplitude-modulated by an audio oscillator. This crystal combination will calibrate any signal source over the range of 250 kc to 480 mc. Unit is complete with signal injection cable. Shipping weight, 15 lbs. Sugg'd User Price: **$250.00**



TV SWEEP GENERATOR (WR-59A)

IF Center-Frequency Ranges:
Picture Intermediate, first band........5-15 Mc
Picture Intermediate, second band....20-30 Mc
Picture Intermediate, spare.25-40 Mc (adjustb.)
FM Intermediate.....................10-11.5 Mc
Television RF Channels 1-13: 44-50, 54-60, 60-66, 66-72, 76-82, 82-88, 174-180, 180-186, 186-192, 192-198, 198-204, 204-210, 210-216 Mc
Video Band................................0-10 Mc
Sweep Widths (variable):
Picture Intermediate (first and second bands): 0-10 Mc
Picture Intermediate (spare)...........0-10 Mc
FM Intermediate........................0-1.5 Mc
TV Sound Intermediate..................0-2 Mc
Television Radio: 0 to at least 6 Mc on channel 1; 0-7.5 Mc on channel 2; 0-8 Mc on channels 3-13
Video.............................100 kc - 10 Mc
Output Voltage, all range: Better than 0.28 peak-to-peak volt
Output Impedances:
RF Ranges........150-0-150 ohms, normal load
IF & Video Ranges.100 ohms cable termination
Attenuator Ranges:
RF Ranges..................................20000/1
IF & Video Ranges.........................4000/1
Maximum Amplitude Variation While Sweeping: All ranges, ± 1 db
Horizontal Sweep:
Phase Range: 0-160°; Frequency: 60 cps; Amplitude: 5.6 peak-to-peak volts
Dimensions.....................10" x 13½" x 7½"

WR-59A is a frequency-modulated sweep-alignment generator. It generates signals of fundamental frequency on all ranges, except video, Pix 5-15, and Pix 20-30 which are beat frequency (on these bands, band-pass filters are used) which are preset for speed and accuracy. The ranges include all 13 TV rf channels, picture and sound IF, video, prewar pix IF, the standard FM intermediate, and a spare 25-40 Mc channel. Sweep width is continuously variable, and output level is flat within 1 db in all positions. The output will match balanced or unbalanced lines, and is variable over wide limits by means of an elaborate piston attenuator. The unit develops a sweep frequency signal for a scope, and phasing control is provided. An additional feature is return-trace blanking which produces a zero-reference line on the cathode-ray tube. The unit is complete with rf and if/rf output cables. Shipping weight, 20 lbs. Sugg'd User Price: **$325.00**



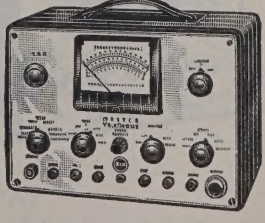
MASTER VOLTOHMYST ELECTRONIC METER (WV-95A)

DC Voltmeter Ranges: 0 to 5-10-50-100-500-1000 dc volts; Input Resistance: 11 megohms on all ranges
AC Voltmeter Ranges: 0 to 1-5-10-50-100-500-1000 RMS volts; Frequency Response: 30 cps to 20 kc; Input Impedance: 0.5 megohms shunted by 125 μμf
DC Ammeter Ranges: 0-10, 0-100 μa, 0 to 1-10-100 ma, 0-1, 0-10 amps.
Ohmmeter Ranges; 0.1 ohm to 1000 megohms in six ranges; Center-Scale Indications: 10, 100, 1000, 10000 ohms; 0.1, 10 megohms
Capacitance Meter Ranges: 4μμf to 1000 μf in six ranges; Center-Scale Indications: 100, 1000 μμf; 0.01, 0.1, 1, 10 μf

(NOTE: The following data apply to the WV-95A when used with RCA Diode Probe WG-275 which is supplied on separate order.)

RF Voltmeter Ranges: 0 to 5-10-50-100 RMS volts from 30 cps to 17.5 Mc; 0 to 5-10-30 RMS volts from 17.5 to 75 Mc; 0-5, 0-10 RMS volts from 75 to 250 Mc
Input Impedance: 625000 ohms shunted by 15.6 μμf at 1 Mc; 32000 ohms shunted by 14.5 μμf at 10 Mc; 100 ohms shunted by 13 μμf at 250 Mc
Meter Indications: RMS value of sine-wave voltage, 0.354 peak-to-peak value of recurrent complex-wave voltage
Dimensions.........................10" x 13½" x 7½"

The WV-95A is truly the "master" electronic multimeter. It combines in one case an ac voltmeter, dc voltmeter, ohmmeter, dc microammeter, dc milliameter, capacitance meter, and a dc ammeter. The instrument is ac line operated. The carefully balanced meter is virtually burn-out proof; it has a full scale accuracy of ±2%, and it may be zero-centered for discriminator alignment work. The capacitance circuit includes a polarizing voltage for measurement of electrolytic capacitors. The entire electrical system is insulated from the metal case which may be grounded separately. Accessories available on separate order include a 100-Mc crystal probe WG-263, and a 250-Mc peak-to-peak diode probe, WG-275. Unit is complete with three test leads and two test cables with plugs and clips. Shipping weight, 15 lbs. Sugg'd User Price: **$152.50**



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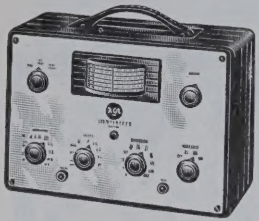
TEST OSCILLATOR (WR-67A)



The WR-67A combines speed, accuracy, convenience and over-all dependability in signal injection and alignment work. A range switch allows for the quick selection of three fixed frequencies of 1500, 600, and 455 kc . . . or smoothly variable fundamental frequencies from 100 kc to 30 Mc, plus useful harmonics out to 90 Mc. Add to this — a temperature compensated oscillator . . . special signal-injection probe . . . both step and vernier attenuators . . . double shielding . . . six-band drum dial with easy-to-read, four-foot scale spread . . . scale accuracy of ± 2% adjustable modulation level for internal and external modulation . . . power-line filter to minimize rf leakage . . . and 400-cycle signal source — More features than can be found in most signal generators. Shipping weight, 20 lbs. Sugg'd User Price: **$89.50**

Frequency Range: Continuous from 100 kc to 31 Mc. Band A: 100-260 kc; Band B: 260-650 kc; Band C: 635-1600 kc; Band D: 1.6-4.7 Mc; Band E: 4.4-12.8 Mc; Band F: 10.5-31 Mc. Calibration Accuracy..................± 2 %

Fixed Frequencies.............455, 600, 1500 kc

Output Voltage: Continuously variable, 5 µv to 1 volt RMS

Internal Modulation: 400 cps; adjustable from 0% to 50%

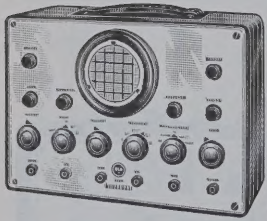
External Modulation: 2 RMS volts req., for 30% mod. to 17000 cps

Audio Output..............25 max. RMS volts

RF Output Impedance............10-1000 ohms (Varies with attenuator setting)

Dimensions..................10" x 13½" x 7½"

3" OSCILLOSCOPE (WO-55A)



The WO-55A oscilloscope is a visual electronic voltmeter. It is equipped with a calibrating facility and a regular multi-meter range switch. Voltages can be read directly on the clip-on graph screen at the same time waveforms are being studied. Push-pull vertical and horizontal amplifiers provide good fidelity and considerably more output than needed for the 3" CR tube. This allows the trace to be greatly expanded for observation of pattern detail. The scope has a retractable light shield and all usual oscilloscope features. It is a quality instrument, rugged, stable, linear, and well-suited for TV-FM alignment and other oscilloscope applications in the laboratory, factory, field installation, and service shop. Shipping weight, 15 lbs. Sugg'd User Price: **$129.50**

Deflection:
- Vertical Amplifier: Better than 1.33 peak-to-peak volts/inch 0.46 RMS volt/inch
- Vertical Deflecting Electrodes: Better than 120 peak-to-peak volts/inch 42 RMS volts/inch
- Horizontal Amplifier: Better than 1.5 peak-to-peak volts/inch 0.53 RMS volts/inch
- Horizontal Deflecting Electrodes: Better than 135 peak-to-peak volts/inch 48 RMS volts/inch

Amplifier Gain (both amplifiers).......90 times

Input Impedance:
- Vertical Amplifier: 0.5 megohm, shunted by 55 µµf
- Horizontal Amplifier: 0.5 megohm, shunted by 37 µµf
- Horizontal Deflecting Electrodes: 5.6 megohms, shunted by 12 µµf

Sine-Wave Frequency Response (both amplifiers):
- Flat within ± 10% from 7-40000 cps
- Flat within ± 20% to 70 kc
- Down less than 50% at 200 kc

Horizontal Sweep Range..........15-50000 cps

Auxiliary Sine-Wave Sweep Frequency: 60 cps

Calibrator Voltage.......10 peak-to-peak volts

Deflecting Capability:
The beam can be expanded off-screen for observation of pattern detail

Dimensions....................10" x 13½" x 7"

AUDIO OSCILLATOR (WA-54A)

The WA-54A Audio Oscillator is a portable, completely self-contained ac operated instrument for generating sinusoidal voltages within the frequency range of 20 to 17,000 cycles per second . . . easily adaptable for measuring the fidelity of radio receivers, frequency response of audio amplifiers, and modulation characterestics of small transmitters, also used for determining frequencies and mechanical speeds. Tapped output transformer makes it possible to match the oscillator output to load impedances most frequently encountered . . . electronic "eye" serves as calibration indicator, output level indicator, and pilot lamp. Frequency settings are read from a large, easy-to-read drum dial. Shipping weight, 19 lbs. Sugg'd User Price: **$152.50**

Frequency Range (continuous)..20 cps to 17 kc

Output Impendance:
- High-Level Balanced......250, 500, 5000 ohms
- High-Level Unbalanced...62.5, 125, 1250 volts
- Low-Level Unbalanced.......10000 min. ohms

Output Voltage (approx.):
- No Load (high level)...........40 RMS volts
- With 5000-Ohm Load...........25 RMS volts
- With 500-Ohm Load...........7.9 RMS volts
- With 250-Ohm Load...........5.5 RMS volts
- No Load (low level)...........2.5 RMS volts

Output Variation (loaded)......less than ± 2 db

Distortion...................less than 5% RMS

Dimensions...................10" x 13½" x 7½"

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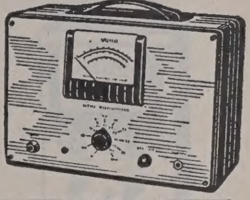
AUDIO VOLTMETER (WV-73A)

Voltage (AC)	0.001 to 1000 volts
Frequency Range	20 to 20,000 cycles
Input Impedance	1 megohm and 25 $\mu\mu f$
Power Supply	105/125 volts; 50/60 cycles
Dimensions	13½" w; 10" h; 7½" deep
Weight	15 lbs.
Finish (Case)	Blue-Gray
(Panel)	Anodized Aluminum

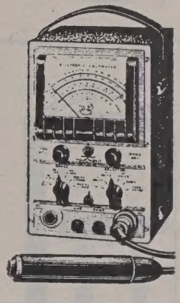
Ideal for measuring voltages in high-impedance circuits. Logarithmic scale and overlapping attenuator assure accurancy even when pointer is at either end of scale. Excellent frequency response. Sugg'd User Price: **$149.50**



ADVANCED VOLTOHMYST (WV-75A)

DC (6 ranges)	0 to 1000 volts
AC (6 ranges)	
Using probe directly	0 to 100 volts
Using probe and multipliers	0 to 1000 volts
Frequency Response:	
Using probe directly	30 cycles to 250 Mc
Using probe and multipliers	30 cycles to 15 kc
Input Impedance (using probe directly):	
At 1 Mc	625 Kilohms; 15.6 $\mu\mu f$
Resistance (6 ranges)	0 ohms to 1000 megohms
Power Supply (AC)	105/125 volts, 50/60 cycles
Dimensions	6⅞" w; 9⅝" h; 6¾" deep

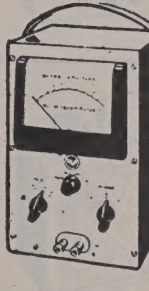
For High-Frequency, FM, TV, UHF and pulse work. Newly-developed diode probe permits peak-to-peak AC voltage readings to 250 Mc. WV-75A is really 6 instruments: VHF Voltmeter, Audio Voltmeter, AC Voltmeter, DC Voltmeter, Ohmmeter, FM Indicator. Meter is burn-out proof. The WV-75A employs a push-pull DC Vacuum Tube Voltmeter circuit characterized by excellent linearity and stability. Sugg'd User Price: **$125.00.**



ULTRA-SENSITIVE DC MICROAMMETER (WV-84A)

Readings	0.001 μa to 1 ma full scale
Six Ranges	0.01; 0.1; 1.0; 10; 100; 1000 μa
Voltage Drop at Full Scale (all ranges)	0.5 volts
Power Supply (Batteries)	2—1½ volts A (RCA VS106) 2—22½ volts B (RCA VS102)
Dimensions	6¼" w; 9½" h; 5¾" deep
Weight (including batteries)	9½ lbs.

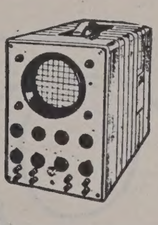
Reads from 0.001 to 1000 microamperes in six separate ranges. Useful for measuring high values of resistance; may be used as high resistance volmeter. Approaches galvanometer sensitivity. Electronic protected non-burn-out meter. Accuracy, 0.01 range, ± 5% of full scale reading; other ranges ± 4%. Ideal for weak-current measurements in phototubes, multiplier phototubes, etc. Sugg'd User Price (less batteries): **$100.00.**



INDUSTRIAL OSCILLOSCOPE (WO-60C)

Deflection Sensitivity:	
Vertical Amplifier	0.020 RMS volt/inch
Horiz Amplifier	0.024 RMS volt/inch
Input Impedance:	
Vert or Horiz Amp	1 meg shunted by 22 $\mu\mu f$
Frequency Response:	
Sine Wave	Flat ± 10%; 5-80,000 cycles Flat ± 20%; 2-100,000 cycles
Square Wave	No tilt or overshoot 20-5000 c
Sawtooth Time Base	3 to 30,000 cycles/sec
Power Supply	105/125 volts, 50/60 cycles
Dimensions	9½" w; 14" h; 19½" deep

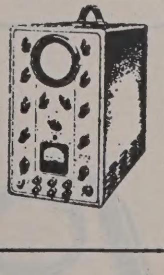
Portable scope with wide variety of uses. Excellent phase-shift characteristics, 1-f response. Holds high sensitivity even with violent shock. Designed for fast changeover from one type persistence C-R tube to another. Useful range 0.5 to 300,000 cycles. Sugg'd User Price: **$345.00.**



PORTABLE OSCILLOSCOPE (WO-79A)

Frequency Range:	
Vertical Amplifier	10 cycles to 5 Mc
Horizontal Amplifier	10 cycles to 500 kc
Deflection Sensitivity:	
Vert. Amplifier	0.18 RMS volt/in
Horizontal Amplifier	0.46 RMS volt/in
Sawtooth Time Base	20 cycles to 250 kc/sec
Triggered Time Base	Repetition to 50 kc/sec
Blanking	Return trace blanked on triggered definition
Power Supply	105/125 volts, 50/60 cycles
Dimensions	8¼" w; 14½" h; 16¼" deep

For detailed observation and accurate measurement of voltages produced by TV synch. and deflection circuits, ignition systems, pulse generators, etc. Wide horiz. deflection—up to twice screen diam. Calibrated meter for voltage measurements. Built-in delay line. Triggered sweep. Sugg'd User Price: **$550.00.**



LABORATORY OSCILLOSCOPE (715-B)

Vertical amplifier flat to 11 Mc. Triggered and linear sweep. One microsecond markers. Sugg'd User Price: $2400. Write for catalog.

DC OSCILLOSCOPE (WO-27A)

Both vertical and horizontal amplifiers flat from from 0 to 100,000 cycles. 5" C-R tube, quickly interchangeable. Sugg'd User Price: $1150.

All prices in effect 5/1/49.

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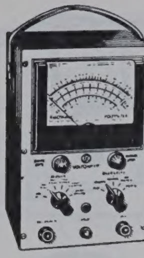
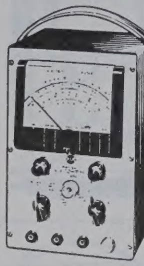
VOLTOHMYST (195-A)



The ideal instrument for radio servicing. In one instrument, at one price, you get 6 testing devices: DC Voltmeter; Ohmmeter; AC Voltmeter; A-F Voltmeter; Outputmeter; FM Indicator. New features include diode for AC measurements, linear AC scale for all ranges; RCA Crystal probe WG-263 (available on request). Sugg'd User Price: **$79.50.**

Electronic DC Voltmeter Range	0-3; 10; 50; 100; 500; 1000 volts
Imput Impedance	10 megohms constant
Electronic Ohmmeter Range	0-1,000; 10,000; 100,000 ohms; 0-1; 10; 1000 megohms
Internal Source	3 volts
Electronic AC Voltmeter Range	0-5; 10; 50; 100; 500; 1000 volts
Power Supply	105/125 volts; 50-60 cycles
Dimensions	6⅞" w; 9⅝" h; 6¾" deep
Weight	14 lbs.
Finish	Grey wrinkle, brush chrome panel

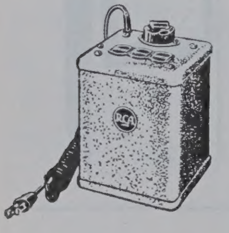
BATTERY VOLTOHMYST (WV-65A)



Portable electronic voltmeter-ohmmeter and ammeter combination for mobile, industrial or rural use. Works anywhere without AC power source thereby extending famous VoltOhmyst features to places remote from power lines. Neon panel lamp lights when battery is used. Unusually long battery life with normal use. Sugg'd User Price: **$59.50** (Less batteries).

DC Ranges	0-3; 10; 30; 100; 300; 1000 v
Input Resistance	11 megohms constant
AC Ranges	0-10; 30; 100; 300; 1000 v
Sensitivity	1000 ohms per volt
Ohmmeter Ranges	0-1000; 10,000; 100,000 ohms; 0-1; 10, 1000 megohms
DC Ammeter Ranges	0-3; 10; 30; 100; 300 milliamp; 0-10 amp
Batteries	Four 1½v "A"; two 45v "B"
Dimensions	6¼" w; 9½" h; 5½" deep
Weight (incl. batteries)	9 lbs.

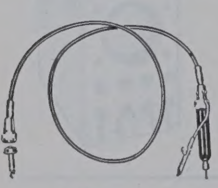
ISOTAP ISOLATION TRANSFORMER (WP-24A)



Eliminates shock hazard between ac-dc chassis and ground, speeds detection of receiver faults with high-low line tests, and facilitates testing of receivers at the design-center value of 117 volts. A six-position switch and three secondary receptacles afford maximum flexibility and operating convenience. Sugg'd User Price: **$8.95**

Primary:	
Line Voltage Range	105-130 volts
Switch Positions	105, 110, 115, 120, 125, 130 volts
Frequency	50-60 cycles
Secondary:	
Output Voltages (approx.)	105-117-130
Power Output at unity power factor (Max.):	
Cont. Oper. (30°C Amb.)	100 watts
Intermit. Oper. (30°C Amb.)	150 watts
Regulation (at 100 volt-amperes)	10%

CRYSTAL PROBE (WG-263)



Makes any VoltOhmyst a VHF Voltmeter. Reads flat to 100 Mc. Adapts VoltOhmyst for HF, FM or TV test needs, within sensitivity range of the instrument. Withstands DC loads of 250 volts. Sugg'd User Price: **$8.95.**

Input Voltage	22 rms volts (max)
Frequency Range	1000 cycles to 175 Mc
Frequency Response	± 10% from 1 kc to 100 mc
Overall Accuracy	± 7.5% at full scale
Input Capacity	3.5 $\mu\mu$f

DIODE PROBE (WG-275)

The RCA Diode Probe WG-275 is designed to operate in combination with RCA VoltOhmyst Electronic Meters WV-75A or WV-95A; it enables these instruments to read RMS peak-to-peak voltages at frequencies from 30 cycles to 250 Mc. The probe fits coaxial "T" connectors, and permits direct measurement of voltages in coaxial lines.

The full-wave circuit of the WG-275 eliminates errors inherent in half-wave probes for measurements of unsymmetrical waves.

Sugg'd User Price: **$30.00**

Frequency Response:	
Direct to Probe	30 cps to 250 Mc
Direct Supplied Leads	30 cps to 30 Mc
Effective Input Resistance and Capacitance Direct to Probe:	
At 1 Mc	625000 ohms shunted by 15.6 uuf
At 10 Mc	32000 ohms shunted by 14.5 uuf
At 250 Mc	100 ohms shunted by 13 uuf
Maximum Input Voltages: Direct to Probe	
30 cps to 17.5 Mc	100 RMS volts
At 75 Mc	30 RMS volts
At 250 Mc	10 RMS volts
Meter Indication:	
Sine Waveform	RMS volts
Complex Recurrent Waveform: 0.354 of peak-to-peak voltage.	

(The peak-to-peak voltage of both sine and complex waveforms equals the meter indication times 2.83).

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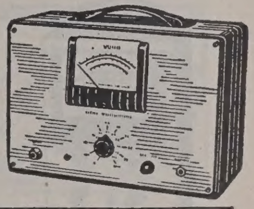
AUDIO VOLTMETER (WV-73A)

Voltage (AC)	0.001 to 1000 volts
Frequency Range	20 to 20,000 cycles
Input Impedance	1 megohm and 25 µµf
Power Supply	105/125 volts; 50/60 cycles
Dimensions	13½" w; 10" h; 7½" deep
Weight	15 lbs.
Finish (Case)	Blue-Gray
(Panel)	Anodized Aluminum

Ideal for measuring voltages in high-impedance circuits. Logarithmic scale and overlapping attenuator assure accurancy even when pointer is at either end of scale. Excellent frequency response. Sugg'd User Price: **$149.50**



ADVANCED VOLTOHMYST (WV-75A)

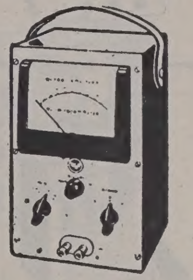
DC (6 ranges)	0 to 1000 volts
AC (6 ranges)	
Using probe directly	0 to 100 volts
Using probe and multipliers	0 to 1000 volts
Frequency Response:	
Using probe directly	30 cycles to 250 Mc
Using probe and multipliers	30 cycles to 15 kc
Input Impedance (using probe directly):	
At 1 Mc	625 Kilohms; 15.6 µµf
Resistance (6 ranges)	0 ohms to 1000 megohms
Power Supply (AC)	105/125 volts, 50/60 cycles
Dimensions	6⅝" w; 9⅝" h; 6¾" deep

For High-Frequency, FM, TV, UHF and pulse work. Newly-developed diode probe permits peak-to-peak AC voltage readings to 250 Mc. WV-75A is really 6 instruments: VHF Voltmeter, Audio Voltmeter, AC Voltmeter, DC Voltmeter, Ohmmeter, FM Indicator. Meter is burn-out proof. The WV-75A employs a push-pull DC Vacuum Tube Voltmeter circuit characterized by excellent linearity and stability. Sugg'd User Price: **$125.00.**

ULTRA-SENSITIVE DC MICROAMMETER (WV-84A)

Readings	0.001 µa to 1 ma full scale
Six Ranges	0.01; 0.1; 1.0; 10; 100; 1000 µa
Voltage Drop at Full Scale (all ranges)	0.5 volts
Power Supply (Batteries)	2—1½ volts A (RCA VS106) 2—22½ volts B (RCA VS102)
Dimensions	6¼" w; 9½" h; 5¾" deep
Weight (including batteries)	9½ lbs.

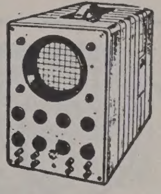
Reads from 0.001 to 1000 microamperes in six separate ranges. Useful for measuring high values of resistance; may be used as high resistance volmeter. Approaches galvanometer sensitivity. Electronic protected non-burn-out meter. Accuracy, 0.01 range, ± 5% of full scale reading; other ranges ± 4%. Ideal for weak-current measurements in phototubes, multiplier phototubes, etc. Sugg'd User Price (less batteries): **$100.00.**



INDUSTRIAL OSCILLOSCOPE (WO-60C)

Deflection Sensitivity:	
Vertical Amplifier	0.020 RMS volt/inch
Horiz Amplifier	0.024 RMS volt/inch
Input Impedance:	
Vert or Horiz Amp	1 meg shunted by 22 µµf
Frequency Response:	
Sine Wave	Flat ± 10%; 5-80,000 cycles Flat ± 20%; 2-100,000 cycles
Square Wave	No tilt or overshoot 20-5000 c
Sawtooth Time Base	3 to 30,000 cycles/sec
Power Supply	105/125 volts, 50/60 cycles
Dimensions	9½" w; 14" h; 19½" deep

Portable scope with wide variety of uses. Excellent phase-shift characteristics, l-f response. Holds high sensitivity even with violent shock. Designed for fast changeover from one type persistence C-R tube to another. Useful range 0.5 to 300,000 cycles. Sugg'd User Price: **$345.00.**



PORTABLE OSCILLOSCOPE (WO-79A)

Frequency Range:	
Vertical Amplifier	10 cycles to 5 Mc
Horizontal Amplifier	10 cycles to 500 kc
Deflection Sensitivity:	
Vert. Amplifier	0.18 RMS volt/in
Horizontal Amplifier	0.46 RMS volt/in
Sawtooth Time Base	20 cycles to 250 kc/sec
Triggered Time Base	Repetition to 50 kc/sec
Blanking	Return trace blanked on triggered definition
Power Supply	105/125 volts, 50/60 cycles
Dimensions	8¼" w; 14½" h; 16¼" deep

For detailed observation and accurate measurement of voltages produced by TV synch. and deflection circuits, ignition systems, pulse generators, etc. Wide horiz. deflection—up to twice screen diam. Calibrated meter for voltage measurements. Built-in delay line. Triggered sweep. Sugg'd User Price: **$550.00.**

LABORATORY OSCILLOSCOPE (715-B)

Vertical amplifier flat to 11 Mc. Triggered and linear sweep. One microsecond markers. Sugg'd User Price: $2400. Write for catalog.

DC OSCILLOSCOPE (WO-27A)

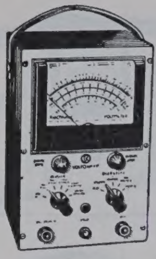
Both vertical and horizontal amplifiers flat from from 0 to 100,000 cycles. 5" C-R tube, quickly interchangeable. Sugg'd User Price: $1150.

All prices in effect 5/1/49.

RCA TEST AND MEASURING EQUIPMENT

for SERVICE • LABORATORIES • INDUSTRY • SCHOOLS

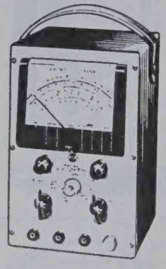
VOLTOHMYST (195-A)



The ideal instrument for radio servicing. In one instrument, at one price, you get 6 testing devices: DC Voltmeter; Ohmmeter; AC Voltmeter; A-F Voltmeter; Outputmeter; FM Indicator. New features include diode for AC measurements, linear AC scale for all ranges; RCA Crystal probe WG-263 (available on request). Sugg'd User Price: **$79.50.**

Electronic DC Voltmeter Range	0-3; 10; 50; 100; 500; 1000 volts
Imput Impedance	10 megohms constant
Electronic Ohmmeter Range	0-1,000; 10,000; 100,000 ohms; 0-1; 10; 1000 megohms
Internal Source	3 volts
Electronic AC Voltmeter Range	0-5; 10; 50; 100; 500; 1000 volts
Power Supply	105/125 volts; 50-60 cycles
Dimensions	6⅜" w; 9⅝" h; 6¾" deep
Weight	14 lbs.
Finish	Grey wrinkle, brush chrome panel

BATTERY VOLTOHMYST (WV-65A)



Portable electronic voltmeter-ohmmeter and ammeter combination for mobile, industrial or rural use. Works anywhere without AC power source thereby extending famous VoltOhmyst features to places remote from power lines. Neon panel lamp lights when battery is used. Unusually long battery life with normal use. Sugg'd User Price: **$59.50** (Less batteries).

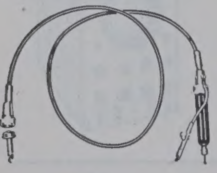
DC Ranges	0-3; 10; 30; 100; 300; 1000 v
Input Resistance	11 megohms constant
AC Ranges	0-10; 30; 100; 300; 1000 v
Sensitivity	1000 ohms per volt
Ohmmeter Ranges	0-1000; 10,000; 100,000 ohms; 0-1; 10, 1000 megohms
DC Ammeter Ranges	0-3; 10; 30; 100; 300 milliamp; 0-10 amp
Batteries	Four 1½v "A"; two 45v "B"
Dimensions	6¼" w; 9½" h; 5½" deep
Weight (incl. batteries)	9 lbs.

ISOTAP ISOLATION TRANSFORMER (WP-24A)

Eliminates shock hazard between ac-dc chassis and ground, speeds detection of receiver faults with high-low line tests, and facilitates testing of receivers at the design-center value of 117 volts. A six-position switch and three secondary receptacles afford maximum flexibility and operating convenience. Sugg'd User Price: **$8.95**

Primary:	
Line Voltage Range	105-130 volts
Switch Positions	105, 110, 115, 120, 125, 130 volts
Frequency	50-60 cycles
Secondary:	
Output Voltages (approx.)	105-117-130
Power Output at unity power factor (Max.):	
Cont. Oper. (30°C Amb.)	100 watts
Intermit. Oper. (30°C Amb.)	150 watts
Regulation (at 100 volt-amperes)	10%

CRYSTAL PROBE (WG-263)



Makes any VoltOhmyst a VHF Voltmeter. Reads flat to 100 Mc. Adapts VoltOhmyst for HF, FM or TV test needs, within sensitivity range of the instrument. Withstands DC loads of 250 volts. Sugg'd User Price: **$8.95.**

Input Voltage	22 rms volts (max)
Frequency Range	1000 cycles to 175 Mc
Frequency Response	± 10% from 1 kc to 100 mc
Overall Accuracy	± 7.5% at full scale
Input Capacity	3.5 $\mu\mu$f

DIODE PROBE (WG-275)

The RCA Diode Probe WG-275 is designed to operate in combination with RCA VoltOhmyst Electronic Meters WV-75A or WV-95A; it enables these instruments to read RMS peak-to-peak voltages at frequencies from 30 cycles to 250 Mc. The probe fits coaxial "T" connectors, and permits direct measurement of voltages in coaxial lines.

The full-wave circuit of the WG-275 eliminates errors inherent in half-wave probes for measurements of unsymmetrical waves.

Sugg'd User Price: **$30.00**

Frequency Response:	
Direct to Probe	30 cps to 250 Mc
Direct Supplied Leads	30 cps to 30 Mc
Effective Input Resistance and Capacitance Direct to Probe:	
At 1 Mc	625000 ohms shunted by 15.6 uuf
At 10 Mc	32000 ohms shunted by 14.5 uuf
At 250 Mc	100 ohms shunted by 13 uuf
Maximum Input Voltages:	
Direct to Probe	
30 cps to 17.5 Mc	100 RMS volts
At 75 Mc	30 RMS volts
At 250 Mc	10 RMS volts
Meter Indication:	
Sine Waveform	RMS volts
Complex Recurrent Waveform:	0.354 of peak-to-peak voltage.

(The peak-to-peak voltage of both sine and complex waveforms equals the meter indication times 2.83).

RCA TEST AND MEASURING EQUIPMENT

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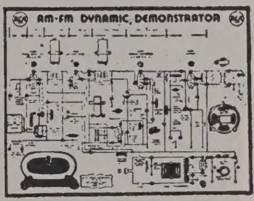
AM-FM DYNAMIC DEMONSTRATOR (WE-82A)

Frequency Range	550 to 1800 kc
AM i-f	455 kc
FM i-f	10.7 Mc
RF (AM) Sensitivity	200 microvolts
Power Supply	105/125 volts, 50/60 cycles
Discriminator	Foster-Seeley
Dimensions	45" w; 33" h; 6" deep
Weight	25 lbs.

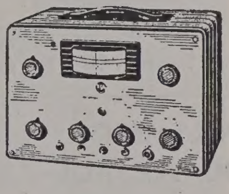
A working schematic diagram of a typical 5-tube superheterodyne radio. Parts are mounted near proper symbols; wired to operate. Pin jacks on 5 color sections make experiments, described in instructions, easy to perform. Has discriminator circuit for FM if demonstration. Sugg'd User Price: **$99.50**



FM SWEEP GENERATOR (WR-53A)

I-F Oscillator:	
Frequency Range	8.3 to 10.7 Mc
Output	1 microvolt to 0.1 volt
R-F Oscillator:	
Frequency Range	85 to 110 Mc
Output	5 microvolts to 0.1 volt
Power Supply	105/125 volts, 50/60 cycle
Finish (Case)	Blue-Gray
(Panel)	Anodized Aluminum
Dimensions	13½" w; 9¾" h; 7½" deep

Designed especially for rapid and accurate alignment of FM receivers. Produces an i-f sweep frequency of 0 to 200 kc adjustable band width, which can be centered on any i-f from 8.3 to 10.7 Mc. Also has CW or AM signal in 85 to 110 Mc range for oscillator and mixer alignment. Sugg'd User Price: **$89.50**



OSCILLOSCOPE (WO-58A)

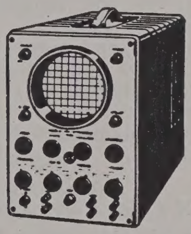
Vertical Amplifier:
- Deflection—0.18 RMS volt/in

Sine-Wave Frequency Response:
- Flat within ±20% from 5 cycles to 2 Mc
- Frequency response curve has no positive slope above 1 kc

Square-Wave Response:
- Tilt and overshoot less than 2% from 30 to 50,000 cycles
- Rise time less than 0.15 μ sec from 10% to 90% of total rise

Horizontal Amplifier:
- Sine-Wave Frequency Response:
  - Flat within ±10% from 6 to 100,000 cycles

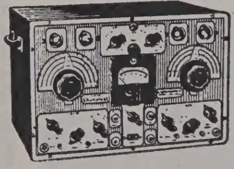
5" oscilloscope affording accurate presentation of synchronizing pulses, deflection waveforms, and composite video signals. Peak-to-peak voltages of waveforms can be read during operation. Defective waveforms can be traced step-by-step. The crystal probe can be plugged into the kinescope socket of the receiver under test to observe video-amplifier response. Sugg'd User Price: **$345.00.**



RIDER CHANALYST (162-C)

R-F, I-F range	100 kc to 1700 kc
attenuation	10,000 : 1
Osc. channel range	600 kc to 15 Mc
attenuation	10 : 1
A-F range	0.1 volt to 1000 volts
DC range	± 5, 25, 125, 500 volts
Wattage indicator	30-250 watts
Power supply	105/125 volts, 50/60 cycles
Dimensions	16" w; 9" h; 10¾" deep
Weight	28 lbs.

Can be used to quickly check presence, absence or character of signal at any point in any AM receiver. Enables serviceman to determine wattage, voltage and signal level thruout the set. All tests can be made simultaneously for monitoring intermittant receivers. Sugg'd User Price: **$162.50.**

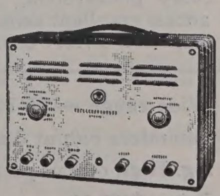


REGULATED POWER SUPPLY (WP-23A)

Specifiications:

Regulated DC Output Voltage	300 max. volts
Range (continuously adjustable)	0-300 dc volts
Current Capability	
From 120-300 volts	120 max. ma
From 60-120 volts	80 max. ma
From 0-60 volts	60 max. ma
Ripple Voltage	Less than 8 RMS millivolts
Unregulated DC	
Output Voltage	Approx. 600 dc volts
Current Capability	120 max. ma
Ripple Voltage	0.1 RMS volt
Auxiliary Unregulated AC	
Output Voltage	6.3 volts
Current Capability	5 amperes
Input Power Requirement	105-125 volts, 50/60 cycles, 175 max. watts.
Dimensions	Height, 10"; width, 13½"; depth, 7½"

A general purpose d-c power source with excellent voltage regulation output provides an adjustable voltage which remains constant over wide ranges of load impedance and line voltage variations — eliminates the need for constant measurement and readjustment of supply voltages each time a circuit change is made. Primarily intended as an extremely stable "B" supply, the WP-23A is also useful as a low-impedance "C" bias supply. Shipping weight 25 lbs. Sugg'd User Price: **$130.00.**



SYLVANIA ELECTRONIC EQUIPMENT

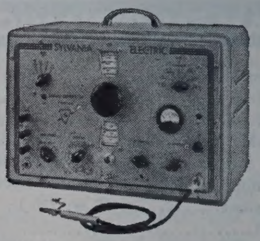
TUBE TESTERS

Type 140

Here's the last word in tube testers made for discriminating distributors, radio servicemen and industrial users. This convenient on-the-spot tester can check more than 500 tube types under actual operating conditions. Size: 5¼" x 14 3/16" x 15". Weight: 18 lbs.

Features: Shorts Test at voltage low enough to prevent tube damage, high enough for full brilliancy on indicator. All tube elements tested under dynamic conditions. Fingertip Controls. Tests all styles of receiving tubes. Large 4½-inch meter; 8-foot cord. Price: $59.50.

FM-AM SIGNAL GENERATOR



Type 216

Supplies all signals necessary for complete alignment of FM and AM receivers. Frequency range 80 kc to 120 mc. Sweeps of ± 350 kc, ± 75 kc, and ± 15 kc. 1-volt output. Price $189.50.

POLYMETER DC VOLTAGE MULTIPLIER

With this new DC Voltage Multiplier, the 1,000 vdc range setting on your Sylvania Polymeter will read 10,000 vdc full scale! Add this accessory to your Polymeter and you have a Kilovoltmeter for testing TV circuits. Type 222 (10 KV) for the Polymeter Types 134 and 134Z. Type 223 (10 KV) for Polymeter Type 221. Only $9.95!

Type 224 (30 KV) for Polymeter Types 134 and 134Z; Type 225 (30 KV) for Polymeter Type 221. $12.50.

Type 226 Conversion Cartridge (for 20,000 Ohm/Voltmeter). $2.00.

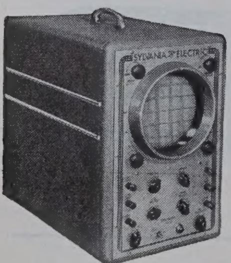
POLYMETER

Type 221

The perfect multi-purpose meter for AM-FM-TV servicing. Tests receivers, transmitters, industrial electronic equipment. Highly accurate. New circuit provides superior stability. New rf probe feature provides increased flexibility in use. All essential accessories no extra charge. Price: $99.50.

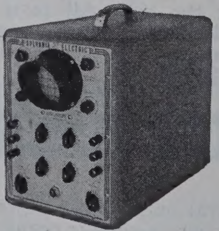
OSCILLOSCOPES (Types 131 and 132)

OSCILLOSCOPE Type 132



Giant 7" tube and special push-pull amplifiers place this sensational instrument in a class by itself. Check wide response, high input impedances, low amplifier distortions. Priced as low as many smaller oscilloscopes. Has jack for intensity modulation. Widely used by service dealers and idustrials for AM-FM-TV testing. Price: $144.50.

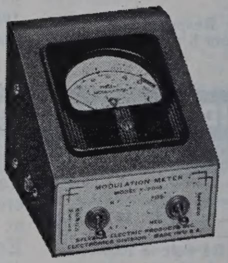
OSCILLOSCOPE Type 131



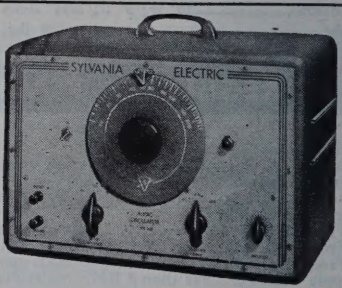
Flexible in its many applications, this complete 'scope is priced within reach of every pocketbook. High input impedances, excellent sensitivity and amplifier response. Price: $69.50.

MODULATION METER

X-7018



Monitors modulation percentage and speech quality. Compact and economical. Helps keep transmission efficient and comply with FCC overmodulation regulations. Indicates carrier shift. Price: $29.50.



Wide range — 20-20,000 cycles, flexible, accurate. Negative feedback minimizes output distortion. Ideal for receiver, transmitter, PA servicing. High output permits testing speakers direct. Stabilized R-C circuit. Price: $129.50.

Type 145
AUDIO OSCILLATOR

See your Sylvania Distributor or write Sylvania Electric Products Inc., Radio Tube Division, Emporium, Pa.

Laboratory Standards

MEASUREMENTS CORPORATION

TELEVISION STANDARD SIGNAL GENERATOR

MODEL 90

This signal generator was designed to meet the most exacting standards required for high definition television use.

CARRIER FREQUENCY:

RANGE: Continuously variable from 20 to 250 megacycles, in eight ranges.
ACCURACY: Crystal frequency standard permits setting to .01%. Dial scale may be set to 0.1%.
STABILITY: Warm-up drift less than .05%.
LEAKAGE: Less than 10 microvolts.

MODULATION:

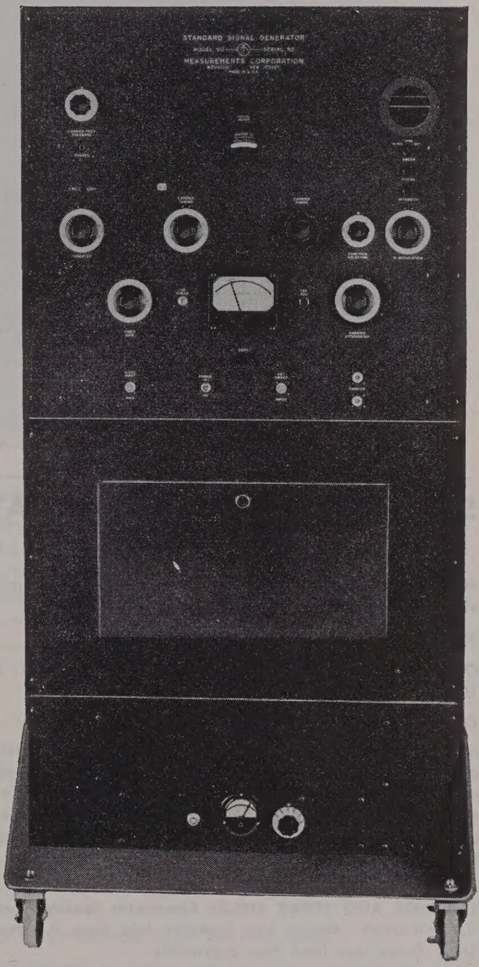
Continuously variable from zero to 100%.
ENVELOPE: Sinusoidal, or composite television. Bandwidth to 3 db is 4 Mc. Rise time from 10% to 90% modulation 0.15 microsecond. Overshoot less than 5%. Slope less than 5% on 60 cycle square wave.
INPUT IMPEDANCE: 75 ohms ± 10% (RMA Standard)
INPUT LEVEL: 1.5 volts peak to peak minimum level for 100% modulation. Black negative polarity.
MODULATION PERCENTAGE: Zero to 110%; plate modulation.

OUTPUT:

LEVEL: Continuously variable from 0.3 microvolt to 0.1 volt balanced to ground (measured at 100% modulation level).
IMPEDANCE: (a) 107 ohms line to line (balanced).
(b) 53.5 ohms line to ground (unbalanced).
(c) Suitable pads may be employed to alter these impedances.

DIMENSIONS:

OVERALL: Height—58¾"; Width—28¼"; Depth—25½".
WEIGHT: Model 90—302 pounds.
External Voltage Regulator: 92 pounds.
POWER SUPPLY: 117 volts, 60 cycles. 700 watts.



STANDARD SIGNAL GENERATOR
MODEL 82 SERIAL 83
MEASUREMENTS CORPORATION

STANDARD SIGNAL GENERATOR

MODEL 82

FREQUENCY RANGE: 20 cycles to 200 kilocycles in four ranges. 80 kilocycles to 50 megacycles in seven ranges, plus one blank range.

FREQUENCY CALIBRATION: Each range is individually calibrated. 20 cycles to 200 kilocycles, accurate to ±5%. 80 kilocycles to 50 megacycles, accurate to ±1%.

OUTPUT VOLTAGE AND IMPEDANCE: 0-50 volts across 7500 ohms from 20 cycles to 200 kilocycles. (The output voltage and impedance in this range can be reduced by an external attenuator). 0.1 microvolt to 1 volt across 50 ohms over most of the range from 80 kilocycles to 50 megacycles.

MODULATION: Continuously variable 0-50% from 20 cycles to 20 kilocycles from internal variable oscillator.

HARMONIC OUTPUT: Less than 1% from 20 cycles to 20 kilocycles; 3% or less from 20 kilocycles to 50 megacycles.

LEAKAGE AND STRAY FIELD: Less than 1 microvolt from 80 kilocycles to 50 megacycles.

POWER SUPPLY: 117 volts, 50-60 cycles. 75 watts.

DIMENSIONS: 15" high x 19" wide x 11¾" deep overall.

WEIGHT: 50 pounds.

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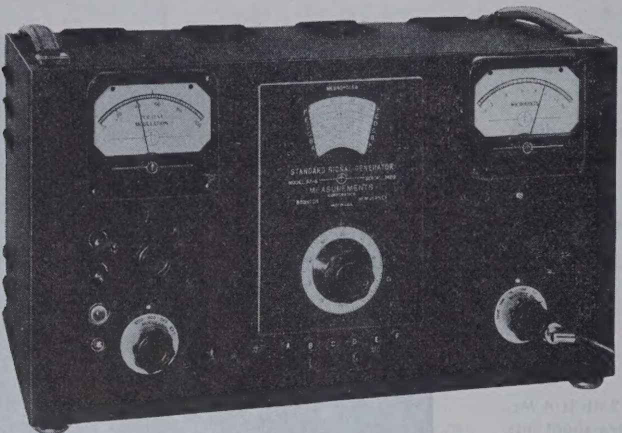
Laboratory Standards
MEASUREMENTS CORPORATION



STANDARD SIGNAL GENERATOR MODEL 65-B

FREQUENCY RANGE: 75 kilocycles to 30 megacycles in 6 push button ranges.

FREQUENCY CALIBRATION: The frequency dial is direc reading and individually hand calibrated for each range. It is accurate to ± 0.5%.

OUTPUT VOLTAGE: Continuously variable from 0.1 microvolt to 2.2 volts.

OUTPUT IMPEDANCE: 5 ohms to 0.2 volt, rising to 15 ohms at 2.2 volts.

MODULATION: Continuously variable from 0 to 100%. Modulation depth is indicated directly by a meter on the panel. Modulation may be obtained either from an internal source of 400 or 1000 cycles or from an external source.

ENVELOPE DISTORTION: Less than 4% at 100% modulatio at 1 megacycle.

LEAKAGE: Less than 0.1 microvolt leakage with attenuato set for 0 output.

POWER SUPPLY: 117 volts, 50-60 cycles. 115 watts.
DIMENSIONS: 11″ high x 20″ long x 10¼″ deep, overall.
WEIGHT: Approximately 55 pounds.

STANDARD SIGNAL GENERATOR MODEL 80

FREQUENCY RANGE: 2 to 400 megacycles in 6 bands, individually calibrated direct reading dial.

FREQUENCY ACCURACY: ± 0.5%.

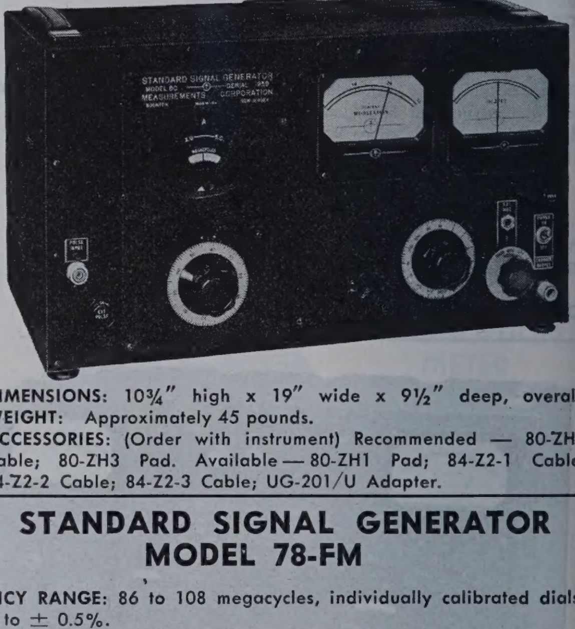
OUTPUT VOLTAGE: Continuously variable from 0.1 to 100,000 microvolts.

OUTPUT IMPEDANCE: 50 ohms.

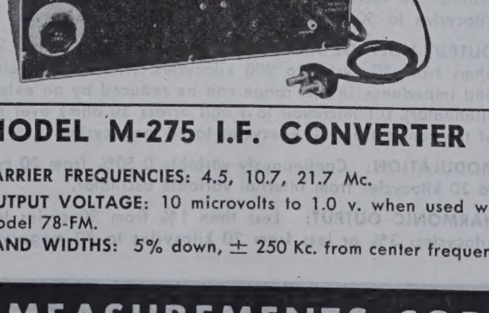
MODULATION: Amplitude modulation is continuously variable from 0 to 30%. Modulation depth is indicated by a meter on the panel. An internal 400 or 1000 cycle audio oscillator is provided. Modulation may also be applied from an external source. Pulse modulation may be applied to the oscillator from an external source through a special connector.

LEAKAGE AND STRAY FIELD: Attenuator leakage less than 0.1 microvolt. Power line leakage less than 0.5 microvolt. Stray fields less than two microvolts.

POWER SUPPLY: 117 volts, 50 to 60 cycles. 70 watts.



DIMENSIONS: 10¾″ high x 19″ wide x 9½″ deep, overall.
WEIGHT: Approximately 45 pounds.
ACCESSORIES: (Order with instrument) Recommended — 80-ZH4 Cable; 80-ZH3 Pad. Available — 80-ZH1 Pad; 84-Z2-1 Cable; 84-Z2-2 Cable; 84-Z2-3 Cable; UG-201/U Adapter.



FM STANDARD SIGNAL GENERATOR MODEL 78-FM

FREQUENCY RANGE: 86 to 108 megacycles, individually calibrated dials. Accurate to ± 0.5%.
OUTPUT VOLTAGE: 1 to 100,000 microvolts.
LEAKAGE: Less than 1 microvolt.
MODULATION: Deviation continuously variable from 0 to 300 kc. Indicated on directly calibrated dial. 400 cycle internal audio oscillator. Can be modulated from an external source providing 6 volts across 5000 ohms.
FIDELITY: Flat within two db from DC to 15,000 cycles. Distortion is less than 1% at 75 kilocycles deviation. Transient response is excellent.
POWER SUPPLY: 117 volts, 50 to 60 cycles. 36 watts.
DIMENSIONS: 10″ high x 13″ wide x 7″ deep, overall.
WEIGHT: Approximately 20 pounds.

MODEL M-275 I.F. CONVERTER

CARRIER FREQUENCIES: 4.5, 10.7, 21.7 Mc.
OUTPUT VOLTAGE: 10 microvolts to 1.0 v. when used with Model 78-FM.
BAND WIDTHS: 5% down, ± 250 Kc. from center frequency.

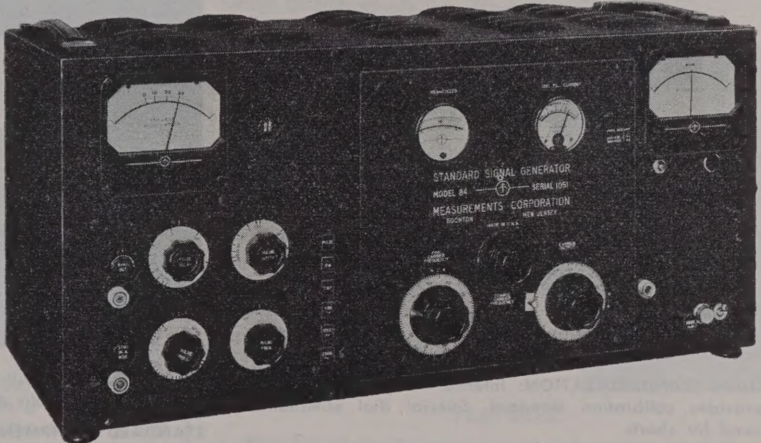
This instrument is designed to be used with the Model 78-FM Standard Signal Generator to provide output frequencies in the I.F. range.

AMPLITUDE MODULATION: Provision for external AM up to approximately 80%, combined with, or exclusive of, FM. There is negligible spurious FM due to AM. The envelope distortion is less than 10% at 80% modulation.

MEASUREMENTS CORPORATION BOONTON · NEW JERSEY

Laboratory Standards
MEASUREMENTS CORPORATION

STANDARD SIGNAL GENERATOR



MODEL 84

REQUENCY RANGE: 300 to 1000 mega-
ycles, individually calibrated direct read-
ng dial.

REQUENCY ACCURACY: ± 0.5%.

)UTPUT VOLTAGE: Continuously variable
om 0.1 to 100,000 microvolts.

)UTPUT IMPEDANCE: 50 ohms.

MPLITUDE MODULATION: Continuously
ariable from 0 to 30% indicated directly
n panel meter. Internal sine-wave os-
illator; choice of 400, 1000, or 2500
ycles is provided. External modulation up
30 kilocycles may be applied.

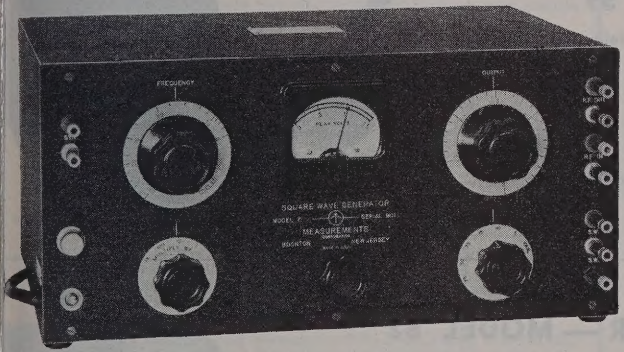
ULSE MODULATION: Repetition rate continuously variable from
0 to 100,000 cycles. Pulse width continuously variable from
to 50 microseconds indicated on directly calibrated dial. Pulse
elay (with respect to synchronizing output) continuously variable
rom 0 to 50 microseconds indicated on directly calibrated dial.
Aay be synchronized with an external sine-wave or pulse source.

POWER SUPPLY: 117 volts, 60 cycles. 230 watts (with regulator).

DIMENSIONS: 12″ high x 26″ wide x 10″ deep, overall.

WEIGHT: Approximately 135 pounds, including external line voltage regulator.

ACCESSORIES: Included with each instrument are four connecting cables, external voltage regulator.



SQUARE WAVE GENERATOR

MODEL 71

Recommended for television testing and many different applications in developing AM, FM and TV equipment where square-wave analysis is of great importance.

FREQUENCY RANGE: 6 to 100,000 cycles.

WAVE SHAPE: Rise time less than 0.2 microseconds with negligible overshoot.

OUTPUT VOLTAGE: Step attenuator giving 75, 50, 25, 15, 10, 5 peak volts fixed and 0 to 2.5 volts continuously variable.

SYNCHRONIZING OUTPUT: 25 volts peak.

. F. MODULATOR: 5 volts maximum carrier input. Translation gain is
pproximately unity—Output impedance is 600 ohms.

OWER SUPPLY: 117 volts, 50-60 cycles. 100 watts.

IMENSIONS: 7″ high x 15″ wide x 7½″ deep, overall.

VEIGHT: Approximately 20 pounds.

PULSE GENERATOR MODEL 79-B

his instrument is specially adapted for plate pulsing of the Model 80 Standard
ignal Generator.

REQUENCY RANGE: 60 to 100,000 cycles.

ULSE WIDTH: Continuously variable from 0.5 to 40 microseconds.

)UTPUT VOLTAGE: Approximately 150 volts positive with respect to ground.

SYNC" OUTPUT: 75 volts positive with respect to ground. Displaced by ½
eriod from pulse output.

SYNC" INPUT: May be synchronized with as little as 2 volts peak from
n external source.

OWER SUPPLY: 117 volts, 50-60 cycles. 115 watts.

IMENSIONS: 10″ high x 13⅝″ wide x 10½″ deep, overall.

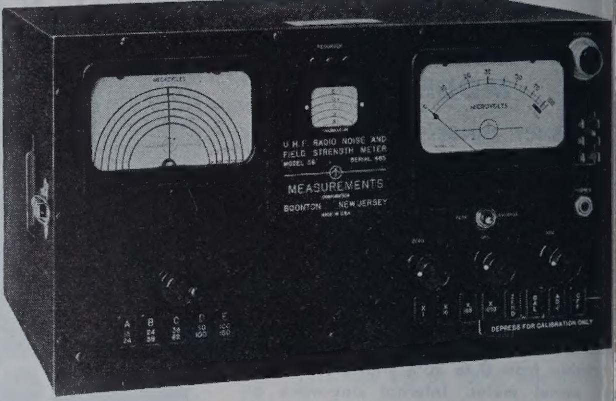
VEIGHT: Approximately 31 pounds.

MEASUREMENTS CORPORATION BOONTON · NEW JERSEY

Laboratory *Standards*
MEASUREMENTS CORPORATION

U.H.F. RADIO NOISE *and* FIELD STRENGTH METER

MODEL 58


U.H.F. RADIO NOISE AND FIELD STRENGTH METER
MODEL 58
MEASUREMENTS
BOONTON NEW JERSEY
MICROVOLTS
MEGACYCLES
DEPRESS FOR CALIBRATION ONLY

This versatile, portable instrument is useful in measuring signal-to-noise ratios, noise levels and for field strength surveys on television and FM transmitters.

FREQUENCY RANGE: 15 to 150 megacycles in five bands —dial directly calibrated in megacycles.

INPUT VOLTAGE RANGE: 1 to 100,000 microvolts across 72 ohm balanced line. 1 to 100 microvolts on semi-logarithmic output meter, balanced resistance attenuator with ratios of 10, 100 and 1000 ahead of all tubes.

GAIN STANDARDIZATION: Internal "shot noise" diode provides calibration standard. Special dial eliminates need for charts.

CIRCUIT: Superheterodyne circuit with tuned RF amplifier eliminates image response.

BAND WIDTH: 150 kilocycles @ 2X down.

POWER SUPPLY: Built-in regulated dual power supply for operati from either 117 volts AC or 6 volts DC. 70 watts (on AC).

STANDARD EQUIPMENT: Power cables, 15 foot antenna cable, 9 in loop antenna, carrying strap, and complete instruction book.

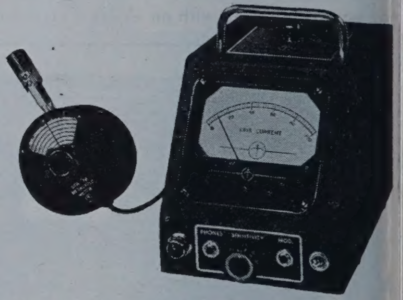
DIMENSIONS: 16″ wide x 9″ high x 11″ deep, overall.

NET WEIGHT: 35 pounds.

A VERSATILE "GRID-DIP" METER
MEGACYCLE METER — MODEL 59

Widely used by engineers, servicemen and amateurs in television, FM, taxi radio, aircraft radio and other electronic work. An ideal low sensitivity receiver for signal tracing.

FREQUENCY: 2.2 Mc. to 400 Mc.; seven plug-in coils. Hand calibrated dial, accurate to ± 2%.
MODULATION: CW or 120 cycles; or external.
DIMENSIONS: Power Unit, $5\frac{1}{8}$″ wide; $6\frac{1}{8}$″ high; $7\frac{1}{2}$″ deep. Oscillator unit, $3\frac{3}{4}$″ diameter; 2″ deep.
POWER SUPPLY: 117 volts, 50-60 cycles; 20 watts.



VACUUM TUBE VOLTMETER — MODEL 62

A general-purpose zero current voltmeter for the rapid, accurate measurement of AC or DC voltages. No zero adjust necessary when changing ranges.

RANGE: Push button selection of 5 ranges—1, 3, 10, 30 and 100 volts full scale AC or DC.

ACCURACY: ±2% of full scale on each range, both DC and sine-wave AC.

INDICATION: Linear for DC and calibrated to indicate RMS values of a sine-wave or 71% of the peak value of a complex wave on AC.

FREQUENCY ERROR: Less than 10% from 30 cycles to over 150 megacycles. Resonant frequency of the probe with input terminals shorted is 350 megacycles.

INPUT IMPEDANCE: The input capacitance is approximately 7 mmf. The input resistance is a function of frequency.

POWER SUPPLY: 117 volts AC, 50 to 60 cycles.

DIMENSIONS: $4\frac{3}{4}$″ wide x 6″ high x $8\frac{1}{2}$″ deep overall.

WEIGHT: Approximately 8 pounds.

VOLTS
1
3
10
30
100

PEAK VOLTMETER MODEL 67

True peak values of complex wave forms encountered in radio and allied electronic work may be measured accurately with the Model 67. It indicates the true peak-to-peak value of symmetrical and asymmetrical waveforms varying from low frequency square waves to pulses of less than five microseconds durati

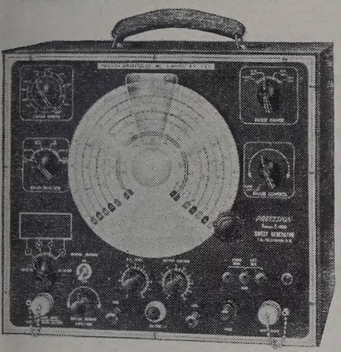
Full scale values of .03 to 300 volts peak-to-peak or .01 100 volts r.m.s. of a sine-wave in five decade ranges a indicated on semi-logarithmic scales.

MEASUREMENTS CORPORATION BOONTON · NEW JERSEY

PRECISION TEST EQUIPMENT
STANDARD OF ACCURACY

All prices are subject to change without notice

Series E-400
Wide Range Sweep Signal Generator
Narrow and Wide Band Sweep
Direct Reading from 2 to 480 Megacycles



Incorporating selected and true ultra-high frequency components and circuits, Series E-400 has been Application Engineered specifically for modern F.M. and TV. oscillographic alignment methods.

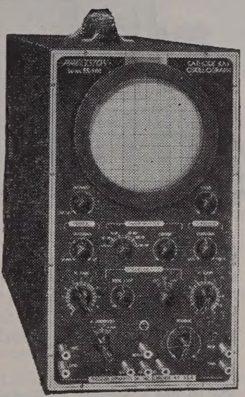
Stressing utmost simplicity of operation, flexibility, stability and accuracy, Series E-400 affords an unparalleled standard of performance and value.

Through careful, intensive development, "Precision" engineers have "designed out" costly, extraneous elements that migh lead to undue early obsolescence. As a result, Series E-400 is a ***fundamental requirement*** for the efficient TV.-F.M. Service Laboratory.

FEATURES

- ★ **Direct Frequency Reading** — 2 to 480 MC in 7 bands without skip. Harmonically calibrated from 240 to 480 MC.
- ★ **6 Position Rotary Band Switch** covers complete spectrum. Last position provides pure crystal oscillator only. No coil switching. Multiple oscillator B supply switch assures maximum frequency accuracy and stability.
- ★ **6½" Etched Aluminum Tuning Dial** — Engine turned finish.
- ★ **1500 Point Vernier Scale** permits close calibration and simple resetting of odd frequencies.
- ★ **Engraved Transparent Lucite Frequency Indicator** affords readings free from parallax.
- ★ **Voltage Regulated Oscillators** free of power supply variations.
- ★ **The Basic Circuit and Tube Complement** — Uses 2 separate 6C4 high frequency beat oscillators plus a 6J6 reactance-modulated high frequency oscillator. This positively minimizes generation of unwanted extraneous signals. Also employs a 6J6 mixer-buffer, a 6C4 multiple crystal oscillator and a 6J6 final marker-mixer amplifier. 6X5 full wave rectifier. VR-105 voltage regulator.
- ★ **Selected, True High Frequency Circuit Components** render high operating efficiency, stability and accuracy. Uses ceramic and air dielectric trimmer, coupling, by-pass and loading capacitors; rugged ceramic-lucite suspended National SLF tuning condenser; modern miniature HF tubes; mica-filled low-loss sockets; shock mounted reactance modulator; multi-section copper-plate shielding; etc.
- ★ **Narrow and Wide Band Sweep** — 0 to 1 MC and 0 to 10 MC continuously adjustable. Permits easy band width setting for both F.M. and TV. requirements.
- ★ **Dual Continuous R.F. Attenuators** triple shielded. Smooth, stepless, effective control from **extra high output for single stage alignment** to minimum levels for multi-stage adjustments.
- ★ **Wide Range Phasing Control** for Hor. sweep of oscilloscope.
- ★ **Multiple Crystal Marker-Calibrator** built-in. Simultaneously accommodates 4 crystals individually rotary selected. .01% accuracy 10.7 MC and 2 MC crystals **furnished as standard equipment.** Crystal signal separately attenuated for internal or external use.
- ★ **Crystal Calibrated and Control** — Each instrument calibrated against crystal standards. The 2 MC crystal, as furnished, provides for crystal monitoring in addition to use as calibrator for external signal generators.
- ★ **Terminated RG/U Coaxial Output Cable** for efficient signal transmission with minimum standing wave effects. LOW-HIGH taps plus open line switch for extra high as well as normal output signal level requirements.
- ★ **8 Element Double Section Balanced Line Filter** plus **Thorough Multi-Section Copper Plate Shielding** of instrument assures minimum leakage and radiation.
- ★ **Simultaneous A.M. and F.M.** test facilities for anti-A.M. check of F.M. second detector circuits. A.M. input jacks also permit use as an H.F. A.M. Generator.
- ★ **External Deviation** input facility for sweep frequencies other than internal source.
- ★ **Fuse Protected** at panel extractor fuse post.
- ★ **Heavy Gauge, Etched-Anodized Aluminum Panel.**
- ★ **Fully Licensed** under W. E., A. T. & T. and Remco patents.
  - ★ **Series E-400** (illustrated)—In Louvred, portable, copper-plated case. Size 10½" x 12" x 6". Complete with test cables, 2 crystals and elaborate Technical Manual.
    Code: Nancy. **NET PRICE $124.70**
  - ★ **E-400-PM** — Consists of E-400 on 12¼" x 19" steel panel for standard rack mount. Complete as above.
    Code: Niece. **NET PRICE $127.55**

Series ES-500
High Sensitivity, Wide Range, 5" Oscilloscope
Vertical Amplifier Range to 1 Megacycle
Sensitivity 20 Millivolts per Inch



Series ES-500 affords the ultimate in performance, visibility and operational flexibility at moderate cost. "Precision" engineers have incorporated every necessary basic feature which they have found to be required to meet the needs of the rapidly advancing art of electronics, A.M., F.M., and TV.

The combination of Series ES-500 and Series E-400 Sweep Signal Generator truly represents an ***Application Engineered*** BASIC TELEVISION and F.M. SERVICE LABORATORY.

FEATURES

- ★ **High Sensitivity, Extended Range, Voltage Regulated, Vertical Amplifier** — 20 MV (.02 V) per inch deflection sensitivity. 10 cycles to 1 MC response. 2 megohms input resistance. Approx. 22 mmfd. input capacity.
- ★ **Frequency Compensated Vertical Input Step Attenuator** — X1, X10, X100 plus continous variable gain control in cathode follower input stage.
- ★ **20 Millivolt Vertical Sensitivity** — particularly desirable for diversified TV., F.M. and A.M. circuit analyses, especially when aligning low gain single stages and performing tests involving low output analytical devices.
- ★ **Extended Range Horizontal Amplifier** — 500 MV (.5 V) per inch deflection sensitivity adequate for most all "H" drive purposes. 10 cycles to 1 MC response at full gain. ½ megohm input resistance. Approx. 20 mmfd. input capacity.
- ★ **Linear Multi-Vibrator Sweep Circuit** — 10 cycles to 30 KC plus line or external sweep.
- ★ **Amplitude Controlled, 3-Way Synch. Selection** — Internal-External-Line.
- ★ **"Z" Axis Modulation** input facility for blanking, timing, etc.
- ★ **Sweep Phasing Control** for sinusoidal line sweep usage. Wide angle bridge circuit.
- ★ **Direct H and V Plate Connections** and Audio Monitoring phone pin jacks behind rear cover plate. No screws to remove.
- ★ **High Intensity CR Patterns** through use of adequate high voltage power supply with 2X2 rectifier.
- ★ **The Circuit and Tube Complement** — 6J5 Vertical input cathode follower. 6AK5 first "V" amplifier. 7AD7 second "V" amplifier and CR driver. 7W7 Horizontal amplifier-CR driver. 6SN7 Multi-vibrator internal linear sweep oscillator. 5Y3 low voltage rectifier. 2X2 high potential rectifier. VR-150 vertical amplifier voltage regulator. 5CPI/A CR Tube.
- ★ **8 Four-Way Lab. Type Input Terminals** — Take banana plugs, phone tips, bare wire or spade lugs.
- ★ **Light Shield and Mask** removable and rotatable.
- ★ **Extra Heavy-Duty Construction** and components to assure "Precision" performance.
- ★ **Heavy Gauge, Etched-Anodized, No-Glare, Aluminum Panel.**
- ★ **Fully Licensed** under patents of W. E. and A. T. & T. Co's.
  - ★ **Series ES-500** (illustrated) — In louvred, black ripple, heavy gauge steel case. Size 8¼" x 14½" x 18". Complete with light shield, calibrating mask and instruction manual.
    Code: Quick. **NET PRICE $149.50**

Series TV Super-High Voltage Television Safety Test Probes On Page F-15

PRECISION TEST EQUIPMENT
STANDARD OF ACCURACY

All prices are subject to change without notice.

Precision Series EV-10 VTVM - Megohmmeter

with 7" Full-View Meter
Plus standard 1000 Ohms per Volt Functions.
Ranges to 6000 Volts · 2000 Megs. · 12 Amps. · +70 DB.

A WIDE-RANGE ZERO-CENTER ELECTRONIC INSTRUMENT, stressing the utmost in performance, accuracy, and ease of manipulation. Series EV-10 permits rapid check of voltage, current, and resistance conditions encountered in modern A.M., F.M., and TV. Networks, without materially disturbing circuit under analysis.

IMPORTANT FEATURES

- ★ VOLTAGE REGULATED — BRIDGE TYPE CIRCUIT: direct reading VTVM, with practical freedom from tube and line voltage variations.
- ★ ZERO-CENTER VTVM — Indicates **both** magnitude and polarity **without** reversal of test prods.
- ★ MASTER RANGE SELECTOR.
- ★ SHIELDED COAXIAL TEST PROBES.
- ★ DUO - BALANCED ELECTRONIC - BRIDGE OHMMETER — Provides unusually high accuracy.
- ★ TELEPHONE CABLED, plastic insulated, hook-up wire.
- ★ 7" RECTANGULAR METER 400 microampere, ±2%.
- ★ 1% wire and metallized resistors.

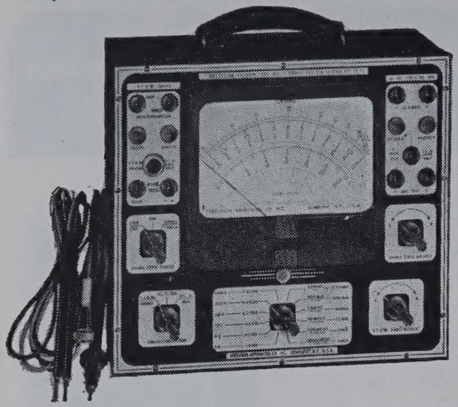
RANGE SPECIFICATIONS

- ★ Eight Zero-Center VTVM Ranges. ±3, ±6, ±12, ±60, ±300, ±600, ±1200, ±6000 volts D.C.

  Input Resistance—

  Constant 13⅓ megs. to 600 volts.
  26⅔ megohms at 1200 volts.
  133⅓ megohms at 6000 volts.
- ★ Six Circuit Probing, Zero-Center, V.T.V.M. Ranges: ±3, 6, 12, 60, 300, 600 volts D.C.
- ★ Six Ohmmeter-Megohmmeter Ranges: (self-contained).
  0-2000-200,000 ohms.
  0-2-20-200-2000 megohms.
- ★ Eight A.C.-D.C. and Output Voltage Ranges at 1000 ohms per volt.
  0-3-6-12-60-300-600-1200-6000 v.
- ★ Seven D.C. Current Ranges:
  0-600 microamperes.
  0-3-12-60-300-1200 MA. 0-12 amps
- ★ Eight DB Ranges: —26 to +70 DB.

★ **VTVM Ranges to 60,000 volts,** for Television and similar high voltage, low current applications, are available via use of the Series TV Test Probe described on page **F-15.**



- ★ **EV-10-MCP** (illustrated) In black ripple finished, heavy gauge steel case. Size 10½"x12"x6". Complete with tubes, battery, and test probes.
  Code: Place. NET PRICE $89.95
- ★ **EV-10-P** In hardwood portable case with tool compartment.
  Code: Phone. NET PRICE $92.70
- ★ **EV-10-PM** Consists of Series EV-10 on steel panel. Size 12¼"x19" for standard rack mount.
  Code: Panel. NET PRICE $92.70

★ SERIES RF-10 VACUUM TUBE R.F. PROBE

An accessory item to Series EV-10, the RF-10 Vacuum Tube Probe provides direct means for measurement of super-sonic, R.F. and U.H.F. voltages. Connects directly to Series EV-10 panel. Employs type 9002 tube probe rectifier. All operating voltages are applied through connecting cable. Complete with operating instructions.
Code: Probe. NET PRICE $14.40

Precision Series E-200-C Signal Generator

A Modern Multi-Band Signal Generator
for A.M., F.M., and Television Alignment.

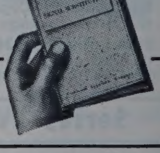
Featuring "Servicing by Signal Substitution." The Dynamic Speed Approach to Receiver Alignment and Adjustment Problems.

SPECIFICATIONS

- ★ FREQUENCY COVERAGE: 88 KC. to 120 MC. 30 MC. on fundamental.
- • 6½" Dial direct reading in 8 bands to 120 MC. No charts required.
- ★ ACCURACY — CONSTANCY OF CALIBRATION: 1% accuracy on all bands. Uses "PRECISION" developed "UNIT-OSCILLATOR" construction.
- ★ 0-1000 POINT VERNIER SCALE, direct reading to one part in 1000.
- ★ THE CIRCUIT—single-ended 6SJ7 in stable E.C.O. circuit—modulated by a 6C5 sine-wave audio oscillator. 5Y3 Full wave rectifier.
- ★ 400 CYCLE SINE-WAVE AUDIO OSCILLATOR — over 50 volts output.
- ★ DUAL R.F. ATTENUATORS — smooth stepless control of R.F. signal.
- ★ SHIELDING — Compartment shielding of vital components — Power transformer electrostatically shielded—A.C. line is R.F. filtered.
- ★ SHIELDED COAXIAL OUTPUT CABLE and (LO-HI) cable connectors.
- ★ FOUR TYPES OF SIGNALS — "Unmod. R.F.", "400 cycle Mod. R.F.", "EXTERNALLY Mod. R.F.", "400 cycle Audio Output."
- ★ DIRECT READING VARIABLE MODULATION — 0-100% — triples signal utility as against obsolete fixed modulation of only 30 or 40%.
- ★ DIRECT READING A.V.C. SUBSTITUTION SYSTEM — Overcomes alignment troubles arising from receiver A.V.C. Supplies ITS OWN A.V.C. VOLTAGE.
- ★ HAND CALIBRATED — Each instrument is INDIVIDUALLY calibrated.
- ★ FULLY LICENSED under patents of A. T. & T. and W. E. Co's.
- ★ Not only an efficient Signal Generator for purposes of alignment but also SPECIFICALLY DESIGNED for "Servicing by Signal Substitution."
- ★ IDEAL MARKER GENERATOR — Exceptional stability and high accuracy renders Series E-200-C an excellent variable frequency Marker Generator for use with the Series E-400 or similar high quality Sweep Signal Generator.

SIGNAL GENERATOR
SERIES E-200-C
PRECISION APPARATUS COMPANY
ELMHURST, L.I., N.Y., U.S.A.

- ★ **Series E-200-C** — (illustrated) In black ripple finished, portable steel case. Size 10½x12x6". Complete with tubes, output cable and FREE copy of "Servicing by Signal Substitution."
  Code: Trade. NET PRICE $67.25
- ★ **E-200-C-PM**—Consists of Series E-200-C on steel panel size 12¼x19", for standard rack mount.
  Code: Trace. NET PRICE $69.70

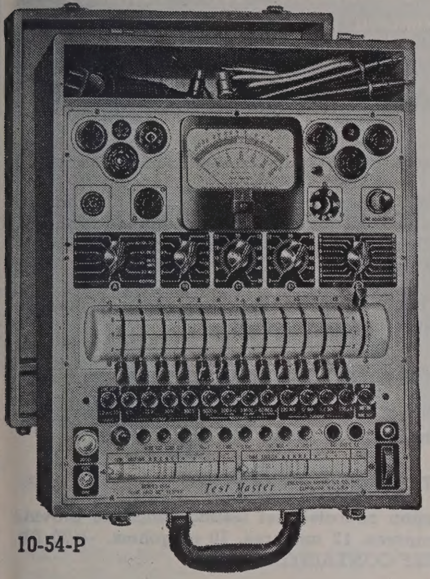


"SERVICING BY SIGNAL SUBSTITUTION" 11th Edition . . . The modern ECONOMICAL solution to your daily service problems . . . Nothing complex to learn, no extraneous equipment to purchase . . . A systematic method of DYNAMIC SIGNAL ANALYSIS based entirely on fundamentals . . . Fully described in a bound illustrated text "Servicing by Signal Substitution." This highly valuable book is supplied with Series E-200-C at no charge.
Additional copies available at your Precision distributor or directly from factory at **40c per copy.**

All prices are subject to change without notice

Series 10-54 *Electronamic Test Master*

Combination Tube Performance Tester, Battery Tester, and 35 Range, Push-Button Operated, Supersensitive, A.C.-D.C. Set Tester. Ranges to 6000 Volts, 60 Microamps, 12 amps, +70DB, 60 Meg. 20,000 Ohms per Volt D.C.—1000 Ohms per Volt A.C.



10-54-P

CIRCUIT TESTING FEATURES

A complete, wide-range, high speed, push-button operated, super-sensitive test set without any additional panel controls. Self-contained.

- ★ **Six D.C. Voltage Ranges:** 20,000 ohms per volt.
- ★ **Six A.C. Voltage Ranges:** 1000 ohms per volt.
- ★ **Six Output Ranges** at 1000 ohms per volt. 0-6-12-60-300-1200-6000 volts.
- ★ **Ranges to 60,000 Volts D.C.** via use of Series TV Super high voltage test probe. Not included with 10-54. See Page F-15.
- ★ **Seven D.C. Current Ranges:** 0-60-120 microamperes. 0-1.2-12-120-1200 MA. and 0-12 amperes.
- ★ **Four Self-Contained Resistance Ranges:** 0-6000-600,000 ohms; 0-6-60 megohms.
- ★ **Six Decibel Ranges** from —20 to +70 DB.
- ★ **Automatic Push-Button** range selection.
- ★ **1% Wirewound and Metallized Resistors.**

ELECTRONAMIC (Reg. U. S. Patent Office)

More than just Mutual Conductance: (Technical details in main catalog)

Series 10-54 affords to the discriminating instrument purchaser, THE COMPLETE PORTABLE SERVICE LABORATORY; engineered to meet the expanding needs of modern radio electronics. Provides every necessary facility for high speed, reliable tube and circuit testing associated with Industrial Electronics, Communications, Radio (A.M.-F.M.), Television, Laboratory, etc. . . .

TUBE AND BATTERY TESTING FEATURES

- ★ A TUBE "PERFORMANCE" TESTER: "Precision" ELECTRONAMIC circuit, effectively tests all tubes over a complete "Path of Operation" not just at one arbitrary operating point or for just one inconclusive characteristic.
- ★ TESTS ALL MODERN TUBE TYPES: Noval 9 pin, 7 pin Acorn, dual capped H.F. tubes, Single-Ended TV. and F.M. amplifiers, low power transmitting tubes, sub-miniature types, etc. **. . . including direct facilities up to twelve element prongs!**
- ★ ABSOLUTE FREE-POINT LEVER ELEMENT SELECTION: Highest possible, practical order of obsolescence insurance. Locates every tube element regardless of base position.
- ★ ABSOLUTE FREE-POINT, INTER-ELEMENT SHORT-CHECK and Visible Filament Continuity System.
- ★ DUAL SHORT-CHECK SENSITIVITY: Permits special application tube selection.
- ★ INDIVIDUAL TUBE SECTION TESTS of multi-section tubes.
- ★ A.M. and F.M. CATHODE RAY TUNING INDICATORS directly tested.
- ★ FILAMENT VOLTAGES ¾ to 117 V.
- ★ BALLAST UNIT TESTS.
- ★ NOISE and CONDENSER TESTS.
- ★ MICRO-LINE ADJUSTMENT via continuously variable line voltage control.
- ★ PILOT AND SIGNAL LIGHT TESTS.
- ★ ACCURACY of test circuits closely maintained by use of individual, internal calibrating controls.
- ★ ROLLER TUBE CHART: BUILT-IN.
- ★ EXTRACTOR FUSE POST.
- ★ Test circuits completely transformer-isolated from power line.
- ★ TELEPHONE-TYPE, CABLED, plastic-insulated, moisture-resistant wire.
- ★ 4⅝" FULL VISION METER: 50 microampere, 2% accuracy.
- ★ TESTS RADIO A, B and C DRY BATTERIES via a "PRECISION" engineered circuit which performance checks each battery under actual load conditions. **Battery quality read directly on a 3-color scale.**

10-54-P (illustrated above) Hardwood, tapered, portable case, 13¾"x17¼"x6¾". With ohmmeter batteries and high voltage test leads.
Code: Habit.
NET PRICE $134.40

10-54-C (see 10-12-C illustration and description below) In modern, attractively finished, steel counter cabinet.
Code: Handy. Complete:
NET PRICE $137.70

10-54-PM (see 10-12-PM illustration below) In standard Panel Mount, with dust cover.
Code: Harem. Complete:
NET PRICE $137.70

Series 10-12 *Electronamic Tube Master*

Truly Free-Point Tube and Battery Performance Tester.

ELECTRONAMIC (Reg. U. S. Patent Office)

More than just Mutual Conductance: (Technical details in main catalog)

The 10-00 Series of TUBE and TEST MASTERS represent the culmination of many years' development of tube testing equipment to meet the exacting needs of the rapidly advancing field of electronics.

Incorporating the "PRECISION" ELECTRONAMIC Tube Performance Testing Circuit, plus an advanced, "PRECISION" developed, multiple element, master lever selector system, it truly can be said that the MASTER 10-00 Series offers, to the discriminating equipment purchaser, the highest possible practical order of test results and anti-obsolescence insurance.

TUBE AND BATTERY TESTING FEATURES

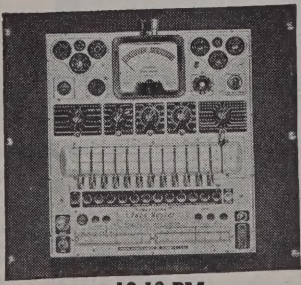
The Series 10-12 Electronamic Tube Master incorporates the same time-proven circuit and exacting performance details described for the Series 10-54, above, under the heading: "Tube and Battery Testing Features."

★ **10-12-P** (see 10-54-P illustration and description above) In hardwood, tapered, portable case with tool compartment. **Code: Facil.**
Complete: NET PRICE $96.10

★ **10-12-C** (illustrated at right) In modern, chrome-trimmed, round edged counter cabinet. Fine dull black ripple finish on heavy gauge steel. Size 17"x17⅞"x7½" sloping to 3" at front. **Code: Faith.**
Complete: NET PRICE $99.40

★ **10-12-PM** (illustrated at right) Consists of 10-12 chassis, mounted onto standard size steel panel, 17½"x19" with dust cover. Fine, dull black ripple finish.
Code: Favor.
Complete: NET PRICE $99.40

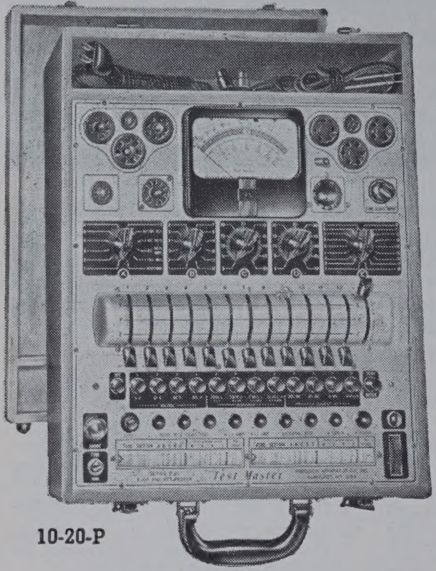
10-12-C



10-12-PM

PRECISION TEST EQUIPMENT
STANDARD OF ACCURACY

All prices are subject to change without notice



10-20-P

- ★ **10-20-P** (illustrated above) In hardwood, portable case with tool compartment. Size 13¾"x17¼"x6¾". Complete with ohmmeter batteries and test leads. **Code: Daily.**
  Complete: NET PRICE $119.80
- ★ **10-20-C** (see 10-12-C illustration and description, page F-13) In standard panel mount finished, steel counter cabinet. **Code: Dance.**
  Complete: NET PRICE $123.10
- ★ **10-20-PM** (see 10-12-PM illustration and description, page F-13) In standard panel mount with dust cover. **Code: Dandy.**
  Complete: NET PRICE $123.10

Series 10-20 *Electronamic Test Master*
Combination Master Electronamic Tube Performance Tester, Battery Tester and 34 Range A.C.-D.C. Push-Button Operated Circuit Tester. 1000 Ohms per Volt A.C. and D.C.

ELECTRONAMIC (Reg. U. S. Patent Office)

More than just Mutual Conductance: (Technical details in main catalog)

A complete, rugged service laboratory incorporating the time-proven "PRECISION" ELECTRONAMIC Tube Performance Tester, combined with full standard 1000 ohms per volt A.C. and D.C. Multi-Range features: PLUS a complete radio A, B and C Battery Tester.

Ideally suited and particularly engineered for thorough general purpose radio-electronic maintenance, service and installation.

TUBE AND BATTERY TESTING FEATURES

The Series 10-20 TEST-MASTER provides the identical tube and battery performance testing features as outlined for the Series 10-54 on page 5.

CIRCUIT TESTING FEATURES

Wide-range, high speed, push-button operated set testing functions provide ranges to: 3000 volts, 600 microamperes, 12 amperes, 10 megohms, +70 DB. ALL SELF-CONTAINED.

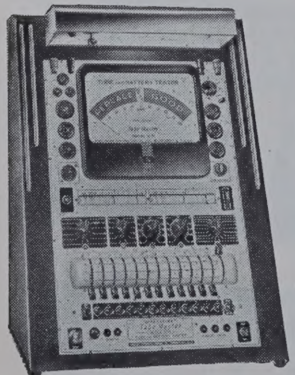
- ★ SIX A.C. - D.C. - OUTPUT VOLTAGE RANGES at 1000 ohms per volt.
  0-6-12-60-300-1200-3000 volts.
- ★ SIX D.C. CURRENT RANGES:
  0-600 microamperes.
  0-6-60-300-1200 MA. and 0-12 amps.
- ★ FOUR SELF-CONTAINED RESISTANCE RANGES:
  0-1000-100,000 ohms: 0-1-10 megs.
- ★ SIX DB RANGES from —20 to +64 DB.
- ★ 4⅝" WIDE VISION METER:
  400 microamperes, ±2%.
- ★ 1% WIREWOUND AND METALLIZED RESISTORS.
- ★ ONLY 2 TIP JACKS serve all standard ranges.
- ★ AUTOMATIC INTERLOCKING PUSH-BUTTON RANGE SELECTION.
- ★ ALL CIRCUITS ISOLATED FROM POWER LINE.

Series 10-15 *Electronamic Tube Master*
Ultra-Modern, De Luxe Tube and Battery Merchandiser with large 9" meter.

Series 10-22 *Electronamic Test Master*
**De Luxe Tube-Battery Merchandiser and Circuit Tester with large 9" Meter.
1000 ohms per volt A.C. and D.C.**

ELECTRONAMIC (Reg. U. S. Patent Office)

More than just Mutual Conductance:
(Technical details in main catalog)

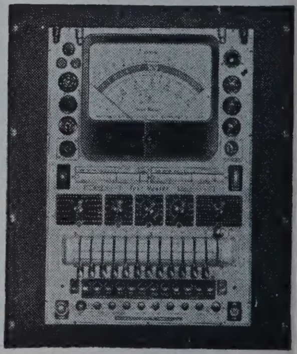


10-15

- ★ **10-15 Tube and Battery Merchandiser.** (Illustrated) Heavy gauge steel cabinet in fine, dull black ripple, with chrome trim and reflector. Size 24" high, 17½" wide, base depth 10" tapering to 4" at top. **Code: Gable.**
  Complete: NET PRICE $132.65

- ★ Incorporates the **Electronamic** tube performance and battery testing circuit, described for Series 10-54 on page F-13.
- ★ Designed particularly for equipment-conscious, progressive radio service-sales organizations, and tube-selling sections of department stores.
- ★ PROMOTE CUSTOMER CONFIDENCE and **tube sales** via this impressive **"Precision"** Tube Merchandiser.
- ★ DIRECT READING non-confusing tube performance indications in large, easy reading terms of Replace-Weak-Good.
- ★ ILLUMINATED by built-in, large chromium reflector.
- ★ **10-15-PM** (see 10-22-PM illustration at right) On heavy gauge steel panel with dust cover. Panel 22¾"x19" for standard rack mount. Fine, dull black ripple finish. **Code: Gavot.**
  Complete: NET PRICE $127.50

- ★ The Series 10-22 De Luxe **Electronamic** Service Laboratory is electrically identical to the Series 10-20 above.
- ★ Incorporates every sales promotional advantage of the Series 10-15, at left, plus a complete 34 range A.C.-D.C. push-button operated, Multi-Range Test Set.
- ★ **Tube and Service Facilities** are emphasized with this modern, impressive **"Precision"** engineered instrument.
- ★ Ideal for behind-the-counter installation, also ideal for insertion into the center of tube stock-display shelving.
- ★ **10-22 Combination Tube and Battery Merchandiser plus A.C.-D.C. Multi-Range Set Tester.** In same cabinet illustrated for the model 10-15 (at left). **Complete with test leads and ohmmeter batteries. Code: Gauge.**
  Complete: NET PRICE $155.15



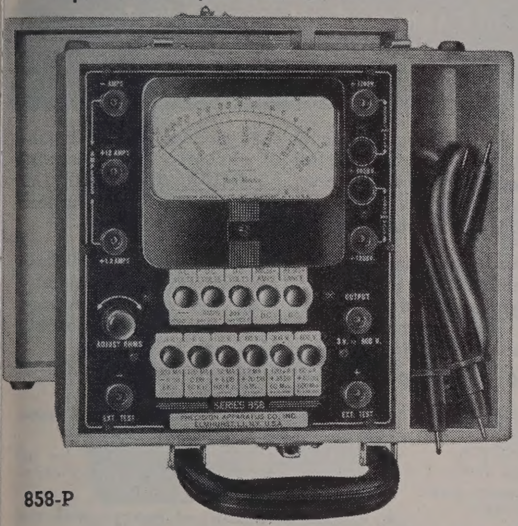
10-22-PM

- ★ **10-22-PM** (illustrated) On heavy gauge steel panel with dust cover. Panel 22¾"x19" for standard rack mount. Fine, dull black ripple finish. **Code: Gamut.**
  Complete: NET PRICE $150.00

PRECISION TEST EQUIPMENT

STANDARD OF ACCURACY

All prices are subject to change without notice



858-P

Series 858 High Sensitivity *Multi-Master*

Dual-Range Sensitivity

High Speed, A.C.-D.C. Multi-Range Test Set. 54 Ranges to 6,000 Volts, 60 Microamperes, 12 Amps, 600 Megs. +70DB. 20,000 and 1,000 Ohms per Volt D.C. 1,000 Ohms per Volt A.C.

Series 858 MULTI-MASTER features a "Precision" designed, positive action Push-Button Range and Function selection system, affording the ultimate in operational efficiency.

Designed for reliable measurements in modern T.V., F.M., A.M. and other critical electronic circuits where only minute current drain of the measuring instrument can be tolerated.

The dual-range sensitivity feature provides the equivalent of another instrument at standard 1000 ohms per volt sensitivity, in conformance with many point to point voltage readings listed by receiver service manuals.

When employed in conjunction with the Series TV super-high voltage test probe (described below), direct reading facilities to 60,000 volts are provided.

★ **858-P** (illustrated) In hardwood, portable case, with tool compartment. Size 9"x10"x4½". Complete with ohmmeter batteries and high voltage test leads. **Code: Judge.** **NET PRICE $49.94**

★ **858-L** In modern bakelite case (as illustrated for Series 847-L below). Complete with ohmmeter batteries and high voltage test leads. **Code: Jetty.** **NET PRICE $47.94**

SPECIFICATIONS

- ★ EIGHT D.C. VOLTAGE RANGES both 20,000 and 1000 ohms per volt.
- ★ EIGHT A.C. and OUTPUT VOLTAGE RANGES at 1000 ohms per volt. 0-3-6-12-60-300-600-1200-6000 volts.
- ★ EIGHT D.C. CURRENT RANGES:
  - 0-60-120 microamperes.
  - 0-1.2-12-120-600 MA. 0-1.2-12 amps.
- ★ SIX RESISTANCE RANGES:
  - self-contained to 60 megohms.
  - 0-6000-60,000-600,000 ohms.
  - 0-6-60-600 megohms.
- ★ EIGHT DB RANGES: —26 to +70DB.
- ★ Two Pin Jacks for all standard ranges.
- ★ 4⅝" 50 microamp. meter. ±2%.
- ★ 1% Wire and Metallized Resistors.
- ★ Safety Jacks for 6000 volt ranges.
- ★ HIGHEST GRADE MATERIALS and plastic insulated wiring employed.
- ★ ETCHED AND ANODIZED, heavy gauge aluminum panels: resistant to moisture and wear.

Series TV Super High Voltage SAFETY TEST PROBES*

Voltage Ranges to 60,000 Volts D.C. With standard V.T.V.M. or high sensitivity V-O-M

*Patent Applied For.

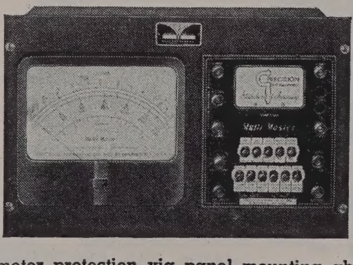
"Precision" engineering solves the high voltage TV. test problem with utmost safety to the operator. *Series TV. has been custom designed for YOUR safety FIRST.* Cartridge style high voltage tubular multiplier permits use of a single "TV." probe with most popular high sensitivity test sets and V.T.V.M.'s. *(See reverse side of "Precision" price sheet for details.)*

The brief features below reveal that Series TV. has been *specifically engineered* as a true High Voltage Testing Device.

- ★ **Custom Molded Polystyrene Head,** heavy duty bakelite handle and barrier, specially machined internal lucite components, all spell out "HIGH VOLTAGE ENGINEERED."
- ★ **High Dielectric Anti-Leakage Paths** and wide, multi-channelled guard-barrier reiterate "HIGH VOLTAGE ENGINEERED."
- ★ **Internal and External Protective Grounding** — Full handle length grounded internal flash-over-shield. External, grounded arc-back barrier. HIGH VOLTAGE ENGINEERED!
- ★ **Heavy Duty Shielded Connecting Cable** for connection to test instrument.
- ★ **Ceramic, Helical Film-Type, Cartridge Multiplier** manufactured specifically for VERY HIGH VOLTAGE APPLICATION. **Removed and changed without tools!**
- ★ **Positive Grounds and HV Connections** via high compression contact springs.
- ★ **Series TVP**—Test Probe less multiplier cartridge, with instructions. **Code: Ebony.** **NET PRICE $12.35**
- ★ **Series TV-1** (illustrated) with cartridge for "Precision" Series EV-10 VTVM. **Code: Elegy.** **NET PRICE $15.45**
- ★ **Series TV-2** with cartridge for "Precision" (or any) 20000 ohms/V. test set with 6000 V. range. **Code: Every.** **NET PRICE $15.45**
- ★ **TVM — Cartridge Multipliers only** for Series TV. See reverse side of "Precision" price sheet.

Series 866 De Luxe *Multi-Master*

Panel-Mounted, A.C.-D.C. Test Set, 9" Meter and Remote-Control Selector Unit. 5000 and 1000 Ohms per Volt D.C. 1000 Ohms per Volt A.C.



A laboratory type, high sensitivity test set indispensable to the well equipped, modern test laboratory and electronics classroom.

The extra-large 9" meter and remote-control selector unit afford unparalleled operational efficiency with maximum physical meter protection via panel mounting above the work level.

RANGE SPECIFICATIONS OF SERIES 866 are similar to those described for Series 858 above. 5000 and 1000 ohms/V.D.C.

54 ranges to 6000 volts, 300 microamperes,
12 amperes, 200 megohms, +70 DB.

★ **866** (illustrated) In standard panel mount, size 19"x12¼" with dust cover. Complete with high voltage test leads and ohmmeter batteries. **Code: Novel.** **NET PRICE $71.65**

Series 847 Dual Sensitivity *Multi-Master*

5000 and 1000 Ohms per Volt

Physically similar to Series 858 at top of page, the Series 847 is a moderate sensitivity, wide range test set specifically prescribed for applications wherever ruggedness is of greater import than extremely high sensitivity. Range specifications are identical to the Series 866 above.

★ **847-L — Code: Index** .... **NET PRICE $47.65**
★ **847-P — Code: Ivory** .... **NET PRICE $50.90**

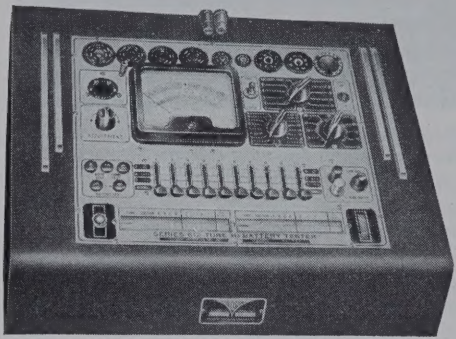
PRECISION TEST EQUIPMENT
STANDARD OF ACCURACY

All prices are subject to change without notice

Series 612 Cathode Conductance Tube Tester
A Modern, Free Point, Lever Operated Tube and Battery Tester.

The new "600" Series brings to the field of modern electronic tube checking ***the highest practical order of obsolescence insurance with utmost simplicity of operation, AT MODERATE COST.*** This has been achieved with full conformity to the well-known "Precision" standards of quality, workmanship, and performance.

The "600" tube testing parameters are based upon the well-established, time-proven emission testing principles as have been recommended by both tube manufacturers and R.M.A. The "600" line affords advanced design features and performance which render it incomparable amongst instruments in its category and price range.



612-C

- ★ **612-C** (illustrated) In modern, chrome-trimmed, counter cabinet. Black ripple finish. Size 16" x 13½" x 7", sloping to 3" at front. **Code: Bison. Complete: $71.90**
- ★ **612-P** In hardwood, portable case (as illustrated for 654, below). Size 12" x 13" x 6". **Code: Begin. Complete: $69.50**
- ★ **612-MCP** Open style Metal Case Portable. Size 10½" x 12" x 6". **Code: Brine. Complete: $66.65**
- ★ **612-PM** In standard size panel mount 12¼" x 19" with dust cover. **Code: Blaze. Complete: $69.50**

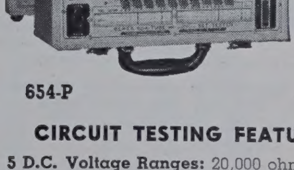
TUBE AND BATTERY TESTING FEATURES

- ★ TESTS ALL MODERN TUBE TYPES including 7 pin Acorns, Noval 9 pin, dual capped H.F. tubes, F.M. and TV. amplifiers.
- ★ FILAMENT VOLTAGES ¾ to 117 volts.
- ★ ABSOLUTE FREE-POINT 10 element lever selection for merit and short tests.
- ★ 4½" METER, 2% ACCURACY.
- ★ DUAL SHORT-CHECK SENSITIVITY.
- ★ INDIVIDUAL TESTS OF MULTI-SECTION TUBES including tuning indicators.
- ★ BALLAST UNIT TESTS.
- ★ MICRO-LINE ADJUSTMENT.
- ★ NOISE and CONDENSER TEST pin jacks.
- ★ Pilot Light Test Socket.
- ★ DYNAMIC "UNDER-LOAD" TEST for all popular radio A, B, and C dry batteries.
- ★ Built-in, brass geared roll chart.
- ★ Anodized, deep-etched, heavy gauge aluminum panel, resistant to wear.
- ★ Panel-mounted Fuse Extractor Post.
- ★ Telephone type cabled, plastic-insulated, moisture resistant hook-up wire.
- ★ Each instrument individually calibrated and sealed.

Series 654 COMBINATION TUBE, BATTERY AND SET TESTERS Series 620

Series 654: 20,000 OHMS PER VOLT D.C.
1,000 OHMS/VOLT A.C. • Ranges to 6,000 V.,
120 Microamperes, 12 Amps., 60 Megs., +70 DB.

Series 620: 1,000 OHMS PER VOLT A.C. AND D.C.
STANDARD SENSITIVITY • Ranges to 3,000 V.,
12 Amperes, 10 Megohms, +64 DB.



654-P

★ **SERIES 654 is an economical, compact *High Sensitivity Service Laboratory* designed to meet the specific needs of modern electronics service and maintenance, A.M., F.M., and TV.**

Series 654 incorporates the identical tube and battery testing features of the Series 612 above, *PLUS* a complete wide range, high sensitivity A.C.-D.C. circuit tester.

CIRCUIT TESTING FEATURES

- ★ **5 D.C. Voltage Ranges:** 20,000 ohms per volt.
- ★ **5 A.C. and Output Voltage Ranges:**
  1000 ohms per volt
  0-12-60-300-1200-6000 volts.
  Ranges to 60,000 Volts D.C. via use of Series TV. Super high voltage test probe. Not included with 654. See page F-15.
- ★ **6 D.C. Current Ranges:** 0-120 microamperes. 0-1.2-12-120 MA. 0-1.2-12 Amperes.
- ★ **3 Wide Resistance Ranges**
  0-6000-600,000 ohms. 0-60 Megs.
  Self-contained batteries.
- ★ **5 Decibel Ranges** from —12 to +70 DB.
- ★ **Fully Rotary Selective** Ranges and Functions.
- ★ **Only 2 Pin Jacks** for all standard ranges.
- ★ Recessed 6,000 V. safety pin jacks.
- ★ 50 microampere, 4⅝" Wide-Angle meter.
- ★ 1% Wirewound and film-type resistors.
- ★ All circuits isolated from power line.

★ **SERIES 620 is identical to the Series 654, at left, except for the lower D.C. multi-range meter sensitivity and related range differences as indicated above.**

Provides every essential feature for general purpose test and check of modern radio and electronic equipment.

Series 620 is the logical choice as a highly rugged, reliable "Precision" quality instrument at moderate cost.

The Series 654 and 620 are available in the same four model types as described for the Series 612 above.

NET PRICES

	Code	Net Price		Code	Net Price
★ 654-P	Hardy	$106.40	★ 620-P	Local	$94.10
★ 654-MCP	Hurry	103.55	★ 620-MCP	Lofty	91.25
★ 654-C	House	108.90	★ 620-C	Loyal	96.50
★ 654-PM	Heart	106.40	★ 620-PM	Legal	94.10

Series 614 DE LUXE TUBE AND BATTERY MERCHANDISER
Modern, Counter Type Tube and Battery Tester with Large 7" Chrome Trimmed Meter.

614

The Series 614 is designated for the progressive tube and battery department wherein an exceptionally attractive instrument is desired to step-up tube and battery sales with minimum investment.

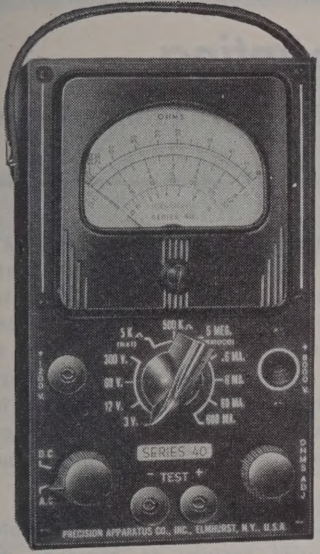
The 7" meter provides a full view of test results.

The tube and battery testing circuit of Series 614 is electrically identical to that described for Series 612 at top of page.

★ **614 Tube and Battery Merchandiser** (illustrated) — in modern, chrome-trimmed, fine black ripple finished cabinet. Offset mounted meter. Cabinet size 16" x 13½" x 7", slopes to 3". **Code: Early. NET PRICE $89.30**

PRECISION TEST EQUIPMENT

STANDARD OF ACCURACY



★ **Series 40** (illustrated) In molded bakelite case with plastic handle. 3¾"x 6¼"x2½". Complete with ohmmeter batteries and test leads. **Code: Visit.**
NET PRICE $24.75

Series 40 Compact Wide-Range Circuit Tester

31 Range A.C.-D.C. Test Set . . . Self-Contained to 6000 Volts, 600MA, +70DB, 5 Megohms with Full Size 3" Rectangular Meter. 1000 Ohms per Volt A.C. and D.C.

In molded bakelite carying case, Series 40 meets the need for a compact, yet rugged test set to withstand hard usage as is imposed by the service technician, maintenance engineer, production inspector, trouble-shooter, etc.

The Series 40 offers every advanced design feature and full-bodied components as are regularly incorporated in "Precision's" larger multi-range test sets, including: Rotary Range Selection—1% shunts and multipliers—heavy duty insulated pin jacks—Large numeralled, easy reading meter.

ALL RANGES, including 6000 volts and 5 Megohms, are SELF-CONTAINED NO EXTERNAL BATTERIES OR MULTIPLIERS ARE REQUIRED.

RANGE SPECIFICATIONS

- ★ 6 A.C.-D.C. AND OUTPUT VOLTAGE RANGES at 1000 ohms per volt. 0-3-12-60-300-1200-6000 volts.
- ★ 4 D.C. CURRENT RANGES: 0-.6-6-60-600 MA.
- ★ 3 RESISTANCE RANGES: 0-5000-500,000-5 megohms.
- ★ 6 DECIBEL RANGES —22 to +70 DB.
- ★ FULL SIZE 3" RECTANGULAR METER: 400 microamperes ±2%.
- ★ 1% WIRE & FILM-TYPE RESISTORS.
- ★ ONLY 2 PIN JACKS serve all standard functions.
- ★ Recessed 6000 volt safety jack.
- ★ Anodized, etched aluminum panel: resistant to moisture and wear.

LC-2 LEATHER INSTRUMENT CASE: Genuine top-grain heavy cowhide case, custom designed for the Series 40. Richly finished in dark brown. **Code: Young. NET PRICE $4.95**

Series 85 High Sensitivity Test Set

20,000 Ohms per Volt D.C. 1,000 Ohms per Volt A.C. 34 Self-Contained Ranges to 6000 Volts, 120 Microamperes, 12 Amperes, +70DB, 60 Megohms.

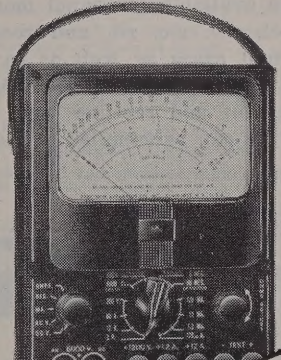
The Series 85 is a bakelite cased, laboratory styled, portable instrument.

Combining high sensitivity with small overall size, Series 85 is "Application Engineered" for production, lab., school and service-maintenance phases of modern electronics: A.M., F.M., and TV.

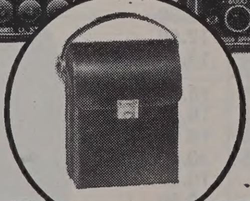
★ When used with the Series TV super-high voltage test probe, D.C. voltage ranges up to 60,000 volts are provided for Television and similar high potential, low current circuits. See page F-15.

SPECIFICATIONS

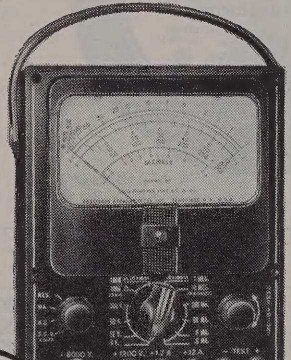
- ★ **6 D.C. Voltage Ranges:** 20,000 ohms per volt.
- ★ **6 A.C.-Output Voltage Ranges:** 1000 ohms per volt 0-3-12-60-300-1200-6000 volts.
- ★ **6 D.C. Current Ranges:** 0-120 microamps. 0-1.2-12-120 MA and 0-1.2-12 amps.
- ★ **4 Resistance Ranges:** Self-contained. 0-6000-600,000 ohms; 0-6-60 megs.
- ★ **6 Decibel Ranges:** —26 to +70DB.
- ★ **4⅝" Rectangular Meter.** 50 Microampere. 2% accuracy.
- ★ **1% Wire & Film-type Resistors.**
- ★ **Rotary Range Selection:** All standard functions at 2 tip jacks.
- ★ Recessed 6000 volt safety jacks.
- ★ Anodized, heavy gauge, etched aluminum panel: resistant to moisture and wear.
- ★ **Series 85** (illustrated) in molded bakelite carrying case with plastic handle. 5½" x 7⅛" x 3". Complete with ohmmeter batteries and test leads. **Code: Waist. NET PRICE $38.75**



Series 85



Series LC-1



Series 80

LC-1 LEATHER INSTRUMENT CASE

Custom designed for the Series 80 and 85. Includes a tool and test lead compartment.

Genuine-top-grain heavy cowhide with waterproof lined suede interior. Adjustable hand or shoulder strap. Positive snap-lock. Richly finished in dark brown. **Code: Yearn.**
NET PRICE $8.75

All prices are subject to change without notice

Series 80 Wide Range Test Set

1000 Ohms per Volt A.C. and D.C. 34 Self-Contained Ranges to 6000 Volts, 12 Amperes, +70DB, 10 Megohms.

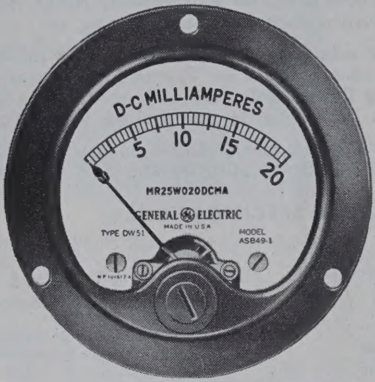
The Series 80, laboratory styled, rotary selective, multi-range circuit tester has been designed to meet the same high calibre performance standards as the Series 85 (at left) but is specifically intended for use wherein greater resistance to electrical and physical overload is of more importance than extremely high sensitivity.

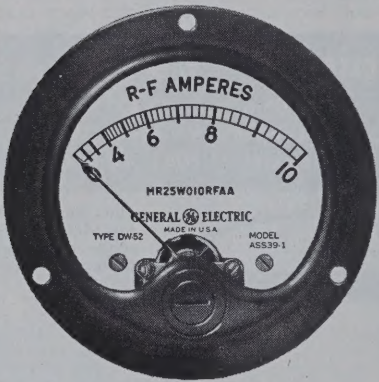
"Application Engineered" for general purpose industrial and radio service-maintenance-test requirements.

SPECIFICATIONS

- ★ **6 A.C.-D.C.-Output Voltage Ranges:** 1000 ohms per volt. 0-6-12-60-300-1200-6000 volts.
- ★ **6 D.C. Current Ranges:** 0-.6-6-60-300 MA and 0-1.2-12 amps.
- ★ **4 Resistance Ranges:** Self-Contained. 0-1000-100,000 ohms. 0-1-10 megohms.
- ★ **6 Decibel Ranges:** from —20 to +70DB.
- ★ **4⅝" Rectangular Meter:** 400 microampere, 2% accuracy.
- ★ **1% Wirewound and Film-type Resistors.**
- ★ Recessed 6000 volt safety jack.
- ★ Anodized, etched aluminum panel resistant to moisture and wear.
- ★ **Series 80** (illustrated) In molded bakelite carrying case with plastic handle. 5½"x7⅛"x3". Complete with ohmmeter batteries and test leads. **Code: Weave.**
NET PRICE $32.70

ELECTRIC INDICATING INSTRUMENTS
For Panel Mounting
Internal-pivot Direct-current and Radio-frequency Types


D-C MILLIAMPERES
5
10
15
20
MR25W020DCMA
GENERAL ELECTRIC
MADE IN USA
TYPE DW51
MODEL ASB49-1


R-F AMPERES
4
6
8
10
MR25W010RFAA
GENERAL ELECTRIC
MADE IN USA
TYPE DW52
MODEL ASS39-1

These small panel instruments are particularly suitable for use in radio and other communications equipment where compactness, especially minimum depth behind the panel, is essential. Thinness is obtained by the use of a unique single-unit, high-torque element of the permanent-magnet, moving-coil type. In this element, the pivots, instead of being secured to the outside of the armature winding, are solidly mounted on the **inside** of the armature shell.

G-E internal-pivot instruments are available in a variety of standard ratings to measure direct current and voltage (Type DW-51), and radio-frequency current (Type DW-52). They are of the 2½-inch classification. The behind the panel depth is 0.89 inch of the molded Textolite case.

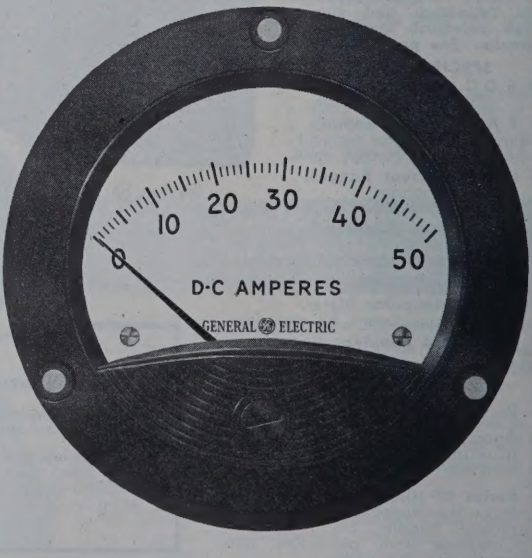
OTHER TYPES

Many other types of G-E indicating instruments are available for panel mounting. They include 3½ inch a-c, d-c, r-f, and rectifier types in standard round cases as well as in rectangular cases, such as the one shown below. Also 2½-inch alternating-current and rectifier type instruments. Still other types can be supplied to meet unusual requirements.

LISTINGS

Range		Approx. Resistance in Ohms	Cat. No.	Price*
1	volts (d-c)	1,000	258X65	$12.00
5		5,000	258X68	12.00
20		20,000	258X72	12.00
50		50,000	258X74	12.00
100		100,000	258X76	12.50
150		150,000	258X77	13.00
1	milliammeters (d-c)	25	258X90	10.50
5		7.4	258X93	10.50
25		2.16	258X96	10.50
100		.50	258X98	10.50
200		.252	259X1	10.50
500		.100	259X4	10.50
50	microammeters (d-c)	2,030	259X5	19.00
100		693	259X7	18.00
200		302	259X9	14.00
500		68.5	259X11	12.50
1	amperes (r-f)	.29	259X13	16.50
5		.034	259X16	16.50
10		.017	259X19	16.50
100	milliammeters (r-f)	6.8	259X22	15.50
200		4.0	259X25	15.50
500		.62	259X28	15.50

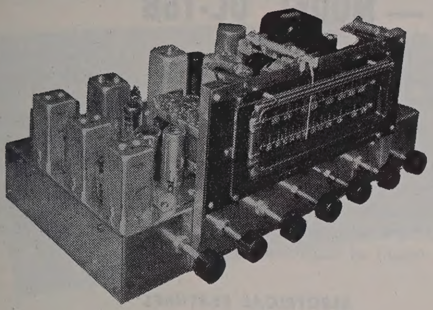
* Manufacturers' suggested retail prices.


0
10
20
30
40
50
D-C AMPERES
GENERAL ELECTRIC

Type DO-71 3½-inch instrument for panel mounting

BROWNING LABORATORIES, INC. WINCHESTER, MASS., U.S.A.

BROWNING FM-AM TUNER — MODEL RJ-20



Designed for high-fidelity receiving application in the AM broadcast and FM bands.

ELECTRICAL FEATURES

- For FM—88 to 108 MC, and AM—530 to 1650 KC. Armstrong FM circuit.
- 20 db quieting with 6½ microvolts on FM; 5 microvolts sensitivity on AM.
- Separate RF and IF on both bands; no coil switching.
- Variable bandwidth AM IF gives full 9 KC band on broad and 4 KC on narrow position.
- FM audio response flat from 15 to 15,000 cycles ± 3 db.
- 20,000-ohm output impedance; 300 or 72 ohms input for FM provided.
- Tubes: five 6AU6; one 7F8; two 6AL5; one 12AU7; one 6SK7; one 6SA7; one 6SG7; one 6AL7 tuning eye; one 5Y3 rectifier.

MECHANICAL FEATURES

- Edgelighted slide-rule dial with large tuning ratio.
- Height 7½"; width, 17"; depth, 9".
- Weight: RJ-20, 18½ lbs. shipping 24 lbs.
- Model RJ-22: Rack type with black leatherette panel, 8¾" high, 19" wide and 9¾" deep; shipping 38 lbs.

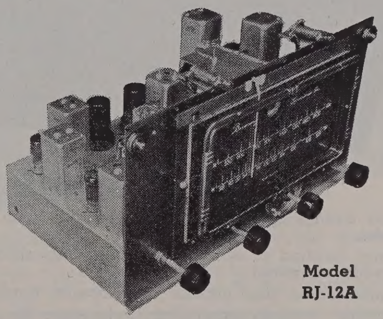
BROWNING FM-AM TUNER — MODEL RJ-12A

Engineered for high-fidelity reception in the FM band. The AM section provides high sensitivity and selectivity as well as quality reception in the broadcast band.

ELECTRICAL FEATURES

- For the FM band—88 to 108 MC and broadcast band—530 to 1650 KC.
- Less than 10 microvolts needed to produce 20 db noise reduction in the FM band; sensitivity of 5 microvolts in the AM broadcast band.
- Separate RF and IF systems on both bands; no coil switching.
- Drift compensated.
- FM audio response flat from 20 cycles to 15000 cycles within ± 1½ db.
- AM audio response flat from 20 to 6600 cycles ± 3 db; IF's triple tuned.
- Miniature tubes used as FM RF and IF amplifiers assure maximum gain.
- FM uses 2-stage cascade limiting circuit to insure maximum noise rejection.
- High-impedance output for connection any high-quality audio amplifier.
- Phono position on channel selector switch to provide volume control directly on the tuner; phono input connection in back of tuner.
- FM-AM on one antenna with 300 ohms input with twin lead cables.
- Power supply, optional, requires 250 volts d-c at 65 MA and 6.3 volts a-c at 4 amperes.
- Major Armstrong's circuit on FM.
- 6AL7 tuning eye for accurate tuning on both FM and AM.
- Operates on 115 volts, 60 cycles. 80 volt-amperes input when used with Browning model PF-12 power supply.
- Tubes: three 6AU6; one 7F8; one 6SK7; one 6SG7; two 6SJ7; one 6H6; one 6SA7; one 6AL7 tuning eye; one 1N34 crystal detector.

Model	Weight	Shipping Weight
RJ-12A—FM-AM Tuner	12 lbs.	16 lbs.
RJ-14A—Rack Panel Model	24 lbs.	30 lbs.
PF-12—Power Supply	8 lbs.	9 lbs.



Model RJ-12A

MECHANICAL FEATURES

- Easily mounted in book-cases, drawers, shelves and cabinets.
- Dial escutcheon supplied with unit. Edge lighted dial—slide rule type.
- Available with black leatherette finished panel for rack mounting (RJ-14).
- Power supply is small separate unit for mounting in confined spaces.
- Dimensions: height 7⅜"; width 13½"; depth 9". Power supply: height 6"; width 3½"; depth 8". Rack type tuner; height 8¾"; width 19"; depth 9".

BROWNING FM TUNER — MODEL RV-10

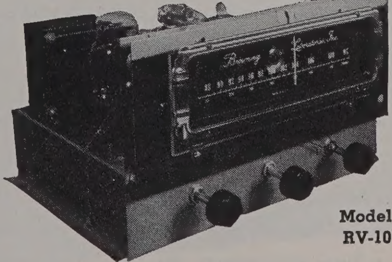
Designed for high-fidelity reception in the new high-frequency FM band.

ELECTRICAL FEATURES

- Receives signals in the FM band extending from 88 to 108 megacycles.
- Less than 10 microvolts needed to produce complete limiting.
- Newly developed miniature tubes used for RF section and IF amplifier.
- Two-stage cascade limiter used to ensure freedom from noise.
- Tuned RF stage used to increase gain and reduce image interference.
- High impedance output to feed any high-fidelity amplifier.
- PHONO-FM switch permits instant transfer of input signals.
- Power supply self contained.
- Employs Armstrong FM circuit.
- Tuning eye indicates correct tuning.
- 115 volt, 60 cycle AC operation. 65 volt-amperes input.
- Tube complement: three Type 6AU6, one 7F8, two 6SJ7, one 6H6.
- Tuning eye indicator (6AL7). Type 5Y3 rectifier tube.

MECHANICAL FEATURES

- Physically small. Can be easily mounted in cabinets, shelves, bookcases, drawers, and the like.
- Dial escutcheon, knobs, shielded interconnecting wire and connectors supplied with each unit.
- Attractive edgelighted dial calibrated in megacycles and channel numbers.
- Rugged construction, all components of the highest quality.
- Also available with standard rack panel (Designation Model RV-11).
- Dimension: RV-10—Height 6½", Width 11", Depth 8¾". RV-11—Height 8¾", Width 19", Depth 8¾".



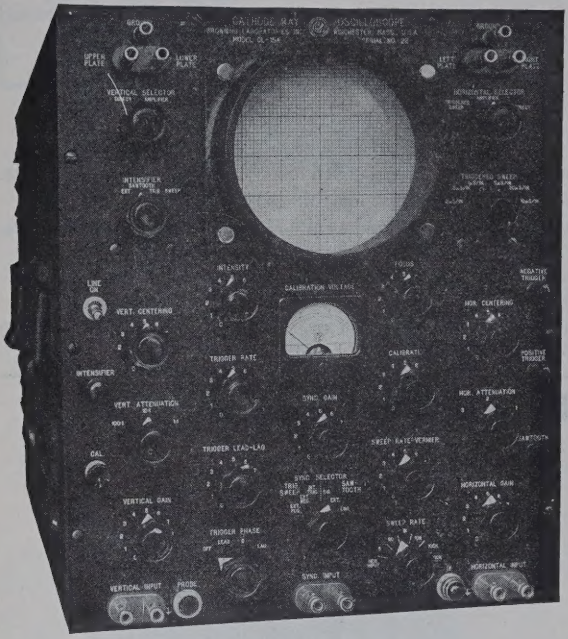
Model RV-10

Model	Weight	Shipping Weight
RV-10	10½ lbs.	14 lbs.
RV-11 Rack Panel Mtg.	15 lbs.	21 lbs.

Net

BROWNING LABORATORIES, INC. WINCHESTER, MASS., U.S.A.

BROWNING OSCILLOSYNCHROSCOPE — MODEL OL-15B


CATHODE RAY OSCILLOSCOPE
BROWNING LABORATORIES INC.
WINCHESTER, MASS. U.S.A.
UPPER PLATE
LOWER PLATE
LEFT PLATE
RIGHT PLATE
VERTICAL SELECTOR
HORIZONTAL SELECTOR
INTENSIFIER
TRIGGERED SWEEP
LINE ON
VERT. CENTERING
INTENSITY
CALIBRATION VOLTAGE
FOCUS
NEGATIVE TRIGGER
HOR. CENTERING
INTENSIFIER
TRIGGER RATE
CALIBRATE
POSITIVE TRIGGER
VERT. ATTENUATION
SYNC. GAIN
HOR. ATTENUATION
CAL
TRIGGER LEAD-LAG
SWEEP RATE VERNIER
SAWTOOTH
SYNC. SELECTOR
HORIZONTAL GAIN
VERTICAL GAIN
TRIGGER PHASE
SWEEP RATE
VERTICAL INPUT
PROBE
SYNC. INPUT
HORIZONTAL INPUT

A laboratory instrument designed for the observation of wave forms and transient phenomena requiring a variety of time bases, triggers, phasing and delay circuits, and extended range amplifiers. It may be used for work on laboratory applications where extremely short pulses or phenomena of irregular occurence rate must be studied. It is also designed for television, communication, radar, and facsimile work. The special features are combined with the functions of a standard oscilloscope with greater ease and convenience of operation as a result of improved design.

ELECTRICAL FEATURES

- Five-inch 5JP1 cathode-ray tube with 4000V accelerating potential for improved intensity and definition of images.
- Sawtooth sweep with range of 5 cycles per second to 500 kilocycles per second permitting observation of radio frequency wave forms.
- Single sweep triggered time base for observation of transient phenomena or phenomena of varying repetition rates.
- Internal trigger generator and built-in phasing circuit for use with single sweep time base.
- Extended range amplifiers. The vertical amplifier is flat within 3 db. from 10 cycles per second to 6 megacycles per second. The horizontal amplifier is flat within 1 db. from 5 cycles per second to 1 megacycle per second. Maximum vertical deflection sensitivity is .05 R.M.S. volts per inch.
- The response curve of the vertical amplifier which is linear and without positive slope from 10 cycles to 4 megacycles has transient response such that a 100 kilocycle square wave with rates of rise and fall in the order of 500 volts per microsecond is faithfully reproduced.
- Low-capacitance, high-impendance probe for use with vertical amplifier. Voltage attenuation of probe is 10:1.
- Provisions for direct connection to all deflection plates.
- Internal or external blanking of beam for timing purposes and for elimination of retrace.
- Voltage regulation of all low-level stages for stability of operation under varying line voltage conditions.
- Built-in voltmeter and calibrating circuit for determining deflection sensitivity at any setting of the gain controls.
- Tube complement: three 6C4, one 6AC7, one 6AG5, five 6AG7, two, 807, five 6SN7, two 6SJ7, three 6SH7, three 6V6GT, one 884, two 2X2A, one 5R4GY, one 6X5GT, one VR-105.

Net Price $1275.00 F.O.B. Winchester, Mass.

MECHANICAL FEATURES

- Steel cabinet finished in black wrinkle with 1/8" aluminum
- panel.
- Panel finished in black leatherette with all labels engraved directly on panel.
- Copper-plated steel chassis with lacquer finish.
- Controls grouped according to function for convenience of operation.
- Components arranged for electrical efficiency and ease of servicing.
- Dimension: Height 15¾", Width 12¾", Depth 19¾".
- Weight: 95 lbs. Shipping weight: 150 lbs.

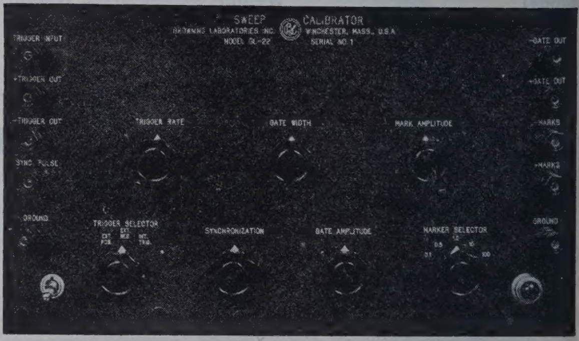
BROWNING SWEEP CALIBRATOR — MODEL GL-22

Designed for use with oscilloscopes and synchroscopes as a source of timing markers for the measurement of sweep intervals.

ELECTRICAL FEATURES

- Provides markers of 0.1, 0.5, 1.0, 10, 100 microseconds either positive or negative with variable amplitude to 50 volts.
- Generates variable width, variable amplitude gate for blanking or timing purposes.
- Contains own trigger generator with positive and negative trigger outputs.
- Markers may be initiated from external trigger or from internal generator. May be synchronized with triggers up to 100 KC. repetition rate.
- Voltage regulaton to timing circuits.
- 115 volt, 60 cycle operation. 110 volt-amperes input.
- Tube complement: one Type 6BE6, one 2D21, one 6J6, one 6V6GT, two 6SN7, one 5Y3GT, one VR-105, one 6AL5, one 6AQ5, one 6X5GT.

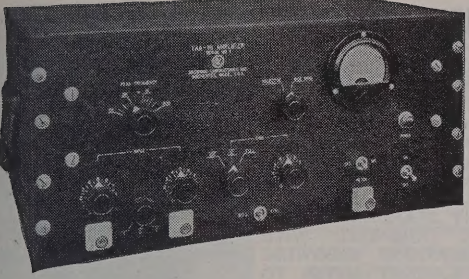
Net Price $290.00 F.O.B. Winchester, Mass.


SWEEP CALIBRATOR
BROWNING LABORATORIES INC.
WINCHESTER, MASS. U.S.A.
MODEL GL-22
SERIAL NO. 1
TRIGGER INPUT
+TRIGGER OUT
-TRIGGER OUT
SYNC. PULSE
GROUND
TRIGGER RATE
GATE WIDTH
MARK AMPLITUDE
TRIGGER SELECTOR
SYNCHRONIZATION
GATE AMPLITUDE
MARKER SELECTOR
-GATE OUT
+GATE OUT
-MARKS
+MARKS
GROUND

MECHANICAL FEATURES

- Provided with steel cabinet finished in black wrinkle.
- Panel finished in black leatherette with labels engraved into surface.
- All output connections on front panel.
- Insulated universal binding posts used for output connections.
- Dimensions: Height 7", Width 14", Depth 8".
- Weight: 20 lbs. Shipping weight: 28 lbs.

BROWNING MODEL TAA-16 AMPLIFIER



High gain audio amplifier feeding AC voltmeter for measurement of standing wave ratios with slotted lines. Many other similar uses.

ELECTRICAL FEATURES

- 500- to 5000-cycle range with **broadband** or **selective** controls on front panel.
- 15-microvolt sensitivity in **broadband** position and 10 microvolts in **selective** position.
- Meter scales 0-10 and standing-wave voltage ratio.
- Panel switch for bolometer voltage application.
- Master gain control switch provides attenuation factors of **1**, **10** and 100.
- Power supply electronically regulated for stability.
- 60 volt-amperes input at 115 volts 60 cycles.
- Tubes: three 6SJ7GT; one VR-105; two 6V6GT; one 6H6GT; one 5Y3GT rectifier.

MECHANICAL FEATURES

- Rack panel in black wrinkle steel cabinet, 9″ x 20″ x 12″.
- Panel black leatherette finish with engraved characters.
- Input tube shock mounted for low microphonics.
- Weight 30½ lbs. Shipping weight 45 lbs.

NET PRICE COMPLETE WITH TUBES (FOB Winchester, Mass.) $390.00

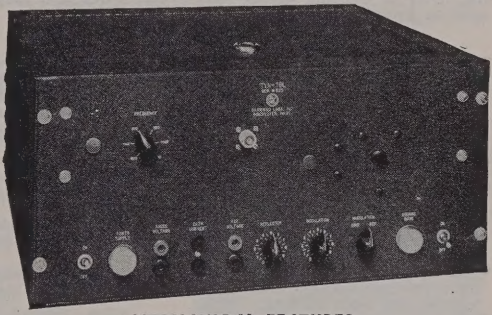
BROWNING MODEL TVN-7
POWER SUPPLY AND SQUARE-WAVE MODULATOR

The basic unit of a signal generator in the super-high-frequency range. Square-wave modulator for low-powered velocity-modulated tubes such as the 417A, 2K28 and 2K25.

ELECTRICAL FEATURES

- Range of cathode voltage is 28 to 480 volts, continuously variable. Provision is made for 180 to 300 volt range.
- Range of reflector voltage is 15 to 150 volts controllable from panel.
- Provision is made for grid pulse modulation or reflector pulse modulation. Amplitude of grid pulse is 60 volts while the reflector pulse voltage is 100 volts maximum.
- Square-wave modulation frequency is variable from 600 to 2500 cycles.
- Provisions are made for external modulation.
- 110-115-volts, 60-cycle operation with 170 volt-amperes input.
- Tubes: one type 5Y3; two OD3/VR150; one 6SN7; one 6V6; one 6A3; one 5R4GY; one 6SJ7.

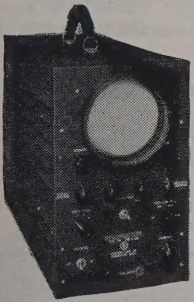
NET PRICE $210.00 FOB Winchester, Mass.



MECHANICAL FEATURES

- Designed for rack mounting; cabinet furnished at extra cost.
- Black wrinkle, engraved-steel panel.
- 8¾″ x 19″ x 11″; Weight 33 lbs. Shipping weight 50 lbs.

BROWNING MODEL P-4-E CATHODE RAY SYNCHROSCOPE



Designed for viewing recurrent phenomenon where the duration of the phenomenon is short with respect to the intervals of occurrence.

ELECTRICAL FEATURES

- Five-inch cathode-ray tube.
- Triggers generated from internal oscillator at repetition rates of 500, 1000, 2000, and 4000 p.p.s. or from external oscillator.
- Sweeps available at approximately ½, 5, 10, and 25 microseconds per inch internally synchronized; can be externally triggered.
- Internal source of calibration voltage of ½ microsecond period for sweeps.
- Return trace blanked out internally.
- Low-gain, broad-band video amplifier preceded by 954 detector.
- Tubes: two 2X2/879; one 5Z3; one 954; one 6AC7; one 6AG7; six 6SN7GT; two 6SL7GT; one 6SK7GT; one 7V7; one 5LP1.

MECHANICAL FEATURES

- 8¾″ x 14¼″ x 20″ steel cabinet, black wrinkled.
- Labels engraved in panel surface.
- Ruled screen for cathode-ray tube face.
- Weight: 45 lbs. Shipping weight 55 lbs.

NET PRICE $440.00 F.O.B. Winchester, Mass.

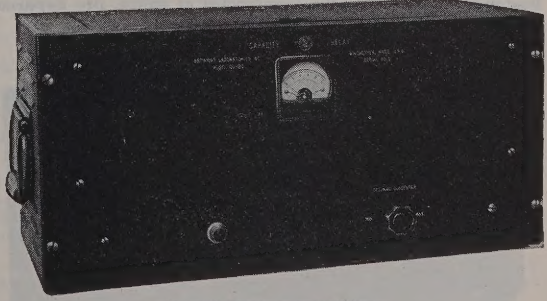
BROWNING CAPACITANCE RELAY
MODEL DD-20

Detects and translates small capacitance changes into action.

ELECTRICAL FEATURES

- Operates relay circuit on changes in capacitance of 0.25 mmfd.
- Indicates capacitance changes as small as .005 mmfd.
- Indicates mechanical movements as small as .00001 inches.
- Relay operation provides closed circuit, open circuit, or 115 volts a/c at 10 amperes.
- Electronically regulated power supply for maximum stability.
- Operation frequencies variable from 50 to 150 kilocycles.
- 105-125 volt, 60 cycle operation. 80 volt-amperes input.
- Tubes: three 6V6GT; one 6SA7; three 6SJ7; one 6H6; one 6N7; one VR-90; one 80.

NET PRICE $225.00 F.O.B. Winchester, Mass.

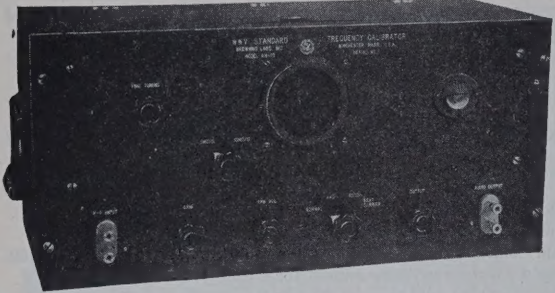


MECHANICAL FEATURES

- 8¾″ rack panel, mounted in black wrinkle steel cabinet.
- Aluminum panel finished in black leatherette.
- All labels engraved into panel surface.
- Antennae or capacitance leads enter rear of chassis.

BROWNING LABORATORIES, INC. WINCHESTER, MASS., U.S.A.

BROWNING WWV STANDARD FREQUENCY CALIBRATOR — MODEL RH-10



Specifically designed for receiving transmissions from radio station WWV on either 5 or 10 megacycles and employing these as primary frequency standards. Provisions are made so that secondary standards which are in subharmonic relation with WWV transmissions may be accurately compared. Filters are employed so that the 440 or 4000 cycle modulation may also be used as primary standards.

ELECTRICAL FEATURES

- Pre-tuned for 5 and 10 megacycles per second reception of radio station WWV. Either frequency may be selected by switch. On special order, pre-tuned frequencies of 2.5 and 5, or 10 and 15 megacycles per second may be substituted.
- Sensitivity better than ½ microvolt on any band. Antenna input impedance is high to permit use of single wire antenna. Tuned doublet may be used if desired.
- Selectivity 10 db down at 5. KC off resonance.
- Excellent image rejection minimizes interference. Rejection ratio is more than 50 db.
- Front panel provisions are made for coupling secondary standard or other RF sources and comparing their fundamentals or harmonics with WWV transmission.
- Cathode ray audio indicator permits comparison between RF source and WWV transmission within 1/10 cycle per second using zero beat method.
- A dual filter system allows the selection at will of either the 440 or 4000 cycle modulation of WWV. Either may be employed as a primary frequency standard. Output voltage adjustable from 0 to 5. volts.
- Voltage supplied to stable local oscillator is regulated to reduce to a minimum frequency drift.
- Panel speaker has a separate control which allows the output to be varied at will.
- 100-125 volts AC operation. 85 volt-amperes input.
- Tube complement: one Type 6S17, three 6SK7, one 6SA7, one 6SN7, one 6J5, one 6SQ7, one OD3/VR-150, one 5Y3, one 6U5.

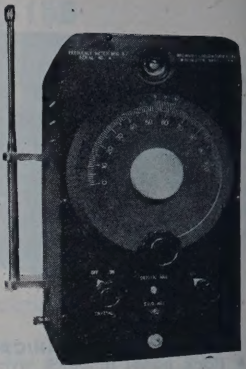
Net Price $250.00 F.O.B. Winchester, Mass.

MECHANICAL FEATURES

- Either rack panel with dust cover or steel cabinet.
- Aluminum panel is finished in black leatherette with engraved labels.
- Large fluted knobs are provided.
- Panel connectors are standard universal binding posts which will also accommodate banana-type plugs.
- Dimensions: Cabinet Mounting—Height 9", Width 19", Depth 11". Rack Mounting—Height 8¾", Width 19", Depth 10½".
- Weight: Cabinet Mounting 30 lbs., Shipping Weight 45 lbs. Rack Mounting 25 lbs., Shipping Weight 40 lbs.

BROWNING FREQUENCY METERS

Browning frequency meters are precision - built instruments designed to check frequencies in various ranges from 100 kilocycles to 500 megacycles. Custom-built and hand-calibrated, each of the meters listed below is equipped with a 100 KC CRYSTAL USED AS SECONDARY STANDARD WHICH IS EASILY COMPARED WITH WWV RADIATIONS ALLOWING EVERY FREQUENCY METER TO BE CHECKED IN THE FIELD. Some of the outstanding electrical features are:



MODEL S-7

MODEL S-4

- From 1 to 5 specified frequencies on 1.5-70 mc. range.
- Accuracy ± .0025% of the specified frequency.
- Stable electron-coupled oscillator used in special circuit.
- Visual detection of zero beat with cathode-ray indicator.
- 110-115-volt ac/dc operation with 40 volt-amperes input.
- Telescoping antenna on side of case.
- Tubes: one 6SC7; one 6SA7; one 6J5; one 6SK7; one 6U5; one 25Z6 and one VR90 voltage regulator.

MODEL S-6

- Range: 100 kilocycles to 100 megacycles, in 5 bands.
- Accuracy 0.025% of the frequency measured.
- Harmonic amplifiers permit use of harmonics up to 50 mc.
- Visual and audio detection of zero beat.
- 110-115 volt ac/dc operation with 40 volt-amperes input.
- Telescoping antenna on side of case.
- Tubes: one 6SK7; one 6SL7; one 6SF5; one 6U5; one 5Y3GT; one VR90.

MODEL S-7

- Calibrated for One or Two frequencies in 72-76 and/or 152-162 mc. bands.
- Accuracy .005% of the specified frequency.
- Deviation chart supplied for instant determination of deviation from assigned frequency.
- Cathode-ray indicator for accurate setting of ECO calibration.
- 105-115-volt ac/dc operation with 40 volt-amperes input.
- Telescoping antennae on side of case.
- Tubes: one 6SL7; one 6SA7; one 6J5; one 6SK7; one 25Z6; one VR-90; and one 6U5 tuning indicator.

MECHANICAL FEATURES OF ALL MODELS

- Rugged steel cabinet with ⅛" aluminum panel.
- Machined main dial graduated in 100 divisions over 180 degrees. Vernier allows reading of 1/10 of dial division.
- Panel finished in black leatherette.
- All labels engraved in panel surface.
- Dimensions: 13½" high, 7⅝" wide, 6⅞" deep.
- Weight: 15 lbs. Shipping weight 18½ lbs.

BROWNING FREQUENCY METER — MODEL S-5

Designed for checking the frequencies of police, fire department, railroad, marine and other special-service transmitters operating between 30 and 500 megacycles.

Prices Net (Complete with tubes) F.O.B. Winchester, Mass.
1 Band . $340.00 2 Bands . $380.00 3 Bands . $420.00

ELECTRICAL FEATURES

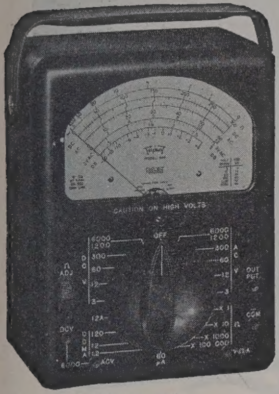
• Custom-built and hand-calibrated for one, two, or three frequencies between 30 and 500 megacycles. • Accuracy: .0025% of the specified frequency. • Deviation chart supplied for determination of deviation from assigned frequency. • 100 KC crystal in temperature regulated oven is used as secondary standard with long time frequency stability. • Temperature compensated electron-coupled oscillator uses precision split-stator variable condenser with no moving contacts. • Voltage regulated supply for crystal and electron-coupled oscillators. • 105-115 volt, 60 cycle AC operation. 65 volt-amperes input. • Telescoping antenna for easy coupling to transmitter. • Tube complement: one Type 6C4, two 9001, two 6SJ7, three 6J5, one 5Y3GT, one VR-90.

MECHANICAL FEATURES

• Rugged steel cabinet and ⅛" steel panel. • Electron-coupled oscillator built on 3/16" aluminum sub-chassis. • Worm drive to tuning condenser with dual indicators provides 5000 dial divisions for tuning range. • Panel finished in black leatherette. • Labels engraved into panel surface. • Standard rack panel used. Unit may be incorporated in a rack with other equipment if desired. • Dimensions: Height 8¾", Width 19", Depth 9". • Weight: 35 lbs. Shipping weight: 50 lbs.

Radio TRIPLETT Testers

MODEL 630 VOLT-OHM-MIL-AMMETER



Model 630

A Beautiful, streamlined Tester that is simple to operate. Only one switch—selects both circuit and range. A really new selector switch, completely enclosed and protected. Eliminates loss between contacts. Retains contact alignment permanently. Molded construction keeps dirt out. Unit construction—resistors, shunts, rectifiers, batteries—all housed in a molded base integral with the switch. All resistors are Precision Film or Wire-wound types—sealed for permanent accuracy, each in separate molded compartment. Large 5½″ meter (RED • DOT Lifetime Guaranteed), black and red scale markings. Batteries easily replaced—double-spring tension grip assures permanent contact. Precalibrated rectifier. Molded black case, 3$\frac{7}{32}$″×5½″×7½″, with removable leather strap handle. Black molded panel with white markings.

RANGES

D. C. VOLTS: 0-3-12-60-300-1200-6000, at 20,000 Ohms/Volt (For greater accuracy on TV and other High Resistance circuits.)

A. C. VOLTS: 0-3-12-60-300-1200-6000, at 5,000 Ohms/Volt (For greater accuracy in Audio and other High Impedance A. C. circuits.)

DECIBELS: —30, +4, +16, +30, +44, +56, +70 (For Direct Reading of Output Levels.)

D. C. MICROAMPERES: 0-60, at 250 M. V.

D. C. MILLIAMPERES: 0-1.2-12-120, at 250 M. V.

D. C. AMPERES: 0-12, at 250 M. V.

OHMS: 0-1000-10,000 (4.4-44 at center scale.)

MEGOHMS: 0-1-100 (4400-440,000 center scale.)

OUTPUT: Condenser in series with A. C. Volt ranges

MODEL 630......U. S. A. DEALER NET $37.50

CARRYING CASE

MODEL 639, black leather, strap handle, snap-over cover...............DEALER NET $5.75

MIRROR SCALE VOLT-OHM-MIL-AMMETER

Widest range tester of its type with additional brand new features: Long 5″ mirror scale for better reading accuracy; Resistance ranges to 40 Megohm; Low Ohm Range 0-2000 (12 ohms center scale); D. C. Volt ranges with dual sensitivity (10,000/20,000 Ohm/Volt) provide double the number of full scale readings of average testers. A. C. Volt ranges at 10,000 Ohm/Volt permit checking many audio and high impedance A. C. circuits where a vacuum tube voltmeter usually is required. Low voltage ranges permit direct measurement of many bias and output voltages. Special film type resistors provide greater stability on all ranges.

6″ RED • DOT Lifetime guaranteed meter. Long mirror scale guarantees greater reading accuracy. Insulated, black molded case with removable strap handle, 2½″×5½″×6″. Molded black panel with white markings. Leads and instructions furnished.

Weight: Approx. 3 lbs.

39 RANGES

D. C. VOLTS: 0-1.25-5-25-125-500-2500, 20,000 Ohm/Volt
0-2.5-10-50-250-1000-5000, 10,000 Ohm/Volt

A. C. VOLTS: 0-2.5-10-50-250-1000-5000, 10,000 Ohm/Volt

D. C. MICROAMPS: 0-50, at 250 Millivolts

D. C. MILLIAMPS: 0-1-10-100-1000, at 250 Millivolts

D. C. AMPERES: 0-10, at 250 Millivolts

OHMS: 0-2,000-200,000 (12-1200 center scale)

MEGOHMS: 0-40 (240,000 ohms center scale)

DECIBELS: —30, +3, +15, +29, +43, +55, +69. (Reference level "0" DB at 1.73 V. on 500 Ohm line.)

OUTPUT: Condenser in series with A. C. Volt ranges

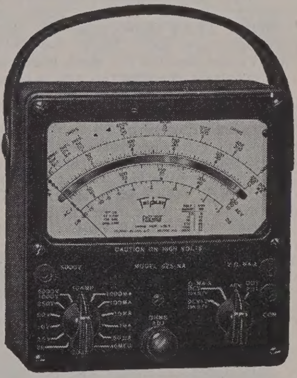
Accessories available to special order for extending ranges: External pin jack shunts for A.C.-D.C. Current ranges, resistors for volt ranges, battery and resistors for Ohms ranges.

MODEL 625-NA..U. S. A. DEALER NET $45.00

CARRYING CASE

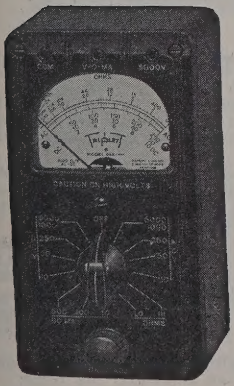
Attractive black leather carrying case with strap handle. Leather flap folds over the top and snaps in place.

MODEL 629 CASE.U. S. A. DEALER NET $5.50



Model 625-NA

POCKET-SIZE VOLT-OHM-MILLIAMMETER



Model 666-HH

A precision-manufactured marvel of compactness that provides a complete miniature laboratory for D. C. and A. C. voltage, Direct Current and Resistance analyses. Its many ranges, attractive appearance and other unique features provide an answer to the Volt-Ohm-Milliammeter requirements of radio service-men and amateurs, industrial engineers, laboratory technicians, etc. Refinements in design feature:

Greater scale readability on the 3″ RED • DOT Lifetime guaranteed instrument with black and red scale markings.

Simplified switching provides greater ease in changing ranges.

Lower jack contact resistance and trouble-free plug-in connections by use of banana-type jacks. Banana jacks at top of panel reduce possibility of connecting leads over panel controls or meter scales.

Greater stability on voltage ranges by use of special resistors throughout and on current ranges by use of 250 M. V. instrument.

RANGES

D. C. VOLTS: 0-10-50-250-1000-5000, 1000 Ohm/Volt

A. C. VOLTS: 0-10-50-250-1000-5000, 1000 Ohm/Volt

D. C. MA: 0-10-100-500, at 250 Millivolts

OHMS: 0-2000-400,000 (12-2400 center scale)

Attractive new streamlined black molded case, completely insulated, 3$\frac{1}{16}$″×5⅞″×2$\frac{9}{16}$″. Black molded panel with white markings. Battery self-contained, plug-in type, 1.5 V. Eveready No. 935 or equivalent. 50″ test leads with clips and plugs furnished.

Weight: 1½ lbs.

Accessories available to special order for extending ranges: External pin jack shunts for A. C.-D. C. Current ranges, resistors for volt ranges, battery and resistors for Ohms ranges.

MODEL 666-HH.U. S. A. DEALER NET $22.00

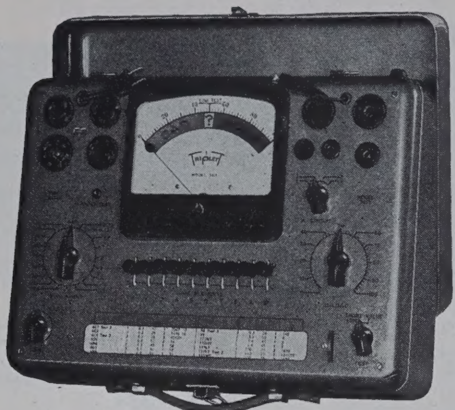
CARRYING CASE

Attractive black leather carrying case with strap handle. Leather flap folds over the top and snaps in place.

MODEL 669 CASE.U. S. A. DEALER NET $4.75

ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO REVISION

Radio TRIPLETT Testers



Model 3413

TUBE TESTER

CONCLUSIVE tube tests for value, inter-element shorts and leakage. FULLY-BALANCED, MULTI-PURPOSE CIRCUIT; with accurately calibrated values for all makes of tubes—more than an emission test in the special switching flexibility.

AN APPLIANCE CHECK lead permits "short" and "continuity" test of motors, leads, resistance elements, etc. NEON SHORT TEST shows slightest inter-element short or leakage while cathodes are hot. NEW 3-POSITION LEVER SWITCHES give individual control for each tube element. (See center panel.)

TUBES TESTED—All receiving types, gaseous rectifiers, resistor and ballast tube continuity, and pilot lamps. SOCKETS: 4, 5 and 6 prong; 7 prong large and small with combination for pilot lights and flashlight bulbs; 8 prong octal; 8 prong loctal; 5 prong bantam; 7 prong miniature; 7 prong subminiature; and 9 prong. Only one socket used for each tube base type eliminating possibility of plugging into the wrong socket.

LINE VOLTAGE INDICATOR permits observation and adjustment for line fluctuations. FILAMENT VOLTAGES (Full Range)—0.75 to 110 Volts in 19 steps. 6" meter with RED • DOT Lifetime guarantee, has 3-color GOOD-?-BAD scale. Brightly illuminated SPEED ROLL TUBE CHART located with markings below switches for convenience in testing. New tubes can be calibrated without manufacturers' data.

MODEL 3480

COMBINATION TUBE TESTER VOLT-OHM-MIL-AMMETER

VOLT-OHM-MIL-AMMETER RANGES:

D. C. VOLTS: 0-3-12-60-300-1200, at 10,000 Ohms/Volt
A. C. VOLTS: 0-3-12-60-300-1200, at 2000 Ohms/Volt
D. C. AMPS: 0-12, at 250 M. V.
D. C. MILLIAMPS: 0-1.2-12-120, at 250 M. V.
OHMS: 0-1000-10,000 (10-100 at center scale)
MEGOHMS: 0-1-50 (10,000-500,000 Ohms at center scale)
OUTPUT: Output Jacks, condenser in series with A. C. ranges.

TUBE TESTER-VOLT-OHM-MIL-AMMETER—A Combination Tester for conclusive tube testing and complete voltage, current and resistance analyses. Tube Tester has a fully-balanced, multi-purpose test circuit for emission, short and open element tests. See Model 3413 for complete details. GOOD-?-BAD tube testing and Volt-Ohm-Mil-Ammeter ranges are easily readable on the 6" RED • DOT Lifetime Guaranteed meter with multi-color scale. Volt-Ohm-Mil-Amp. markings are black on white except A. C. are red and 0-1000 Ohms are green.

COUNTER-PORTABLE Type Case, metal, $15\frac{11}{32}$"x$11\frac{1}{32}$"x6⅛", finished in attractive baked-on "hammered" tan enamel. Panel with brown markings. Power supply —115 Volt, 50-60 cycle A. C.

Weight: 20 lbs.

MODEL 3413 TUBE TESTER..........
U. S. A. DEALER NET......$66.75

Triplett lever switching makes possible an exclusive combination of tube testing advantages including maximum circuit flexibility, simplicity of operation and anti-obsolescence design.

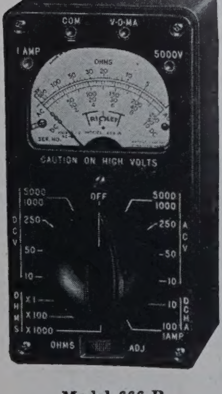
1. **Thorough test of all tube elements.**
2. **Individual control of each tube element.**
3. **New tube test data can be set up without delay.**
4. **Lever switching is faster and more accurate.**
5. **No plugging into wrong socket.**
6. **Minimum number control settings needed.**

COUNTER-PORTABLE Type Case, metal, has highly attractive two-tone "hammered" baked-on enamel finish, $15\frac{11}{32}$"x$11\frac{1}{32}$"x6⅛". Detachable hinged cover, strap handle.

Weight: 25 lbs.

MODEL 3480 COMBINATION TESTER.
U. S. A. DEALER NET......$98.75

POCKET-SIZE VOLT-OHM-MIL-AMMETER



Model 666-R

RANGES

D.C. VOLTS: 0-10-50-250-1000-5000, at 1000 Ohms per volt
A.C. VOLTS: 0-10-50-250-1000-5000, at 1000 Ohms per volt
D.C. MA.: 0-10-100, at 250 M.V.
D.C. AMP.: 0-1, at 250 M.V.
OHMS: 0-3000-300,000 (20-2000 center scale)
MEGOHM: 0-3 (20,000 Ohm center scale) (Compensated Ohmmeter circuit.)

A New Pocket-Size Volt-Ohm-Mil-Ammeter with these latest specialized features meet your needs for A.C. and D.C. Voltage, Direct Current and Resistance analyses.

Enclosed selector switch of molded construction keeps dirt out. Retains contact alignment permanently. A Triplett design representing the culmination of a quarter-century of switch making experience. UNIT CONSTRUCTION—All resistors, shunts, rectifier and batteries housed in a molded base integral with the switch. Eliminates chance for shorts. Direct connections. No Cabling. All precision film or wire-wound resistors are mounted in their own compartment—assures greater accuracy.

3" 0-200 Microammeter, 250 M.V., RED • DOT Lifetime guaranteed against defects in materials or workmanship. Red and black markings on a white background. Easy-to-read scale.

Precalibrated rectifier unit and batteries easily replaced. One 1.5 Volt Eveready #935 and two 1.5 Volt Eveready #915, or equivalent, self-contained.

Handy pocket-size, black molded case is completely insulated. Size: $3\frac{1}{16}$" x 5⅞" x $2\frac{9}{16}$". Leather strap handle. Black molded panel with engraved white markings.

Furnished complete with batteries, 50" test leads and instruction book at an amazingly low price.

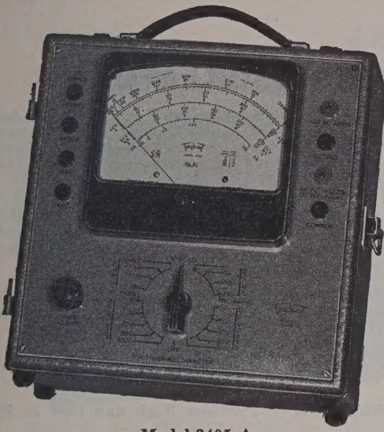
Weight: 1½ lbs.

MODEL 666-R . . . U.S.A. DEALER . . . NET $24.50

CARRYING CASE

MODEL 669, black leather, strap handle, snap cover. . . . . U.S.A. DEALER NET $4.75

Radio TRIPLETT Testers



Model 2405-A

SENSITIVE VOLT-OHM-MIL-AMMETER

20,000 OHMS PER VOLT

D. C. VOLTS: 0-10-50-250-500-1000, 20,000 Ohm/Volt
D. C. AMPS: 0-10, at 250 Millivolt
D. C. MILLIAMPS: 0-1-10-50-250, at 250 Millivolt
D. C. MICROAMPS: 0-50, at 250 Millivolt
A. C. VOLTS: 0-10-50-250-500-1000, 1000 Ohm/Volt
A. C. AMPS: 0-0.5-1-5-10, at 1 Volt-Amp
OHM-MEGHOM: 0-4000-40,000 Ohms — 0-4-40 Meg. (Self-contained batteries.)
OUTPUT: Condenser in series with A. C. Volt ranges
DECIBELS: —10 to +15, +29, +43, +49, +55. (Reference Level "0" DB at 1.73 V. on 500 Ohm line.)
CONDENSER TEST: Capacity check of Paper condensers

A perfect combination—ultra sensitive, extra large meter, impressively cased for either shop or portable use. Incorporates the ultimate sensitivity, 20,000 ohms per volt in a conventional meter of extreme accuracy.

6" Meter, RED • DOT Lifetime guarantee. 5¾" long scale enables easy reading. Plug-in, pre-calibrated rectifier simplifies replacement. Ruggedly constructed selector switch. "OHMS ADJUST" provides adjustment for all resistance ranges with maximum accuracy. Connections made through low contact resistance banana jacks. "SQUARE LINE" case, 10"×10"×5¾", tan enamel finish has detachable, hinged cover. Leads and instructions furnished.

Weight: Approx. 11 lbs.

MODEL 2405-A........................
U. S. A. DEALER NET......$59.75

HIGH VOLTAGE PROBES

For measuring the high voltage employed in television receivers and in other applications, external probes are available for ranges from 10,000 to 30,000 D. C. Volts for Models 625-NA, 630, 666-HH, 2405-A and 2451. Specify Tester Model when requesting quotations or ordering.

The completely insulated Polystyrene test probe contains the voltage dropping resistors, high stability composition type, protected from moisture with a sealed-in covering of Silicone high voltage insulating compound. An additional safe-guard is the guard-type handle. Each lead consists of a 48-inch high voltage wire with probe at one end and banana plug on the tester end. Probe is 11¾" long.

PORTABLE V-O-MA SHUNTS

Portable, external shunts as high as 120 Amps. are available to extend the current ranges of testers including Models 625-NA, 630, 666-HH, 2405-A and 3480. Shunt must be ordered for the specific tester with which it is to be used because of spacing and millivolt drop. Plug-in type connections are made by plugging shunt into the tester MA terminals. Connections for Portable shunts are made by using 12" leads. Quotations upon request.

TO EXTEND OHMMETER RANGE MODEL 666-HH

A plug-in ohmmeter multiplier for Model 666-HH. Compact tubular insulator with resistor, battery and plug. Will extend Model 666-HH Ohmmeter range to 4 megohms.

No. 9467.................................DEALER NET $3.85

APPLIANCE TESTERS

VOLTS - AMPS - WATTS

Model 2470

ELECTRICAL CIRCUIT ANALYZER of new advanced design for measuring the power wattage, current consumption, and line voltage of all household appliances and small motors under actual operating conditions. Just the tester for watt, current and volt analyses of electric refrigerators, washers, radios, ironers and other appliances, including ranges operating on 220-Volt single phase three-wire and three phase three-wire systems. Power used by the smallest appliance is readily checked on the extremely low scale range of 0-20 watts (fused to prevent damage from accidental overload). All switches and leads are ample to carry full load continuously.

RANGES

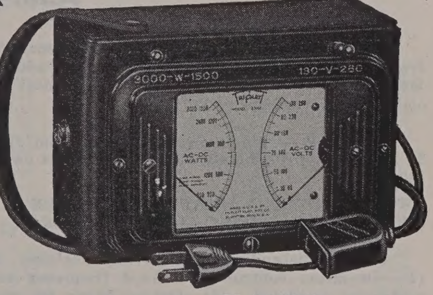
A. C. WATTS:
  Single-Phase, 130 V.—0-10-20-250-500-1000-2000
  Single-Phase, 260 V.—0-20-40-500-1000-2000-4000
  Three-Phase, 260 V.—0-80-2000-4000-8000
A. C. CURRENT: 0-0.13-0.26-3.25-6.5-13-26 Amps
A. C.-D. C. VOLTS: 0-130-260

Model 666 Meter, Electrodynamometer type, RED • DOT Lifetime Guarantee, with 5.6" scale. "SQUARE LINE" metal case, 10"×10"×5¾", finished in tan "hammered" enamel with brown markings on the panel. Hinged, detachable cover has compartment for accessories and leads. One set 5 ft. (Two-Wire) leads with male plug at one end and terminals at other end for connection to tester binding posts; one set 2½ ft. leads with dual socket at one end and terminals at other end for connection to tester binding posts.

Weight: Approx. 11 lbs.

MODEL 2470.....................U. S. A. DEALER NET $76.75

DUAL-METER TESTERS



Model 2002

Models 2002 and 2000-A are real helpers for installations and servicing. Show power consumption of industrial equipment, radios, electric ranges, refrigerators, washers and other household appliances under actual running conditions, on either D. C. or A. C. between 25 and 133 cycles. Checks Watts and Volts simultaneously! Shows if voltage remains within limits under operating loads. Simple operation, clearly marked switches, easy reading long Twin meter scales. Leather carrying case, 6½"×4½"×3¼", with strap handle, has flap cover to protect meter which is fixed in the case. Space for leads. Leather case eliminates possibility of scratching enamel appliance finishes.

Weight: 2 lbs.

MODEL 2002....................U. S. A. DEALER NET $35.75
Ranges: 0-1500-3000 Watts A. C.-D. C. at 10 Amp. normal, 20 Amp. max., 40 Amp. momentary; 0-130-260 A. C.-D. C. Volts.

MODEL 2000-A................U. S. A. DEALER NET $34.75
Ranges: 0-750-1500 Watts A. C.-D. C. at 5 Amp. normal, 10 Amp. max., 20 Amp. momentary; 0-130-260 A. C.-D. C. Volts.

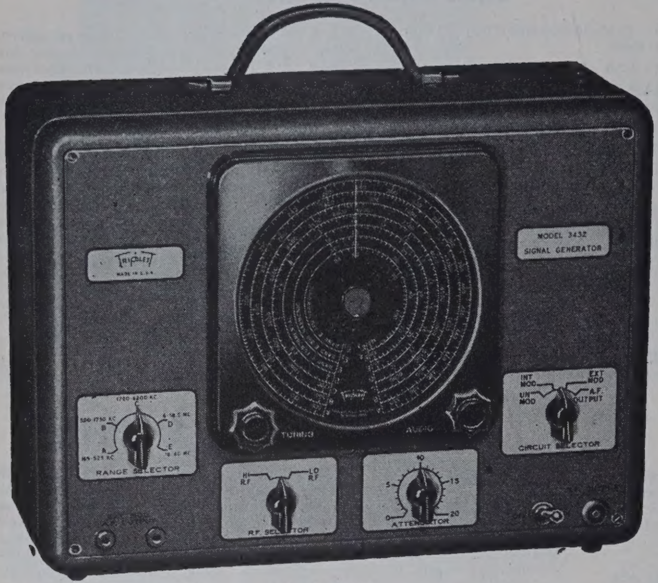
Models 2005-2006 — designed for those preferring Voltmeter-Ammeter method of testing household appliances and industrial applications. Simultaneous line voltage and current drain readings.

MODEL 2005...................U. S. A. DEALER NET $33.00
Ranges: 0-10 A. C.-D. C. Amp.; 0-130-260 A. C.-D. C. Volts.

MODEL 2006....................U. S. A. DEALER NET $33.00
Ranges: 0-25 A. C.-D. C. Amp.; 0-130-260 A. C.-D. C. Volts.

ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO REVISION

Radio TRIPLETT Testers



Model 3432

RANGES

A—165-525 KC
B—500-1750 KC
C—1700-6200 KC
D—6-18.5 MC
E—18-40 MC
Harmonics to 120 MC
E2—36-80 MC
E3—54-120 MC

TEST OSCILLATOR

A wide-range oscillator with uniformly illuminated dial. Seven long scales with widely separated divisions easily read, have five fundamental ranges—165 KC to 40 MC, and two harmonic ranges directly calibrated 36 to 120 MC.

Unique new feature is the brightly illuminated dial providing distinct illumination of scale markings without the least possibility of glare. Lighting also provides an "ON-OFF" indicator.

The dial is big (330°) with seven scales quickly readable at a glance. It has 10 to 1 ratio vernier tuning for ease of adjustment.

RANGE SELECTOR — 5 position follow-up coil switching with complete shielding.

R. F. SELECTOR — Provides High and Low R. F. Output.

OUTPUT ATTENUATOR — Provides fine control of R. F. Output to Coaxial output cable connector.

CIRCUIT SELECTOR — Provides for internally modulated signal (Variable 0 to 100% at 400 cycles). Variable amplitude of external modulation 40 to 15,000 cycles, unmodulated signal or variable audio 0-10 Volts at 400 cycle.

DOUBLE SHIELDING—All R. F. and audio circuits are double shielded with copper plated steel shields.

Metal case, $15\frac{11}{32}$"×$11\frac{1}{32}$"×$6\frac{1}{4}$", with tan enamel finish. Has leather strap handle for ease in carrying. Power: 115 volt, 50-60 cycle A. C. (electrostatic shielded transformer).

Weight: 14½ lbs.

MODEL 3432...........U. S. A. DEALER NET $69.50

A.M.-F.M. SIGNAL GENERATOR

FM-AM Signal Generator with frequency coverage from 100 KC to 120 MC in 10 bands; plus additional 50 MC from fixed oscillator giving fundamental coverage continuously variable to 170 MC.

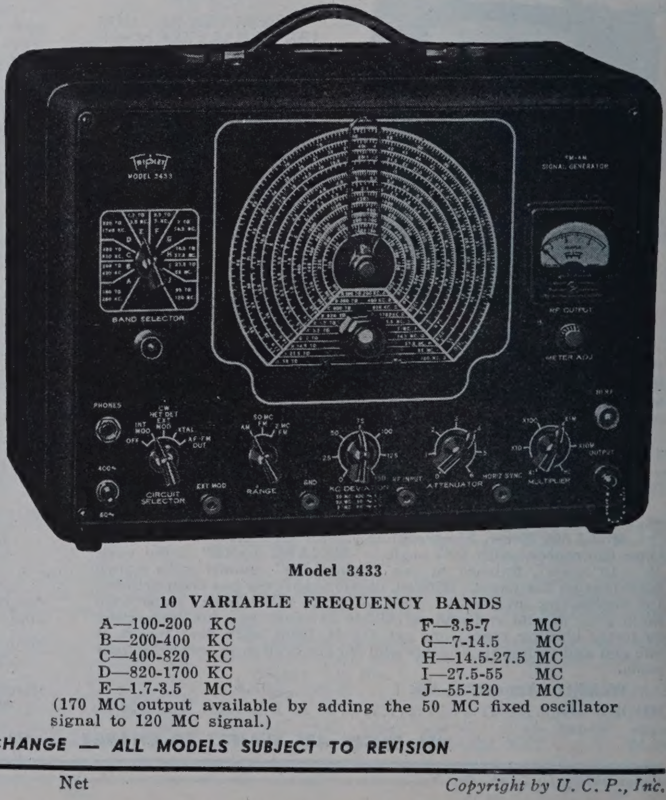
OUTPUT — 1 volt on low ranges from 100 KC to 20 MC and approximately 250,000 Microvolts on the high ranges.

SWEEP WIDTH VARIABLE IN THREE RANGES
60KC (+30 KC) 300KC (+150KC) 600KC (+300KC)

Other outstanding engineering features include: (1)—Deviation control of a fixed frequency reactance modulated oscillator. (2)—Output Meter for measuring relative R. F. output of generator. (3)—Double copper plated steel shielding throughout greatly minimizes R. F. leakage. (4)—Co-axial cable output lead with shielded impedance coupler for direct capacitance or balanced doublet connection. (5)—110 Volt A. C. line filter prevents leakage through power supply. (6)—Ladder attenuator with coarse and fine R. F. output adjustment. (7)—High R. F. Voltage output jack. (8)—High A. F. output available. (9)—Built-in provision for crystal oscillator calibration reference. Crystal not supplied. (10)—Air trimmer capacitor and permeability adjusted oscillator coils. (11)—Voltage regulated power supply for oscillator stability. (12)—Heterodyne Detector for frequency measurement. (13)—External A. M. modulation may be used. (14)—Attractive and easily read dial. (15)—Horizontal synchronized sweep voltage available. (16)—Best available components used throughout.

Metal case, $15\frac{11}{32}$"×$11\frac{1}{32}$"×$8\frac{1}{4}$", finished in lustrous black suede enamel with red and white panel markings. Power: 115 Volt, 50-60 cycle A. C. Weight: 25 lbs.

MODEL 3433..........U. S. A. DEALER NET $173.25



Model 3433

10 VARIABLE FREQUENCY BANDS

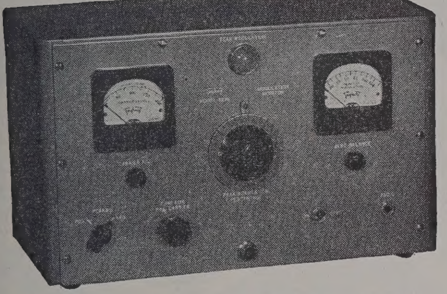
A—100-200 KC
B—200-400 KC
C—400-820 KC
D—820-1700 KC
E—1.7-3.5 MC
F—3.5-7 MC
G—7-14.5 MC
H—14.5-27.5 MC
I—27.5-55 MC
J—55-120 MC

(170 MC output available by adding the 50 MC fixed oscillator signal to 120 MC signal.)

ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO REVISION

RADIO AMATEUR EQUIPMENT

MODULATION MONITOR



Model 3296

With this new MODULATION MONITOR for radio amateur, police and Marine radiophone use, you've solved the problem of getting maximum efficiency from your transmitter. Four separate circuits for measuring amplitude modulation: (1) Percent Modulation (average). (2) Peak Flash Percent Modulation. (3) Carrier Shift. (4) Audio Output for Headphone. Unique advantages of this new model include the following: Peak Indicator may be preset for any percent of modulation from 20-120, and provides instantaneous flash when predetermined modulation level is reached. Percent modulation meter provides rapid up and slow down swing. Plug into your A. C. line—make simple coupling to the transmitter output and the monitor is ready for operation. R. F. and A. F. stages are isolated and separated by ample shielding. Tuned input circuit is coupled to R. F. source by a vario-coupler. R. F. power requirements are small.

TUNING RANGES: 1550-2950 KC (Police Band) 14,000-14,400 KC
3500-4000 KC 28,000-30,000 KC
7000-7300 KC Audio Frequency 60-10,000 CPS

CASE: Metal, with dark gray "hammered" enamel finish; overall dimensions: 15½"×9"×8". Weight: 20 lbs. Power: 115 Volt, 50-60 cycle A. C.

MODEL 3296..................U. S. A. DEALER NET $109.75

VU METER DB METER

Volume Unit and Decibel Meters are used to measure sound or noise levels in amplifiers for Public Address, Theatres, Broadcasting Studios, Broadcasting Static Equipment, etc.

VU meters are used for volume level measurements — including broadcast monitoring. Internal impedance 3900 Ohms. Steady state reference 1 Milliwatt. For 600 Ohm line. 0-100% scale also —20 to +3 VU. Specify Type "A" or "B" scale.

MODEL 426 VU.........$23.10
MODEL 426 (Illuminated). 25.10

DB Meter permits the operator to make instant adjustments to prevent sound blasting or distortion. Up 6, down 10 DB. Zero DB at 1.73 volt, 500 ohms, 6 milliwatts. Standard damping furnished unless highly damped is specified.

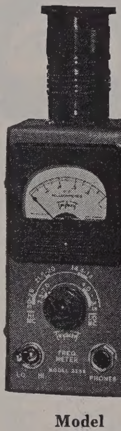
426 DB (Dealer Net) $15.20
321-T, 327-T " " 13.60

HIGH RANGE D.C. VOLTMETERS FOR AMATEURS

Designed particularly for radio amateurs. High range 3" D. C. Voltmeters—1000 ohms per volt. Provided with special external metalized multipliers mounted on bakelite strip. Specify this type when ordering, or standard voltmeters will be furnished. Available 3" case, Models 321-T, 327-T:

Range	Price	Range	Price
0-1000	$11.90	0-4000	$11.90
0-2000	11.90	0-5000	12.80
0-3000	11.90		

FREQUENCY METER



Model 3256

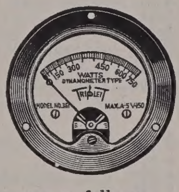
A new band-switching, tuned Absorption type Frequency Meter covering five amateur bands. Incorporates the new germanian crystal and a D. C. Milliammeter indicator for greater sensitivity. Direct calibration on panel—no coils to change; switching permits instantaneous band change. Audio jack is provided for monitoring of phone signals—another new feature. Fully shielded. Calibration is in megacycles in the following bands: 3.5-4 MC; 7-7.3 MC; 14-14.4 MC; 20-21.5 MC; 28-30 MC. Coil is removable and other coils may be substituted for special bands, if desired.

USEFUL FOR CHECKING: (1) Fundamental frequency of oscillating circuits. (2) Presence, order and amplitude of harmonics. (3) For parasitic oscillations. (4) Neutralization of R. F. amplifiers. (5) Standing wave ratio on transmission lines. (6) Presence of undesirable or small quantities of R. F. (7) Monitoring of phone signals.

A fully shielded unit of compact pocket size. Overall height, including coil, 7½"; width 2½"; depth 2¼". Attractive gray "hammered" enamel finish with black trim.

MODEL 3256...................U. S. A. DEALER NET $16.25

WATTMETERS — ELECTRODYNAMOMETER



These instruments can be used on single phase A. C. or D. C. as Wattmeters. On special order they can be made up as voltmeters or ammeters. Instruments are self-contained to 300 Volts—10 Amperes. Over that external connection can be made. For use on frequencies up to 133 cycles per second. Available in three-inch model 361. Case dimensions same as 321-T, except for depth, 2" back of the flange (2$\frac{15}{16}$" over studs). Wattmeters can be combined in the Triplett Twin case with a voltmeter or Ammeter. Accuracy within ±2%. Standard ranges as follows:

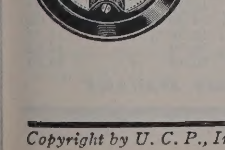
MODEL 361 — SINGLE PHASE

Range Watts	Normal Voltage	Normal Amps.	Sc. Div.	Net Price
0-75	150	½	75	16.00
0-150	150	1	75	16.00
0-300	150	2	60	16.00
0-750	150	5	75	16.00
0-1500	150	10	75	16.00
0-150	300	½	75	17.60
0-300	300	1	60	17.60
0-600	300	2	60	17.60
0-1500	300	5	75	17.60
0-3000	300	10	60	17.60
DOUBLE RANGE WATTMETERS (Double Voltage Limits Only)				
0-75-150	150-300	½	75	21.60
0-150-300	150-300	1	75	21.60
0-300-600	150-300	2	60	21.60
0-750-1500	150-300	5	75	21.60
0-1500-3000	150-300	10	75	23.40

SENSITIVE RELAYS

Highly sensitive Triplett relays are of the D'Arsonval Moving Coil type, carefully designed to give dependable, satisfactory performance. Since relays cover such a wide field and most of them are made to special order, no standard models are listed. Each application should be accompanied with information specifying maximum and minimum currents and voltages which will pass through relay coil and contact points, etc.

R.F. AMMETERS

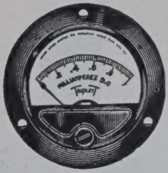


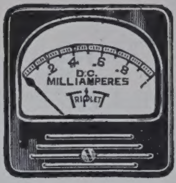
Triplett R. F. Ammeters are the same case size and appearance as corresponding D. C. Models. Internal couples normally furnished at prices shown. If external couples are required, please specify on order, adding $3.70 net to price of instruments listed below. External couples only (less meter), with 2 ft. leads are $4.70 net each.

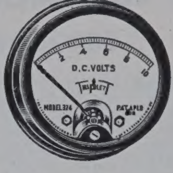
Range	Approx. Res.	Models 241-T, 242-T, 243-T, 247-T	Models 341-T, 342-T, 347-T	Models 441, 441-A, 442, 446	Models 447, 541	Model 746
0.5 Amps.	.93	$ 6.90	$ 7.90	$ 9.50	$10.30	$17.30
0-1 Amps.	.35	$ 6.90	$ 7.90	$ 9.50	$10.30	$17.30
0-1.5 Amps.	.21	$ 6.90	$ 7.90	$ 9.50	$10.30	$17.30
0-2.5 Amps.	.13	$ 6.90	$ 7.90	$ 9.50	$10.30	$17.30
0-5 Amps.	.06	$ 6.90	$ 7.90	$ 9.50	$10.30	$17.30
0-10 Amps.	.03	$ 6.90	$ 7.90	$ 9.50	$10.30	$17.30

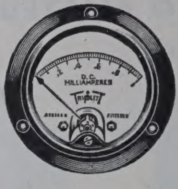
ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO REVISION

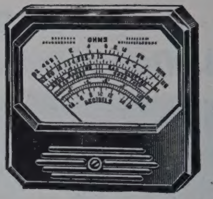
Measuring TRIPLETT Instruments

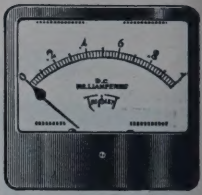

221-T, 321-T D. C.
231-S, 331-S A. C.


227-T, 327-T D. C.
237-T, 337-T A. C.


324, 524 D. C.
334, 534 A. C.


422, 521 D. C.
432, 531 A. C.


426 D. C., 436 A. C.


636, 736 A. C.
626, 726 D. C.

Models		Scale Lengths		Flange	Body Dia.	Body Depth		Case		
								Material	(Mounting)	
D. C.	A. C.	D. C.	A. C.			D. C.	A. C.		Type	Style
221-T	231-S	1.76″	1.58″	2 11/16″ Dia.	2 7/32″	15/16″	1 5/16″	Molded	Flush	Rim
222-T	232-S	1.76″	1.58″	2 9/16″ Dia.	2 1/16″	1 1/16″	1 7/16″	Metal*	Flush	Rim
223-T	233-S	1.76″	1.58″	2 5/16″ Dia.	2 1/16″	1 1/16″	1 7/16″	Metal*	Flush	Rear Clamp
227-T	237-S	1.76″	1.58″	2 3/8″ Sq.	2 5/32″	1″	1 3/8″	Molded	Flush	Rear Screws
321-T	331-S	2.49″	2.22″	3 1/2″ Dia.	2 3/4″	15/16″	1 5/8″	Molded	Flush	Rim
322	332	2.49″	2.22″	3 1/4″ Dia.	2 9/16″	1 13/32″	1 13/32″	Metal*	Flush	Rim
324	334	2.49″	2.22″	3 1/16″ Dia.	2 3/4″	1 17/32″	1 17/32″	Metal*	Projection	Rear Studs
327-T	337-S	2.49″	2.22″	3″ Sq.	2 3/4″	1″	1 3/8″	Molded	Flush	Rear Screws
421	431	3.11″	2.78″	4 1/4″ x 3 15/16″	2 3/4″	15/16″	15/16″	Molded	Flush	Rim
421-A	431-A	3.11″	2.78″	3 1/2″ x 3 3/16″	2 3/4″	15/16″	15/16″	Molded	Flush	Rear Clamp
422	432	3.11″	2.78″	4 3/8″ Dia.	3 9/16″	1 11/32″	1 11/32″	Molded	Flush	Rim
426	436	3.11″	2.78″	4 1/4″ x 4″	3 1/8″	15/16″	15/16″	Molded	Flush	Rear Screws
427	437	3.73″	3.4″	4 1/4″ x 4 1/2″	3 1/8″	15/16″	15/16″	Molded	Flush	Rear Screws
521	531	3.11″	2.78″	5 1/4″ Dia.	4 3/8″	1 9/16″	1 9/16″	Molded	Flush	Rim
524	534	3.11″	2.78″	4 3/4″ Dia.	4 3/8″	1 5/8″	1 5/8″	Molded	Projection	Rear Studs
626	636	5.6″	5.3″	6″ x 5 3/8″	3 1/8″	1 1/32″	1 1/32″	Molded	Flush	Rear Screws
726	736	6″	5.75″	7 17/32″ x 6 29/32″	3 1/2″	15/16″	15/16″	Molded	Flush	Rear Screws

*Molded base.

D.C. VOLTMETERS — 125 Ohms per Volt

Range	Code	Models 221-T, 222-T, 223-T, 227-T	Models 321-T 322, 324, 327-T	Models 421, 421-A, 422, 426	Models 427, 521, 524	Model 626	Model 726
0-5	TRCXC	$ 5.80	$ 6.80	$ 8.40	$ 9.20	$10.30	$16.20
0-10	TRDWD	5.80	6.80	8.40	9.20	10.30	16.20
0-25	TRFUF	5.80	6.80	8.40	9.20	10.30	16.20
0-50	TRGTG	5.80	6.80	8.40	9.20	10.30	16.20
0-100	TRHSH	5.80	6.80	8.40	9.20	10.30	16.20
0-150	TRIRI	5.80	6.80	8.40	9.20	10.30	16.20
0-300	TRLOL	7.60	8.60	10.20	11.00	12.10	18.00

D.C. VOLTMETERS — 1000 Ohms per Volt

Range	Code	Models 221-T, 222-T, 223-T, 227-T	Models 321-T 322, 324, 327-T	Models 421, 421-A, 422, 426	Models 427, 521, 524	Model 626	Model 726
0-10	TAIGA	$ 8.40	$ 9.40	$11.00	$11.80	$12.90	$18.80
0-150	TAINE	8.70	9.70	11.30	12.10	13.20	19.10
0-300	TRULL	10.80	11.80	13.40	14.20	15.30	21.20
0-500	TUBAL	12.20†	13.20†	14.80†	15.60†	16.70†	22.60†
0-1000	TURIN	25.20*	26.20*	27.80*	28.60*	29.70*	35.60*

If sensitivity is not specified on orders for D. C. Voltmeters, 125 Ohms is normally supplied. †Indicates instruments supplied with external wire-wound series resistors at prices shown. *Supplied with external resistor boxes at prices shown above. All other instruments are self-contained. Double-range panel voltmeters available on special order. Prices on request.

D.C. MICROAMMETERS

Range	Approx. Resis.	Code	Models 221-T, 222-T, 223-T, 227-T	Models 321-T 322, 324, 327-T	Models 421, 421-A, 422, 426	Models 427, 521, 524	Model 626	Model 726
0-50	1770	TALBE	$16.90	$17.90	$19.50	$20.30	$21.40	$27.30
0-100	900	TRABA	15.00	16.00	17.60	18.40	19.50	25.40
0-200	360	TARDY	11.80	12.80	14.40	15.20	18.30	22.20
0-500	156	TWIRL	8.10	9.10	10.70	11.50	12.60	18.50

D.C. MILLIAMMETERS

Range	Approx. Resis.	Code	Models 221-T, 222-T, 223-T, 227-T	Models 321-T 322, 324, 327-T	Models 421, 421-A, 422, 426	Models 427, 521, 524	Model 626	Model 726
0-1	55	TRAAN	$ 6.90	$ 7.90	$ 9.50	$10.30	$11.40	$17.30
0-15	6.6	TRFFS	5.80	6.80	8.40	9.20	10.30	16.20
0-25	4	TRGGT	5.80	6.80	8.40	9.20	10.30	16.20
0-50	2	TRHHU	5.80	6.80	8.40	9.20	10.30	16.20
0-100	1	TRJJW	5.80	6.80	8.40	9.20	10.30	16.20
0-150	0.6	TRKKX	5.80	6.80	8.40	9.20	10.30	16.20
0-200	0.5	TRLLY	5.80	6.80	8.40	9.20	10.30	16.20
0-250	0.4	TRMMZ	5.80	6.80	8.40	9.20	10.30	16.20
0-300	0.33	TRNNA	5.80	6.80	8.40	9.20	10.30	16.20
0-500	0.2	TROOB	5.80	6.80	8.40	9.20	10.30	16.20

D.C. AMMETERS

Range	Approx. Resis.	Code	Models 221-T, 222-T, 223-T, 227-T	Models 321-T 322, 324, 327-T	Models 421, 421-A, 422, 426	Models 427, 521, 524	Model 626	Model 726
0-1	0.05	TALUS	$ 5.80	$ 6.80	$ 8.40	$ 9.20	$10.30	$16.20
0-10	0.005	TROCK	5.80	6.80	8.40	9.20	10.30	16.20
0-25	0.002	TANGS	5.80	6.80	8.40	9.20	10.30	16.20
0-50	0.0016	TANGO		6.80	8.40	9.20	10.30	16.20

Self-contained up to and including 50 Amperes. Shunts 75 Amperes (50 M.V.) and higher are switchboard type with 5 ft. leads. Prices on request.

A.C. VOLTMETERS

Range	Approx. Ohms per Volt	Code	Models 231-S, 232-S, 233-S, 237-S	Models 331-S, 332-S, 334, 337-S	Model 431, 431-A, 432, 436	Models 437, 531, 534	Model 636	Model 736
0-5	4	TERSE	$ 5.80	$ 6.80	$ 8.40	$ 9.20	$10.30	$16.20
0-10	10	TRUMP	5.80	6.80	8.40	9.20	10.30	16.20
0-150	125	TOYTE	6.90	7.90	9.50	10.30	11.40	17.30
0-300	144	TWEAK	8.50	9.50	11.10	11.90	13.00	18.90

A.C. AMMETERS

Range	Approx. Resis.	Code	Models 231-S, 232-S, 233-S, 237-S	Models 331-S. 332-S, 334, 337-S	Model 431, 431-A, 432, 436	Models 437. 531, 534	Model 636	Model 736
0-3	.02	TULIP	$ 5.80	$ 6.80	$ 8.40	$ 9.20	$10.30	$16.20
0-5	.01	TEUCH	5.80	6.80	8.40	9.20	10.30	16.20
0-10	.005	TEHEE	5.80	6.80	8.40	9.20	10.30	16.20
0-25	.001	TELEO	5.80	6.80	8.40	9.20	10.30	16.20

A.C. MILLIAMMETERS

Range	Approx. Resis.	Code	Models 231-S, 232-S, 233-S, 237-S	Models 331-S. 332-S, 334, 337-S	Model 431, 431-A, 432, 436	Models 437. 531, 534	Model 636	Model 736
0-10	2670	TEETH	$ 6.90	$ 7.90	$ 9.50	$10.30	$11.40	$17.30
0-15	1150	TOUSY	5.80	6.80	8.40	9.20	10.30	16.20
0-50	82	TEMPT	5.80	6.80	8.40	9.20	10.30	16.20
0-100	21	THARM	5.80	6.80	8.40	9.20	10.30	16.20
0-200	6.7	TRFFT	5.80	6.80	8.40	9.20	10.30	16.20
0-500	0.8	THEOS	5.80	6.80	8.40	9.20	10.30	16.20

ALL PRICES ARE SUBJECT TO CHANGE — ALL MODELS SUBJECT TO REVISION — OTHER RANGES AVAILABLE

Radio TRIPLETT Testers

A NEW TV-FM SWEEP SIGNAL GENERATOR WITH BUILT-IN MARKERS

FREQUENCY COVERAGE

Sweep Center Frequency: Range 1– 0- 60 MC
Range 2– 60-120 MC
Range 3–120-240 MC
Sweep Width: .1-12 MC (Continuously Variable)
Marker Frequency:
19.5- 40 MC (Fundamental)
39 -240 MC (Harmonic)
Crystal Frequency: To 20 MC (Fundamental) Can be used to produce Harmonics to 216 MC. (Crystals not furnished.)
Modulation: 400 Cycles on both Crystal and Marker frequencies.
Audio: 400 Cycles.

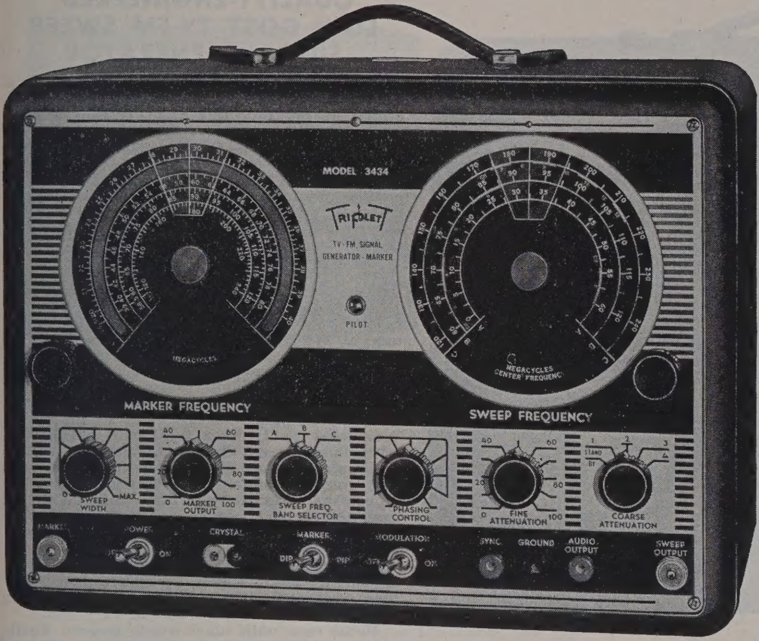
Model 3434 provides a complete service laboratory for TV-FM servicing and other electronic requirements. No gaps in frequency. Continuous tuning over all TV-FM bands. Provisions for simultaneous presentation of two Markers. Audio output for quick check on video and sound amplifiers. Ladder type attenuator for coarse and fine output adjustment. Shielded. Copper plated steel construction throughout. Modulation of Markers to facilitate alignment of traps, etc. Line filter. Phase controlled sweep voltage for scope horizontal input. Stability increased by ceramic trimmers, zero temperature coefficient capacitors, silver plated coils, regulated power supply and rugged construction.

Attractive steel case, black enamel suede finish, $15\frac{11}{32}''$ x $11\frac{1}{32}''$ x $8\frac{1}{4}''$. Copper plated feet for improved grounding. Black, white and red etched markings on aluminum panel.

Accessories — Co-Axial cables for low-loss RF output. Heavy braid strap. Rubber covered leads for audio and sync output and additional ground.

Power: 105-115 Volt, 50-60 Cycle, 55 Watts. Weight: 23 lbs.

MODEL 3434—U.S.A. DEALER NET $149.50


MODEL 3434
TRIPLETT
TV-FM SIGNAL GENERATOR-MARKER
PILOT
MEGACYCLES
MEGACYCLES CENTER FREQUENCY
MARKER FREQUENCY
SWEEP FREQUENCY
SWEEP WIDTH
MAX.
MARKER OUTPUT
SWEEP FREQ. BAND SELECTOR
PHASING CONTROL
FINE ATTENUATION
COARSE ATTENUATION
POWER
ON
CRYSTAL
MARKER
DIP
MODULATION
SYNC
GROUND
AUDIO OUTPUT
SWEEP OUTPUT

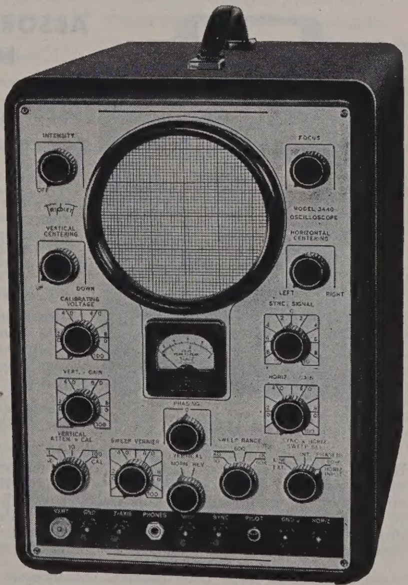
Model 3434

A FEW REASONS YOU'LL WANT MODEL 3434

★ Continuously variable sweep width from 100 KC to 12 MC.
★ Main frequency dial marked with channels and frequencies.
★ Variable Marker provides continuous tuning over all present TV Video and Sound IFs. Mirrored dial.
★ Absorption type Marker in addition to pip type.
★ Straight-line frequency calibrated dials.

NEW 5" TV-FM OSCILLOSCOPE TAILORED FOR TELEVISION

VERTICAL AMPLIFIER
Frequency Range—Flat within ±20%.
20 Cycles to 1 MC with deflection sensitivity of .1 RMS Volts/Inch
20 Cycles to 100 KC with deflection sensitivity of .02 RMS Volts/Inch
HORIZONTAL AMPLIFIER
Frequency Range—Flat within ±20% from 20 Cycles to 250 KC.
Deflection sensitivity—.5 RMS Volts/Inch
INPUT IMPEDANCE—Vertical Amplifier—2 Megohms in parallel with 25 MMF.
Horizontal Amplifier—2 Megohms in parallel with 25 MMF.
MAXIMUM INPUT POTENTIAL
Vertical Amplifier—400 Volts max. DC or Peak.
Horizontal Amplifier—400 Volts max. DC or Peak.
LINEAR TIME BASE—10 c.p.s. to 60 KC.
INTENSITY MODULATION—Return trace eliminator.
SYNCHRONIZING SIGNAL—.03 RMS Volt required.
CALIBRATING METER—Calibrated in Peak-to-Peak Volts: 0-3, 0-10.
PHASE HORIZONTAL SWEEP—Phase controlled Sweep voltage of line frequency.
VERTICAL PATTERN—Provides selection of polarity to be observed.
ATTENUATION—Coarse and fine control over Vertical Input. Fine control over Horizontal Input.
SIGNAL TRACING feature provided by Headphone Output. Enables detection of hum modulation, spurious interference, etc.
ESCUTCHEON—Telescoping to provide shaded Cathode Ray Tube. Large 5" Cathode Ray Tube.
SHIELDING—Copper plated steel construction throughout. Cathode Ray tube adequately shielded from stray fields.
CASE—Metal, with black suede enamel finish, $15\frac{11}{32}''$ x $11\frac{1}{32}''$ x 16". Leather handle. Copper plated feet for improved grounding.
PANEL—Black, red and white characters etched on aluminum.
ACCESSORIES—Co-Axial lead for Vertical Input. Rubber covered leads for Sync, Horiz. Input and Ground. Heavy braid grounding strap.
POWER—105-115 Volts, 50-60 Cycles, 80 Watts.
WEIGHT—20 lbs.


INTENSITY
FOCUS
MODEL 3440 OSCILLOSCOPE
VERTICAL CENTERING
HORIZONTAL CENTERING
CALIBRATING VOLTAGE
SYNC. SIGNAL
VERT. GAIN
HORIZ. GAIN
PHASING
SWEEP VERNIER
SWEEP RANGE
PHONES
SYNC
PILOT

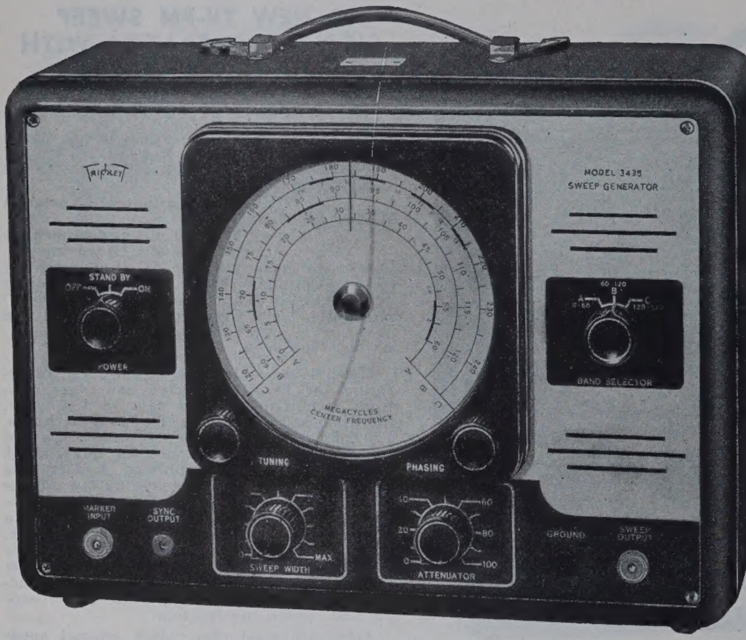
Model 3440

SPECIALIZED FEATURES:

★ Wide Frequency Range: 20 Cycles to 1 MC.
★ Provision for changing polarity to vertical input amplifiers—keeps wave form on Cathode Ray tube showing in conventional manner. (Exclusive Triplett feature!)
★ Calibrated meter for comparison voltage measurements.
★ Return trace eliminator.

Net

Radio TRIPLETT Testers



Model 3435
FREQUENCY COVERAGE

Sweep Center Frequency:
Range 1— 0- 60 MC (Fundamental)
Range 2— 60-120 MC "
Range 3—120-240 MC (Harmonic)
Sweep Width: 0-12 MC (Continuously Variable)

QUALITY-ENGINEERED, LOW COST TV-FM SWEEP SIGNAL GENERATOR

MODEL 3435 answers your needs for a quality engineered TV-FM Sweep Signal Generator at an unusually low price. Designed particularly for the service engineer who has his own provision for an external Marker (any good AM Generator).

Buying this sensational new Model will enable you to materially reduce your investment in a Sweep Signal Generator, if you have a good AM Signal Generator to use as the Marker. Connection of external Marker is made simply and quickly through a panel connector. If you do want an external Marker see Triplett Models 1235 Variable Marker or 1236 Crystal Marker.

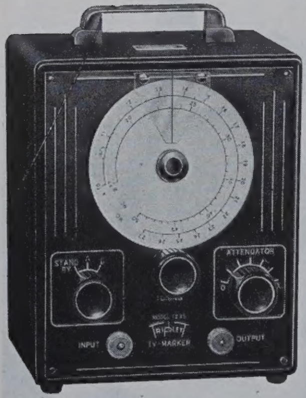
Model 3435 provides continuous range coverage to 240 MC for all TV Carrier and IF frequencies. No gaps in frequency. Continuous tuning is provided over all TV-FM bands. Continuously variable sweep width control. Sweep at any width between .1 to 12 MC. Phase controlled sweep voltage for scope horizontal input. Main frequency dial marked with channels as well as frequencies. Large and easy to read. Standby switch for temporary silencing of Generator during other work on equipment under test. Shielding and wiring designed for good control over output. Copper plated steel construction throughout. Static shielded power transformer. Miniature tubes used for high frequency circuits. Stability increased by use of ceramic trimmers, zero temperature coefficient capacitors, silver plated coils, and rugged construction.

Metal case with black suede enamel finish, 15 11/32" x 11 1/32" x 6¼". Leather handle. Copper plated feet for improved grounding when working over metal work bench top. Panel has black, white and red characters etched on aluminum.

Accessories — Co-Axial cables for low-loss RF output. Heavy braid ground strap. Rubber covered leads for Sync output and additional ground.

Power — 105-115 Volts, 50-60 Cycles, 25 Watts. Wt.: 15 lbs.

MODEL 3435—U.S.A. DEALER NET $99.50



Model 1235

ABSORPTION TV-IF MARKER

Frequency Coverage:
10 to 50 MC in two bands.

Triplett first to provide:
Control over amplitude of Marker dip.
Standby feature. Removed from circuit by merely turning switch.

Other special features:
May be used with any type Sweep Generator.
Two tuning ranges providing complete coverage of all present TV-IF frequencies and ample provision for the future.
Designed as companion unit for 3435 Sweep Generator.

Although designed as a companion unit for Triplett Model 3435 Sweep Signal Generator, it can be used with any Sweep Generator as an external Marker. There are no complications in use, for connection is made quickly and easily through a panel connector. A standby switch is provided for temporary silencing of Generator during other work on equipment under test. Attenuation—continously variable from 0 to maximum of Marker dip.

Copper plated steel construction throughout. Large 4" dial has two easy-to-read scales etched on the dial.

Metal case, with black suede enamel finish, 7⅞" x 6⅝" x 4½". Metal handle. Copper plated feet for improved grounding when working over metal work bench top. Panel is black and red etched on aluminum.

Accessories—Co-Axial cable for low-loss connection to Sweep Generator. Coaxial cable for connection to test setup.

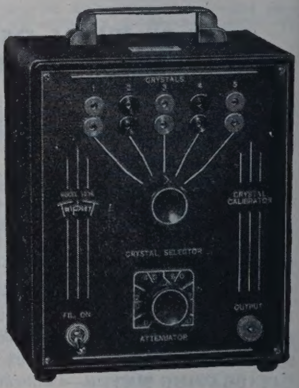
Power: None required. Weight: 4 lbs.

MODEL 1235 . . . . U.S.A. DEALER NET $24.50

NEW CRYSTAL MARKER

Frequency Coverage:
Up through 19 MC on crystal (fundamentals)
Up through 216 MC on crystal (harmonics)
(Crystals not included.)

Model 1236 provides Marker frequencies of crystal controlled accuracy for TV & FM, IF or RF requirements. By purchasing ONLY those crystals needed for a particular TV service area and the most-used IF frequencies, this new unit provides utmost Marker accuracy and offers a speedy selection of the desired crystal-controlled signal.



Model 1236

This Marker saves plenty of time in checking bandpass characteristics of curves — simply throw the switch to the desired crystal — eliminating delays resulting from constant tuning and retuning required in the use of variable markers. Signals for the most accurate and fastest means of aligning local oscillators in TV receivers and many other applications. When using a 1 MC crystal, Model 1236 becomes a standard for checking other signal generators or receivers.

Designed as a companion unit to Triplett 3435, it receives its power by plugging into a panel jack in the Sweep Generator.

Attenuation—Low impedance single control T-pad attenuator, continuously variable. Shielding—Copper plated steel construction throughout. Stability—Increased by use of latest high-frequency techniques.

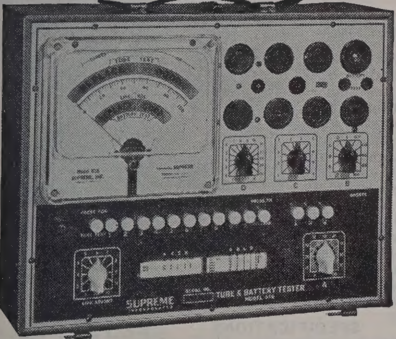
Metal case, black suede enamel finish, 7⅞" x 6⅝" x 4½". Metal handle. Copper plated feet. Black, red and aluminum etched panel.

Accessories — Coaxial cable for low-loss connection to Sweep Generator.

WEIGHT: 3¾ lbs.

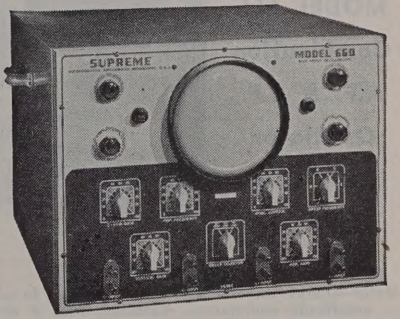
MODEL 1236 . . . . U.S.A. DEALER NET $19.50

SUPREME INSTRUMENTS
Newest Engineering Developments



MODEL 600
TUBE AND SET TESTER

MODEL 660
DELUXE 5" OSCILLOSCOPE FOR TELEVISION



Supreme's Time Tested Emission Tube Tester with all Multi-meter functions — Battery Tester (including the 67.5 volt). Truly a portable laboratory.

Sockets for all tubes (including nine-pin) and a spare for the new one yet to be developed. You'll enjoy using this instrument long after others are obsolete and discarded.

DESCRIPTION—Meter—7" Clear Plastic—NO GLASS to break. Over 6" of calibrated scale plus mirrored arc for accurate readings. **Supreme** built rugged meters can "Take It." **Flexible—Supreme's** patented Filament Return selector switch insures only one socket for each type tube. This one feature guards against obsolescence. **Roll Chart**—Illuminated—double width—ample room for all tube listings. No binding—plus one year free tube setting service. **Multi-meter Ranges**—Operate at the touch of a button—No roaming test leads. **Case**—Metal in beautiful Hammerloid finish with removable cover, new type leather carrying strap.

SPECIFICATIONS—DC Volts—7 ranges of 0/5/10/50/250/500/-1000/2500 volts. Lowest reading of .1 volt. All ranges 1000 ohms per volt. Push-button selection of ranges. **AC Volts**—6 ranges of 0/10/50/250/500/1000/2500 volts. Rectifier guaranteed as any other part. Double bridge circuit affords maximum of scale linearity and rectifier protection. Circuit temperature compensated to correct rectifier reading over wide range of temperatures. **DC Current**—7 ranges: 0-1000 microamperes 1/5/10/50/250/500/1000 milliamperes and 1/10 amperes. Lowest reading 1 microampere. All shunts wire wound. **Output Volts**—6 ranges of 0/5/10/50/250/500/1000 volts. Ideal for receiver alignment. No external condenser necessary. **Ohmmeter**—5 ranges of 0/200/20,000/200,000 ohms and 2/20 megohms. Center scale of low range 3.5 ohms. Lowest reading 0.1 ohms. Ideal for checking low resistance coils such as voice coils and oscillator coils. **Battery Tests**—Provides proper loads for most commonly used A and B portable batteries. Condition of battery under load is read on English reading scale. 1.5 v—4.5 v—6.0 v—67.5 v—90.0 v — 95.0 v. **Power Supply**—100-133 volts—50/60 cycles. special voltages and frequencies on request. **Note:** Test Leads furnished with this instrument.

SIZE—11" x 15" x 6¾". **SHIPPING WEIGHT**—20 pounds.

Dealer Net Cash Price.. **$117.50**

SPECIFICATIONS FOR MODEL 660 DELUXE 5" OSCILLOSCOPE: DEFLECTION SENSITIVITY—Vertical Amplifier—Direct to Vert. Amp. Input...... .1 v RMS. **Horizontal Amplifier**—Direct to Hor. Amp. Input...... .14 v RMS. **SWEEP OSCILLATOR**—Range of 7 cycles to 100 KC. in six steps. Synchronization: Int. Ext. **TUBE COMPLEMENT**—Cathode Ray Tube......5CP1. Rect. tube High Voltage......5Z3. Rect. tube Low Voltage......5Z3. **Vertical Amplifier**—1st stage Cathode Follower......6J5. 2nd stage Voltage Amplifier......6AC7. 3rd stage Power Amplifier......2-6AG7. **Horizontal Amplifier**—1st stage Cathode Follower......6J5. 2nd stage Voltage Amplifier......6AC7. 3rd stage Power Amplifier......2-6AC7. **Sweep Generator**—Generator tube......6SN7. Sweep control tube......½6SN7. **Z Axis Amplifier**—Amplifier Tube......½6SN7. **Voltage Regulator**......2-1/25 watt neon. **Probe**—Cathode Follower Tube......6C4. **INPUT IMPEDANCE**—Probe 9 mmf 5 meg. Vert. Amp. direct 5 mmf 5 meg. Hor. Amp. direct 10 mmf 5 meg. Z Axis Amp. direct 10 mmf .5 meg. **PERFORMANCE DATA—Vertical Amplifier**—Sine Wave frequency response: Plus or minus 2 db. 5 cycles to 5 mc. down 6 db. at 7 mc. Gain Control: Independent of frequency within range of the amplifier. Phase shift: Less than 1° at 60 cycles (overall). Square wave response: 30 cycles to 150 kc. **Horizontal Amplifier**—Sine Wave frequency response: Plus or minus 2 db. 5 cycles to 1.5 mc. down 6 db. at 2 mc. Gain Control: Independent of frequency within range of the amplifier. Phase shift: Less than 1° at 60 cycles (overall). Square wave response: 30 cycles to 50 kc. **Z Axis Amplifier**—Sine Wave frequency response: Plus or minus 2 db. 100 cycles to 100 kc. down 6 db. at 150 kc. **POWER SUPPLY**—110-125 volts, 50/60 cycles, 250 watts maximum.

SIZE—12" x 16" x 19". **SHIPPING WEIGHT**—70 pounds.

Dealer Net Cash Price.. **$276.80**

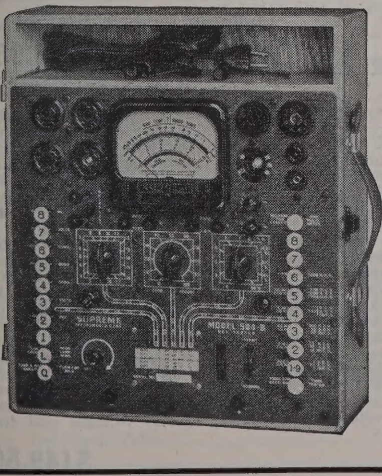
MODEL 616 TUBE AND BATTERY TESTER

Same as Model 600 Tube and Set Tester described above, less Multi-Meter functions.

Dealer Net Cash Price.. **$87.45**

MODEL 504-B COMBINATION TESTER

Contains a Multi-meter, battery tester, condenser tester and proven emission tube tester in one instrument. A unique switching circuit divides these functions with a minimum of complex switches, pin jacks and controls.



DESCRIPTION—Meter—Large 4" square face meter, 500-microampere. **Speed**—Push-button operated. **Rugged**—Meter of special Alnico design for portable testers. "Can Take It." **Flexible**—Simple, yet Universal Floating Filaments feature insures against obsolescence. **Simplicity**—Roll chart carries full data for tube setting. No roaming test leads when using multi-meter—only push a button. **Tube Setting Service**—Additional tube setting data supplied for one year at no extra charge. **Professional Appearance**—Sturdy metal case. Panel grey wrinkle, white letters and markings; red highlights. Hardware plated, leather carrying handle. **SPECIFICATIONS**—DC Volts—7 ranges of 0/5/25/100/250/500/1000/2500 volts. Lowest reading of .1 volts. All ranges 1000 ohms per volt. Push-button selection of ranges. **AC Volts**—5 ranges of 0/5/10/50/250/1000 volts. Rectifier guaranteed as any other part. Double bridge circuit affords maximum of scale linearity and rectifier protection. Circuit temperature compensated to correct rectifier reading over wide range of temperatures. **DC Current**—7 ranges of 0-500 microamperes 2.5/10/50/250 milliamperes and 1/10 amperes. Lowest reading 10 microamperes. All shunts wire wound. **Output Volts**—5 ranges of 0/5/10/50/-250/1000 volts. Ideal for receiver alignment. No external condenser necessary. **Ohmmeter**—5 ranges of 0/200/2000/20,000 ohms and 2/20 megohms. Center scale of low range 3.5 ohms. Lowest reading 0.1 ohms. Ideal for checking low resistance coils such as voice coils and oscillator coils. **Condenser Tester**—Covers Electrolytic and Paper or Electrostatic condensers. Provides tests for Electrolytic Capacitors, including high voltage filters and low voltage-high capacity bypass condensers to be checked under their normal working voltages. The following voltages are supplied to be applied across the Electrolytic Condensers: 450/300/250/200/-100/50/25 volts. English reading "Good-Bad" scale. **Battery Tests**—Provides proper loads for most commonly used A and B portable batteries. Condition of battery under load is read on English reading scale. **Power Supply**—100-133 volts—50/60 cycles. Special voltages and frequencies on request. **Note:** Test Leads furnished with this instrument.

SIZE—14⅜" x 12⅛" x 4⅞". **SHIPPING WEIGHT**—20 pounds.

Dealer Net Cash Price.. **$102.50**

SUPREME INSTRUMENTS

MODEL 666 Combination A.F. & R.F. Oscillator

SUPREME
MODEL 666

SPECIFICATIONS

Meter—Large three-inch round meter used to set the desired amount of amplitude modulation. Variable from 0 to 80%. **Simplicity**—All frequencies on the R. F. Oscillator read on two scales. Both A.F. and R.F. push-button operated. **Attenuator**—R.F. Oscillator has ladder type four position resistor push-button attenuator. Also, vernier control from maximum to minimum on either of the four steps of the multiplier. A.F. output is controlled from minimum to maximum with continuously variable control. **Laboratory Appearance**—This fine instrument is housed in beautiful golden tone, lock cornered, natural finish oak case. Black ribbed steel panel with silver and red highlights. **Tube Line Up**—6X5 Rectifier. 6SK7 A.F. Beat Oscillator. 6SK7A.F. Beat Oscillator. 6SK7 R.F. Oscillator. 6C5 A.F. Oscillator Mixer. 6C5 A.F. Amplifier. 6F8 Audio Vacuum Tube voltmeter-frequency modulation control tube. 6F8 R.F. vacuum tube voltmeter-F.M. Oscillator. 6K6 Buffer Mixer.

DESCRIPTION R.F. OSCILLATOR

Ranges—5 band 65/205 KC, 205/650 KC, 650/2050 KC, 2050/-6500 KC, 6.5/20.5 MC. Harmonics above 60 MC. **Tuning Mechanism**—Dual ratio from tuning knob to dial. One direct for speed, a second about 5 to 1 for vernier settings. **Accuracy**—Low end of band tuned with iron core inductors. High end of band tuned with air dielectric trimmers providing for greatest accuracy possible with printed scales. Meter used to set carrier level at a predetermined value, aligned for an accurate and variable per cent of modulation by the A.F. Oscillator. **Frequency Modulator**—F.M. signal available over range of R.F. Oscillator. Frequency modulated approximately plus or minus 15 KC. Rate of frequency modulation 120 cycles per second. 60 cycle time base provides for automatic positive synchronization.

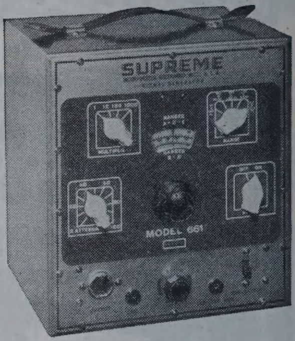
A.F. OSCILLATOR

Range—15 to 15,000 cycles. **Output Impedances**—Center tap transformer of 50/500/5,000 ohms. High impedance resistor of 50,000 ohms. **Distortion**—Approximately 5%. **Voltage Output**—Open circuit 35 volts. **Frequency Characteristics**—Plus or minus 1 db between 30 and 10,000 cycles. 15 cycles and 15,000 cycles down approximately 2 db. **Attenuator**—Controls voltage output from 0 to maximum. **Power Output**—Approximately 150 milliwatts. **Power Supply**—110-125 volts—50/60 cycles. Special voltages and frequencies on request.

SIZE—15½″ x 11½″ x 8¾″. **SHIPPING WEIGHT**—33 pounds.

Dealer Net Cash Price.. **$141.60**

MODEL 661 OSCILLATOR



DESCRIPTION

Simple Operation—All ranges read on two basic scales, accurately calibrated at both ends. **Dual Tuning Ratio**—One for speed—one for vernier adjustments. **Stability**—Electron coupled circuit, impregnated iron tuned inductors and air dielectric trimmers provide the maximum frequency stability. Guards against shift due to line voltage, aging, temperature, and humidity. **Ladder Multiplier**—Four steps from minimum to maximum. Also, continuously variable control. Double shielding minimizes leakage. Shielded line cord. Illuminated Hair Line Dial.

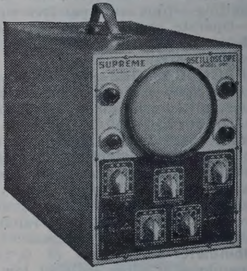
SPECIFICATIONS

R. F. Ranges—65-205 KC; 205-650 KC; 650-2050 KC; 2050-6500 KC; 6.5-20.5 MC, Harmonics to 82 megacycles. **Audio Frequency**—400 cycles—voltage output continuously variable from minimum to maximum. **Internal Modulation**—R. F. Carrier modulated at approximately 50% at 400 cycles. Can be cut off to provide unmodulated signal **External Modulation**—Jack provided for external audio modulation. **Professional Appearance**—Housed in heavy steel case; Blue Hammerloid finish. Supplied complete with shielded test leads and instructions. **Power Supply**—110-125 volts 50/60 cycles. Special voltage and frequency on request.

SIZE—9½″ x $8\frac{11}{16}$″ x 7⅜″. **SHIPPING WEIGHT**—15 pounds.

Dealer Net Cash Price **$72.50**

MODEL 655 OSCILLOSCOPE



DESCRIPTION AND SPECIFICATIONS—**Flexible, Easily Operated**—All controls have been grouped on the front panel. **Switches Arranged for External Synchronization and for External Horizontal Sweep. Tube Components** — 5Y3G Low Voltage Rectifier. 5Y3G High Voltage Rectifier. 6SJ7 Vertical Amplifier. 6SJ7 Horizontal Amplifier. 885 Saw-tooth Oscillator. 5CP1 Cathode Ray Tube. **Sweep Oscillator** has a frequency range of approximately 20 to 30,000 cycles selected in seven ranges. Linear control provided for fine adjustment between ranges. **Synchronization** control provided for positive locking of pattern on screen. **Vertical Amplifier**—Frequency response 20 cycles to approximately 100 kilocycles. Circuit will pass 60 cycle square wave. Sensitivity rated at approximately .3 volts RMS per inch deflection. **Horizontal Amplifier**—Frequency response 20 cycles to 75 kilocycles. Will handle 60 cycle square wave voltage. Sensitivity rated at approximately .3 volts RMS per inch deflection. **Note:** Test Leads furnished with this instrument.

SIZE—12″ x 9½″ x 18″. **SHIPPING WEIGHT**—32 pounds.

Dealer Net Cash Price.. **$126.50**

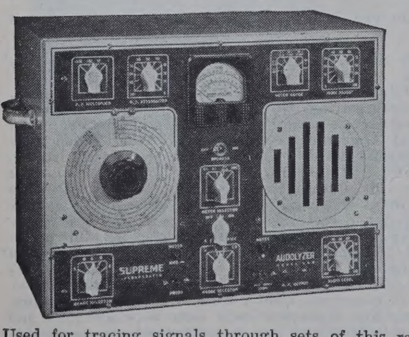
SUPREME 3" OSCILLOSCOPE MODEL 650

Essentially the same as Model 655 except that the voltage sensitivity of the amplifiers is approximately .5 volts RMS per inch deflection on the No. 650. In Model 650, a type 3AP1 Cathode Ray tube is used. **Note:** Test Leads furnished with this instrument.

SIZE—$13\frac{1}{16}$″ x $11\frac{9}{16}$″ x $7\frac{9}{16}$″. **SHIPPING WEIGHT**—23 pounds.

Dealer Net Cash Price.. **$99.95**

AUDOLYZER MODEL 688



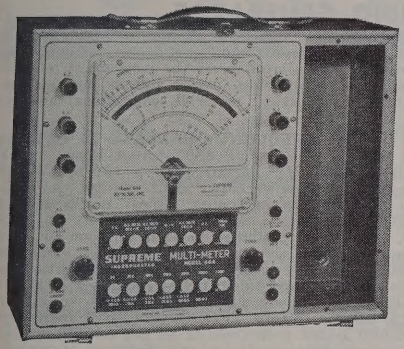
DESCRIPTION—**Simplicity**—No complicated system to learn. No meters or eyes to watch. Just listen for the signal. **Speed of Operation**—No confusion caused by the exchange of test leads. Only one probe necessary to trace signal through either R.F. or Audio circuits. Probe removable from panel for convenience. **Attenuator**—Input signal control ladder type multiplier of 4 steps and continuously variable control. **Volume Control**—In audio circuit to adjust speaker volume to desired level. **Professional Appearance**—Housed in Hammerloid finish steel case. Panel satin finished Aluminum, blue and maroon trim. **SPECIFICATIONS**—**Electronic Volt Meter**—7 ranges of 0/1/3/10/30/100/300/1000 volts DC. Center scale reading at 0 with plus and minus voltages either side. 15 megohms input impedance. Resistor in probe isolates meter from circuit disturbance. **Ohmmeter**—5 ranges of 0/200/2000/200,000 ohms 0/2/20 megohms. **R. F. Range**—5 bands covering R.F. signals from 95 KC to 14.5 MC. Used for tracing signals through sets of this range. Also used to checks frequency of receiver's oscillator, I.F. or R.F. **Gain Measurements**—By moving Audolyzer probe from stage to stage of a receiver and noting audolyzer's meter voltage reading, stage, tube or transformer gain or loss is determined. **A.V.C. Measurements**—Use proper range of electronic voltmeter and check A.V.C. voltage developed under actual operating conditions. Also use the electronic voltmeter for adjusting A.V.C. circuits. **Distortion Check**—Since the signal is monitored by a speaker, distortion can easily noted by ear at all times. By checking signal through various stages the improper operating stage of a receiver can easily be located and faulty component found. **Condenser Tester**—Leaky, shorted, or old condensers can be quickly found. **A. F. Input**—Additional leads supplied for monitoring audio circuit at same time regular probe is used for monitoring R.F. circuit. Also used for checking high impedance pickups, microphone, and other audio devices. **A. F. Output**—Output of the audolyzer brought out to the additional probe for use in checking any circuit or part requiring a high audio voltage. **Power Supply**—100-125 volts—50/60 cycles. Special voltages and frequencies upon request. **Note:** Test Leads furnished with this instrument.

SIZE—15½″ x 11½″ x 8¾″. **SHIPPING WEIGHT**—32 pounds.

Dealer Net Cash Price.. **$149.50**

SUPREME INSTRUMENTS

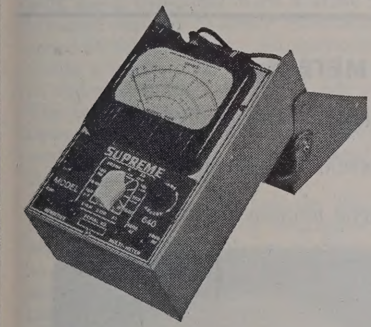
Supreme by Comparison



MODEL 644 DELUXE PORTABLE SET TESTER

DESCRIPTION AND SPECIFICATIONS: Meter — 50-microampere — Large 7″ clear plastic—NO GLASS to break—with mirrored arc. **Operation**—All ranges (with the exception of the AC and DC, 10 and 50-ampere ranges) are selected by push-button operation. **Double Meter Sensitivity**—The Model 644 has two direct current sensitivities. 1000 ohms per volt for regular DC measurements and 20,000 ohms per volt for measurements in high resistance circuits. **Direct Current Ranges**—9 ranges consisting of 0/100 microamperes, 1/5/25/100/500 milliamperes, 1/10/50 amperes. **AC Current Ranges**—3 ranges of 0/1/10/50 amperes. **DC Volt Ranges**—Total of 14 ranges, 7 ranges at 1000 ohms per volt, and 7 ranges at 20,000 ohms per volt, 0/5/25/100/250/500/1000/5000 volts. **AC Volt Ranges**—7 ranges at 1000 ohms per volt, 0/5/25/100/250/500/1000/5000. **Output Volt Ranges**—7 ranges of 0/5/25/-100/250/500/1000/5000. Covers all necessary ranges to provide indications for aligning receivers with Signal Generators. **Decibels**—5 ranges of —10/+9, 0/+23, 0/+35, 0/+43, 0/+49. Calibrated for 500-ohm line. **Resistance Ranges**—7 total ranges. Low Ohms—(linear scale) two ranges of 0/.5 and 0/5 full scale. A minimum reading of .01 ohms is indicated by one full division on meter scale. High Ohms—(non-linear scale) 0/500, 5000, 500M, 5 megohms, 50 megohms. All ranges are operated with self-contained batteries. Note the extremely wide range of .01 ohms to 50 megohms without additional power supply. **Power Supply**—Battery operated on all ranges, batteries supplied.

CARRYING CASE—sturdy metal carrying case finished in Blue Hammerloid—Panel beautiful satin aluminum and blue with maroon trim.
Note: Test Leads furnished with this instrument.
SIZE—11″ x 15″ x 6¾″ **SHIPPING WEIGHT**—15 pounds.
Dealer Net Cash Price.. **$79.95**



MODEL 640

MODEL 542

MULTI-METERS

A POPULAR COMPACT POCKET LABORATORY

MODEL 640 MULTI-METER

The New Model 640 is a fitting companion to the extremely popular Model 542 which is so well known to radio servicemen or wherever electronic equipment is used. The Model 640 uses a 50-microampere movement which has a sensitivity of 20,000 ohms per volt. All ohmmeter ranges including the 20 megohm range are operated by batteries furnished with the instrument and contained in its sturdy metal carrying case.

D-C VOLT RANGES—(20,000 ohms per volt), 0/5/25/100/500/1000/5000. (First scale division .1 volt). **D-C VOLT RANGES**—(1000 ohms per volt), 0/5/25/100/500/1000/5000. **A-C VOLT RANGES**—(1000 ohms per volt), 0/5/25/100/500/1000/5000. **DECIBEL RANGES:** —10/+9, 0/+23, 0/+35, 0/+49. **D-C CURRENT RANGES**—0/100 microamperes, 0/10/100/500 milliamperes. **RESISTANCE RANGES**—3 ranges, 0/2000/200M/20 megohms. **OUTPUT VOLT RANGES**—6 ranges, 0/5/25/100/500/1000/5000.

CARRYING CASE—Sturdy steel case with hinged cover to protect meter. Finished in grey wrinkle.
Size: 5″ x 7½″ x 3″. **Shipping Weight:** 4 pounds.
Dealer Net Cash Price.. **$39.45**

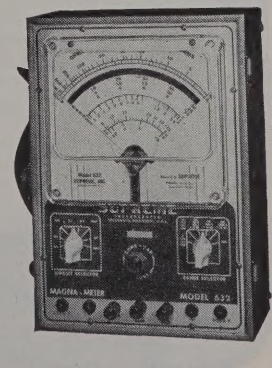
MODEL 542 POCKET MULTI-METER

A regular little pocket laboratory with a case only 5⅞″ x $3\frac{1}{16}$″ x 2⅛′ in size, weighing but 23 ounces—24 ranges—just as accurate and even more convenient than you would expect to find in an instrument twice its price. 4 DC mil ranges (with first scale division 5 microamperes) of 0/0.3/6/30/150; 4 DC volt ranges (with first scale division 0.1 volt) of 0/6/150/300/1500; 4 ohms ranges (with 1 ohm first scale division and 25 ohms center scale) of 0/2,000/20,000/200,000/2 meg; 4 AC volt ranges (with first scale division 0.1 volt) of 0/6/30/150/600; 4 output ranges of 0/6/30/150/600; 4 decibel ranges of —6/+10, +8/+24, +22/+38, +34/+50. The Model 542 is not a toy—it uses a full size 3″ square meter with a rugged, accurate 200 microampere movement and a knife edged pointer. This movement has a sensitivity of 5000 ohms per volt. All ohmmeter ranges, including the megohm ranges, are operated by batteries furnished with the instrument and contained within its durable black moulded bakelite case.

Size: 5⅞″ x $3\frac{1}{16}$″ x 2⅛″. **Shipping Weight:** 2 pounds.
Dealer Net Cash Price.. **$25.20**

In metal case as illustrated, **$29.20**

MODEL 632 MULTI-METER



SUPREME Model 632 gives the radio serviceman a large, easily read, seven-inch SUPREME plastic meter together with a total of 38 ranges. It makes an ideal instrument for installing in a work bench or for portable use. It requires no "squinting" to read this meter. **D-C VOLT RANGES**—0/5/25/100/250/500/1000/5000, at 1000 ohms per volt. **A-C VOLT RANGES**—0/5/25/100/250/500/1000/5000, at 1000 ohms per volt.

OUTPUT VOLT RANGES—0/5/25/100/250/500/1000/5000, at 1000 ohms per volt. Provides the proper ranges for indications when aligning receivers. **DECIBEL RANGES:** —10/+9, 0/+23, 0/+35, 0/+43, 0/+49. **D-C CURRENT RANGES**—6 ranges provided, 0/5/25/100/250/500/1000 milliamperes. Two ampere ranges of 0/10/25 are provided. **CAPACITANCE RANGES**—For convenience in reading capacitances of electrolytic capacitors and the larger paper capacitors three capacitance ranges of .1/4, 1/40, and 10/400 microfarads are provided. **RESISTANCE RANGES**—A total of 5 ranges, 0/2000/20M/200M, 2 megohms, 20 megohms provide facilities for reading most any resistor found in electronic equipment.

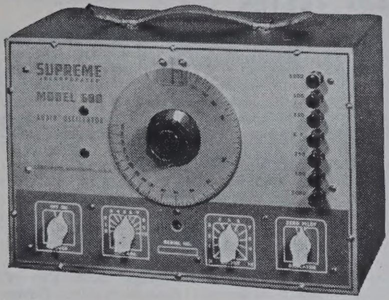
CARRYING CASE—Sturdy metal carrying case finished in Blue Hammerloid—Panel beautiful satin aluminum and blue with maroon trim. **NOTE:** Test Leads furnished with this instrument.

Size: 11¾″ x 8½″ x 4¾″. **Shipping Weight:** 16 pounds

Dealer Net Cash Price.. **$46.50**

SUPREME INSTRUMENTS
Supreme by Comparison

MODEL 680 AUDIO GENERATOR


SUPREME
MODEL 680
AUDIO OSCILLATOR

The Model 680 continuously variable audio oscillator is SUPREME'S answer to a multitude of requests from the radio servicemen and members of the various sound and acoustical industries for a practical Audio Oscillator. This Beat Frequency Oscillator meets the most exact requirements for the average radio service shop, manufacturers of radios, public address, motion picture sound industry, and other audio apparatus and acoustical material, educational and research laboratories, maintenance and design engineers.

DESCRIPTION AND SPECIFICATIONS: **FREQUENCY RANGE** — 15 cycles to 15,000 cycles. Dial calibration spread over a 12-inch arc covering 280 degrees. Large 6-inch metal dial with laboratory type tuning knob. **OUTPUT IMPEDANCES**—250/500/5,000 ohms. Each impedance center-tapped for push-pull and other balanced input systems. **ATTENUATOR**—Output continuously variable from minimum to maximum. Linear marks around attenuator for reference settings. **OUTPUT VOLTAGE**—Open circuit approximately 65 RMS volts at 5,000 ohms section. Properly loaded, this section produces 50 volts total or 25 volts either side of center tap. 250-ohm section and 500-ohm section voltages are approximately 9 to 14 respectively. **WAVE FORM**—Sinusoidal type wave form with harmonic distortion at least 30 db below fundamental at 5,000 cycles and at least 25 db below fundamental at 50 cycles. Total distortion approximately 5%. Hum from power supply negligible with output control set at maximum. **FREQUENCY RESPONSE**—Output virtually flat over frequency range. Plus or minus 1 db from 30 cycles to 10,000 cycles. 2 db down at 30 and 15,000 cycles. **SIMPLE OPERATION**—All controls logically arranged for speed and simplicity of operation. Neon lamp for zero adjustment. **STABILITY**—Special shielding and highly impregnated inductors provided for minimum drift during warm-up period and normal operation. **PROFESSIONAL APPEARANCE**—Housed in Hammerloid finish steel case. Leather carrying handle. **POWER SUPPLY**—110-125 volts 50/60 cycles. Special frequencies and voltages upon request. **NOTE:** Test Leads furnished with this instrument. **SIZE**—13¼" x 9" x 6 7/16". **SHIPPING WEIGHT**—21 pounds.

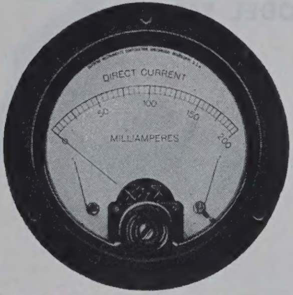
Dealer Net Cash Price.. **$82.95**

SUPREME PANEL METERS

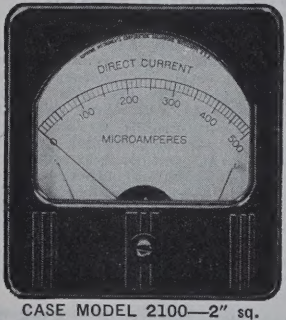
FEATURING A NEW DESIGN FOR GREATER EFFICIENCY!

ALNICO BAR MAGNET AND SOFT SINTERED POLE PIECES

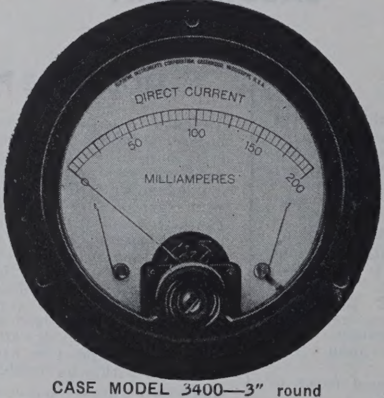
DOUBLE BRIDGE CONSTRUCTION—SIMPLE RUGGED ASSEMBLY


DIRECT CURRENT
50
100
150
200
MILLIAMPERES

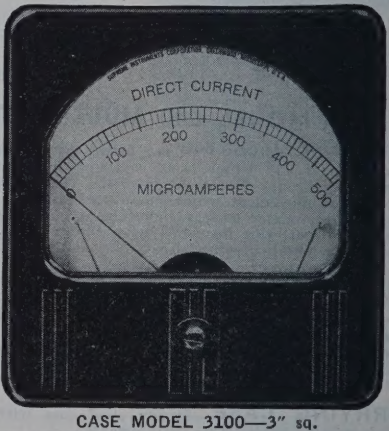
CASE MODEL 2400—2" round


DIRECT CURRENT
100
200
300
400
500
MICROAMPERES

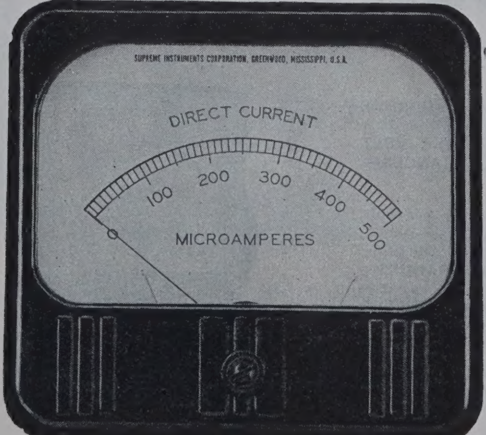
CASE MODEL 2100—2" sq.


DIRECT CURRENT
50
100
150
200
MILLIAMPERES

CASE MODEL 3400—3" round


DIRECT CURRENT
100
200
300
400
500
MICROAMPERES

CASE MODEL 3100—3" sq.


SUPREME INSTRUMENTS CORPORATION, GREENWOOD, MISSISSIPPI, U.S.A.
DIRECT CURRENT
100
200
300
400
500
MICROAMPERES

CASE MODEL 4100—4" sq.

"HAIRLINE" ACCURACY ASSURED BY:

(1) Efficient Alnico Bar Magnet.

(2) Double Bridge Construction.

(3) Selected Pivots and Jewels.

(4) Strong, Tough Pointer.

(5) Simple rugged assembly insures permanent alignment.

(6) High torque movement reduces friction.

For More Complete Information Write for the Supreme Meter Catalog.

SUPREME INCORPORATED
Greenwood, Mississippi, U. S. A.

SIMPSON ELECTRIC CO.

Simpson

INSTRUMENTS THAT STAY ACCURATE

MODEL 260

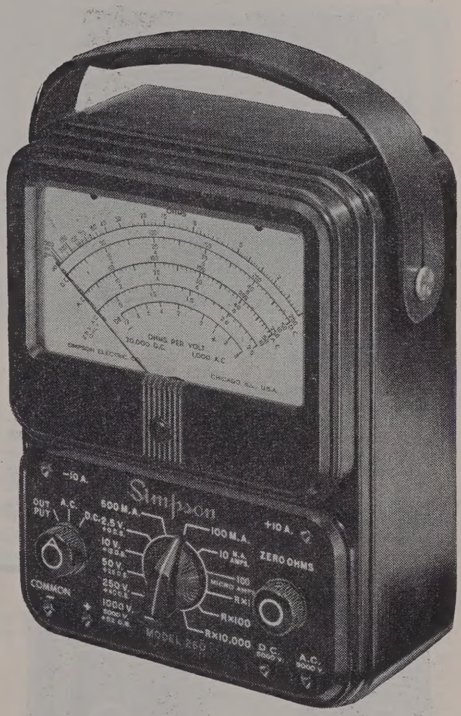
Set Tester

World's Most Popular High Sensitivity Set Tester For Radio and TELEVISION

There are more Simpson 260 high sensitivity volt-ohm-milliammeters in use today than all others combined. No other instrument of its kind has approached the world-wide popularity of the Simpson 260. In no other tester of its kind will you find the combination of useful ranges, accuracy, ruggedness, beauty and sensitivity developed to such a high degree of perfection.

Removal of the Model 260 from its heavy, handsome case of molded bakelite, will disclose how it differs from most set testers. You will see a sub-panel with a score of small recesses each holding a separate resistor or other component. You will notice complete absence of cable wiring. All connections are short and direct, thus offering a strength and firmness of assembly and the finest of insulation to reduce chances of shorts. All components are readily accessible. The front panel is a thing of beauty and long life. Pin jacks are recessed so no metal parts are exposed. All figures and symbols are molded into a heavy Bakelite panel and filled with durable white for long wear and legibility.

At 20,000 ohms per volt the 260 is highly dependable, rugged and accurate. Its practically negligible current consumption assures remarkably accurate voltage readings. It provides DC current readings as low as 2 microamperes and up to 10 amperes. Dependable resistance readings can be made up to 20 megohms and as low as 1/5 ohm. With the 260 you can measure automatic frequency control diode balancing circuits, grid currents of oscillator tubes and power tubes, bias of power detectors, automatic volume control diode currents, high-mu triode plate voltage, as well as a wide range of other measurements which cannot be checked with ordinary servicing instruments.



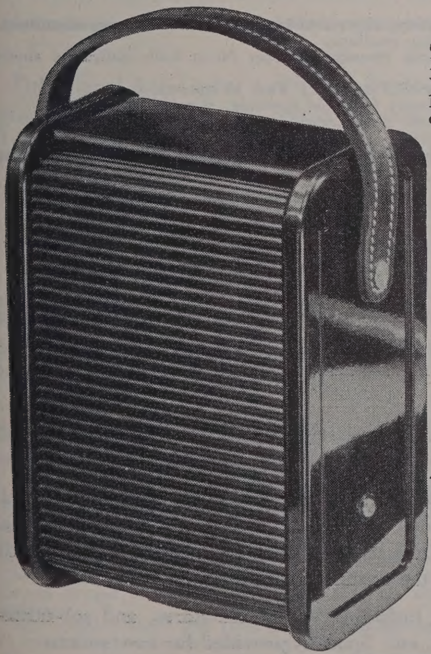
RANGES

Model 260 Volt-Ohm-Milliammeter
20,000 Ohms per Volt DC, 1,000 Ohms per Volt AC
Volts, AC and DC: 2.5, 10, 50, 250, 1000, 5000
Output: 2.5, 10, 50, 250, 1000
Milliamperes, DC: 10, 100, 500
Microamperes, DC: 100
Amperes, DC: 10
Decibels (5 ranges): —12 to +55 DB.
Ohms: 0-2000 (12 ohms center),
0-200,000 (1200 ohms center),
0-20 megohms (120,000 ohms center).

25,000 VOLT DC PROBE FOR TELEVISION TESTING

Complete, nothing to add, for use with Model 260. Weight: 6 oz. Shipping weight: 8 oz.

DEALER'S NET PRICE,
complete with Instructions................$12.85



DEALER'S NET PRICES

Model 260, complete with test leads and Operator's Manual (Size: 5¼"x7"x3⅛". Weight: 3½ lbs. Shipping Wt.: 5 lbs.)	$38.95
Leather Carrying Case	8.00
Model 260 in Roll Top Safety Case, complete with test leads and Operator's Manual (Size: 5⅜"x9"x4¾". Weight: 6½ lbs. Shipping Wt.: 9 lbs.)	45.95

Model 260 available in standard all black or two tone tan and brown, at above prices. Specify color desired.

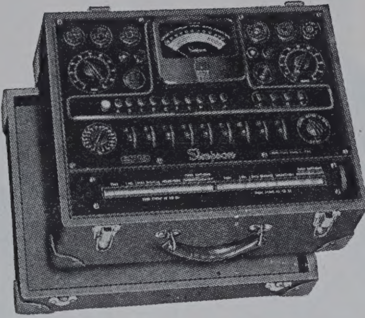
MODEL 260 SET TESTER IN ROLL TOP SAFETY CASE

The Model 260, when placed inside our patented housing of heavy molded bakelite and permanently fastened in position, offers the highest degree of efficient, economical instrument protection. Now you can buy the famous 260 complete in this roll top safety carrying case with its built-in lead compartment at less than the price of a 260 and a leather carrying case. A flick of the finger rolls the top up and the instrument is ready to use. A downward flick rolls the top down and your instrument is fully protected.

★ Simpson

SIMPSON ELECTRIC CO.
CHICAGO, ILLINOIS

INSTRUMENTS THAT STAY ACCURATE



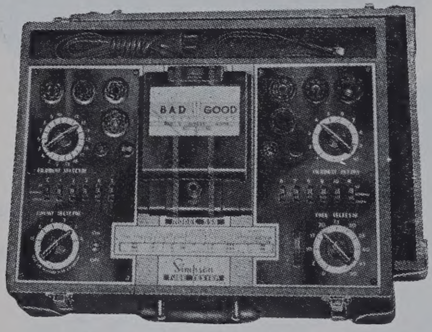
For 105-125 volts, 50-60 cycles.
Size: 16"x12½"x6¾", Weight: 22 lbs.
Shipping Weight: 27 lbs.
Roll Chart Portable, DEALER'S NET PRICE, complete with Operator's Manual........................$145.75
Roll Chart Counter, DEALER'S NET PRICE, complete with Operator's Manual........................$149.85
Portable Model available as per your request in these color combinations: Black panel with black leatherette case. Gray panel with maroon leatherette case. Tan and brown panel with brown leatherette case. Counter model also available in above color combinations, but with natural finish wood case.
Color optional at above prices.

MODEL 330 Mutual Conductance Tube Tester

With Simpson Patented "No Backlash" Roll Chart

The Simpson Model 330 tests tubes in terms of PERCENTAGE of rated DYNAMIC MUTUAL CONDUCTANCE, a direct indication of tube performance with reference to the manufacturer's STANDARD MICRO-MHO rating. The colored zones on the dial coincide with the percentage scale to indicate good, fair, weak or definitely bad tubes. Tubes are tested at audio frequency (2500 cycles) with voltages applied automatically over the entire operating range, reproducing more completely than ever before the actual conditions, under which a tube normally functions. A compact assembly of ten push button switches and nine rotary switches of six positions each provide infinite combinations for tube circuit selection.

When you have finished a tube test, the Simpson one button automatic reset returns all switches to the normal position.



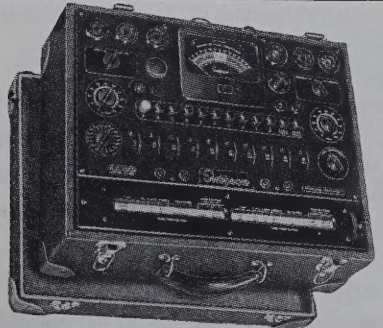
For 100-130 volts, 50-60 cycles.
Size: 16¾"x12½"x6", Weight: 14 lbs.
Shipping Weight: 19 lbs.
DEALER'S NET PRICE, complete with Operator's Manual $79.50

MODEL 555 Tube Tester

Here is a tube tester Simpson engineered to test all tubes for today's radio receivers and any that may be developed within the foreseeable future. It is outstanding in its simplicity of operation and its attractive appearance.

Check These Many Features

- Basic RMA recommended circuit. Tests any tube regardless of base connections or internal connections of elements.
- Simpson designed 3-position lever operated toggle switches with molded rotor carrying silver plated contacts, self-cleaning through wiping action.
- Sockets for all receiving tubes on the market.
- Provision for future tube developments.
- No adapters or special sockets required.
- Properly fused, provides for line adjustment from 100 to 130 volts; smooth vernier control.
- Beautiful modern panel of shining, silver and black anodized enduring aluminum.
- Large illuminated meter for easy readings.
- Unique jewel-like molded lucite housing encloses Neon bulb indicating shorts and inter-element leakages.
- Line adjustment control below dial opening. Easy to operate.
- Case of sturdy plywood with heavy fabricoid covering, slip hinges.
- Simpson Patented "No Backlash" Roll Chart.



For 105-125 volts, 50-60 cycle.
Size: 16"x12½"x6¾". Weight: 17½ lbs.
Shipping Weight: 27 lbs.
DEALER'S NET PRICE, complete with Operator's Manual $108.50
Available as per your request in these color combinations: Black panel with black leatherette case. Gray panel with maroon leatherette case. Tan and brown panel with brown leatherette case. Color optional at above price.

MODEL 335 Plate Conductance Tube Tester

With Simpson Patented "No Backlash" Roll Chart

Model 335 tests tubes under conditions simulating actual use in a radio set. The dial indicates percentage of rated plate conductance. With a minimum of settings a reading is quickly obtained which is a percentage of the tube's rated value.

Regardless of tube load, filament voltages are automatically maintained with minimum variation.

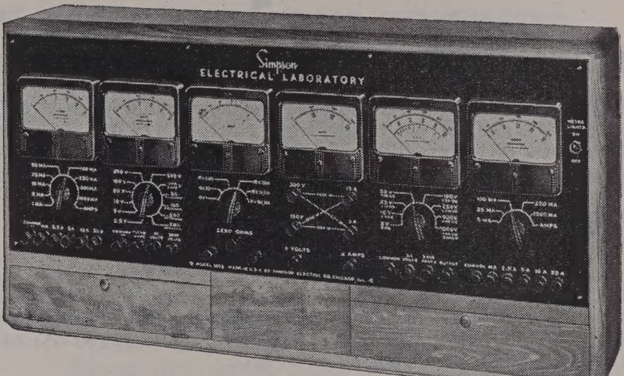
Each tube element is individually connected to the proper potential. Reliable short test is provided and Diodes are tested on low voltage. When you have finished a tube test, the Simpson one button automatic reset returns all switches to the normal position.

Tests all receiving tubes, including 9 pin miniatures, and sub-miniatures as used in hearing-aids, etc. Space is provided for new sockets.

Simpson

INSTRUMENTS THAT STAY ACCURATE

SIMPSON MODEL 1005 ELECTRICAL LABORATORY



All the functions of over 60 separate instruments combined in one unit. Here is a complete test unit for use by radio, electronic, and electrical technicians in laboratories, shops, and service departments.

The Electrical Laboratory is adaptable for testing all electrical appliances, small motors, circuits, radio sets, etc. All of the instruments are indirectly illuminated, and all lights are controlled by one switch located at the right side of the panel. The panel is of lustrous, long-wearing anodized aluminum. Cabinet is natural finish birch, sturdily constructed. Two compartments for accessories and instructions, with hinged doors, are located at the base of the cabinet. All connections are made to binding posts located on the panel. Test leads and Break-in plug are furnished.

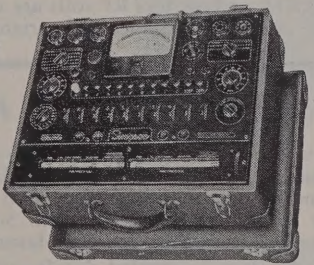
RANGES OF MODEL 1005

Meter No. 1 (D.C. Milliammeter and Ammeter)	Meter No. 2 (D.C. Microammeter and Voltmeter)	Meter No. 3 (Ohmmeter)	Meter No. 4 (Wattmeter)	Meter No. 5 (A.C. Voltmeter, Output and DB meter)	Meter No. 6 (A.C. Milliammeter and Ammeter)
0-1 MA. D.C.	0-2.5 Volts D.C.	0-500 Ohms (5 ohms center)	0-300 Watts A.C.	0-5 Volts A.C.	0-5 MA. A.C.
0-5 MA. D.C.	0-5 Volts D.C.	0-5000 Ohms (50 ohms center)	0-600 Watts A.C.	0-10 Volts A.C.	0-25 MA. A.C.
0-10 MA. D.C.	0-10 Volts D.C.	0-50,000 Ohms (500 ohms center)	0-1500 Watts A.C.	0-25 Volts A.C.	0-100 MA. A.C.
0-25 MA. D.C.	0-50 Volts D.C.	0-500,000 Ohms (5,000 ohms center)	0-3000 Watts A.C.	0-50 Volts A.C.	0-250 MA. A.C.
0-50 MA. D.C.	0-100 Volts D.C.	0-5 Megohms (50,000 ohms center)		0-100 Volts A.C.	0-1000 MA. A.C.
0-100 MA. D.C.	0-250 Volts D.C.	0-50 Megohms (500,000 ohms center)		0-250 Volts A.C.	0-2.5 Amps A.C.
0-250 MA. D.C.	0-500 Volts D.C.			0-500 Volts A.C.	0-5 Amps A.C.
0-500 MA. D.C.	0-1000 Volts D.C.			0-1000 Volts A.C.	0-10 Amps A.C.
0-1000 MA. D.C.	0-5000 Volts D.C.			0-5000 Volts A.C.	0-25 Amps A.C.
0-2.5 Amps D.C.	(20,000 ohms per volt)			Rectifier type 1000 ohms per volt	
0-5 Amps D.C.	0-50 Microamps			DB Ranges —10 to +55	
0-10 Amps D.C.	0-100 Microamps			output ranges same as volts except 5000 Volt Range	
0-25 Amps D.C.	0-250 Microamps				
	0-500 Microamps				

Size 33-9/16″ x 16-13/16″ x 9″. Weight: 37 lbs. Shipping Weight: 54 lbs. Dealer's Net Price, complete with Leads and Break-in Plug and Operating Instructions $218.00

SIMPSON MODEL 445

Tube and Set Tester with the famous Simpson "No Backlash" Roll Chart



Model 445 combines a 20,000 ohms per volt Set Tester and a Plate Conductance Tube Tester. The tube tester dial indicates percentage of rated plate conductance which can also be considered as a percentage of mutual conductance since, in most cases, the amplification factor remains constant. Tests the new 9-pin miniature tubes and sub-miniature tubes.

The volt-ohm-milliammeter set tester provides the ranges that have made the Simpson Model 260 the most famous set tester in the world.

RANGES

Volts (20,000 ohms per volt D.C., 1000 ohms per volt A.C.): 0-2.5, 10, 50, 250, 1000, 5000.
Milliamperes (D.C.): 0-10, 100, 500.
Microamperes (D.C.): 0-100.
Output (A.C.) volts: 2.5, 10, 50, 250, 1000.
Ohms: 0-2000 (12 ohms center)
0-200,000 (1200 ohms center)
0-20 megohms (120,000 ohms center).

Size: 16″x12½″x6¾″. Weight: 20 lbs. Shipping Weight: 26 lbs.
DEALER'S NET PRICE, complete with Test Leads and Operator's Manual $137.50
Available as per your request in these color combinations: Color optional at above price.
Black panel with black leatherette case.
Gray panel with maroon leatherette case.
Tan and brown panel with brown leatherette case.

HIGH VOLTAGE PROBE FOR TELEVISION SERVICING AVAILABLE

25,000 volts DC — 20,000 ohms per volt.

Weight: 6 oz. Shipping Weight: 8 oz.

DEALER'S NET PRICE, complete with Instructions........ $12.85

THE SIMPSON PATENTED "NO BACKLASH" ROLL CHART

The exclusive "No-Backlash" feature automatically takes up the slack in the paper chart and, by keeping the chart in constant tension, makes it impossible to turn the selector wheel without moving the chart. This results in precision selection at all times. The "No-Backlash" feature also prevents the paper chart from tearing, insures proper alignment, and presents at all times a neat, flat surface.

The selector wheel gear ratio makes it possible for tube selections to be obtained with a minimum of effort.

The entire Roll Chart mechanism is securely fastened to the instrument panel. Quick access to the roll chart can be obtained by removing four panel screws, so that the addition of tube data or the mounting of a new chart is a matter of a few minutes.

In addition to the neat, flat reading surface made possible by the "No-Backlash" feature, the lucite window was designed so that only two settings appear, which is especially convenient for the settings of multi-purpose tubes.

★ Simpson

SIMPSON ELECTRIC CO.
CHICAGO, ILLINOIS

INSTRUMENTS THAT STAY ACCURATE

MODEL 415A WITH BUILT-IN SWEEP CIRCUIT

The AM bands cover the complete frequency range from 75 KC to 130 MC and the FM bands, from 2 MC to 115 MC. A wide sweep of 1 MC is provided, which is more than adequate for FM alignment. A synchronization potential for locking in the scope trace is available. When used with an oscilloscope, the Model 415A is the correct answer to FM servicing.

Simpson
SIGNAL GENERATOR
FREQUENCY MODULATED
AMPLITUDE MODULATED

For 105-130 volts, 50-60 cycle.
Size: 5⅜"x11⅜"x15⅛". Weight: 18½ lbs.
Shipping Weight: 25 lbs.

DEALER'S NET PRICE, complete with Operator's Manual $145.00

Note These Many Features

1. Direct reading dial with continuous coverage from 75 Kilocycles to 130 Megacycles in the following ranges: 75-200; 200-600; 550-1800 Kilocycles and 1.7-4.2; 5-16.51; 16-32; 31-65; 62-130 Megacycles. Fundamental to 65 MC.
2. Practically independent of line voltage fluctuation. Calibration is stable regardless of wide variations in line voltage.
3. RF output is controlled through its entire range, eliminating the necessity of a separate connection for high uncontrolled output as found in other signal generators.
4. Modulation from 0 to 100%, using either the 400 cycle internal sine wave or an external source. A range from 0 to over 9 volts of 400 cycle sine wave is available for external use.
5. Modulation up to 100% from below 60 cycles per second to over 10 Kilocycles per second.
6. Each Signal Generator is individually calibrated against a crystal controlled frequency standard.

PANEL — Lustrous black anodized aluminum. Dial is encased in a molded bakelite escutcheon with glass covering for protection against damage and dirt. Functional switches and controls are mounted on engraved molded bakelite panels.

CASE — Steel, copper plated for shielding effect and finished in gray durable wrinkled enamel. Leather carrying handle.

SHIELDING — In addition to the overall shielding offered by the case and panel, the coils and tuning condenser are individually shielded, and an additional shield is placed over these two assemblies. This series of shields together with other factors reduce leakage to an absolute minimum.

COILS — Low loss RF coils are individually calibrated by means of variable inductance and variable minimum capacitance. These adjustments provide the means for greatest possible accuracy in calibration.

BAND SELECTOR — The rotating turret coil assembly permits the use of the shortest possible wiring, resulting in minimum circuit capacitance and permits quick selection of any frequency range.

CONDENSER — A two section tuning condenser using either one section or the other provides for ideal inductance to capacity ratio on all bands. Smooth vernier tuning permits accurate adjustment of the selected frequency.

MODEL 340 SIGNAL GENERATOR

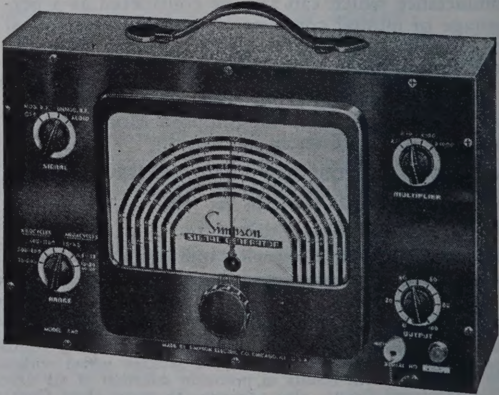
75 Kilocycles to 120 Megacycles—fundamentals to 30 Megacycles. From its lustrous black anodized panel to the big nine-inch dial and knife edge pointer that mean easy readability, the Model 340 is an instrument packed with Simpson engineering refinements for greatest utility and long-lasting accuracy.

An electron coupled circuit, using three tubes—full wave rectifier, modulator, and oscillator — and standard 30% modulation at 400 cycles, assures extreme stability and output uniformity. Close settings are permitted by a smooth vernier control.

RF coils provide range of 75-220; 200-600; 550-1700 KC; and 1.5-4.5, 4.2-14; 9-30; 36-120 megacycles. Fundamentals range to 30 MC, and the dial is direct reading to 120 MC.

Shielding in the Model 340 is complete; coils, attenuator, and signal selector being individually shielded. The oscillator and modulator are sealed in a rigidly welded, entirely closed chassis. In addition, the line cord is shielded, thus reducing leakage to a negligible point.

The signal output is controlled through a step attenuator and non-inductive potentiometer, providing smooth and complete control of the signal output. A special jack is provided in the Model 340 to obtain high output on the 120 MC band.



For 105-130 volts, 50-60 cycles.
Size: 16"x10"x6". Weight: 15¼ lbs.
Shipping Weight: 20 lbs.

DEALER'S NET PRICE, complete with Operator's Manual $76.85

Simpson

INSTRUMENTS THAT STAY ACCURATE

MODEL 266 VACUUM TUBE VOLTMETER

Ideal for TV — AM — FM

Simpson
VACUUM TUBE VOLTMETER
MODEL 266

Extremely accurate and packed full of important features. This fine Simpson instrument offers a 1 volt range for the full scale deflection necessary in measuring low RF voltages; a zero center switch embracing all DC voltage ranges for discriminator circuit alignment; a special probe with low input capacitance of approximately 4 micro-microfarads for checking RF voltages.

DC volt input resistance ranges from 50 to 200 megohms; AC volt input impedance at 60 cycles is approximately 10 megohms. The primary of the power transformer is well-regulated—holding close control over filament as well as plate voltage, and the DC input circuit is filtered so that the pressure of superimposed alternating currents does not affect DC measurements.

Housed in a sturdy case of attractive hardwood. The shining silver and black anodized aluminum panel includes a convenient well for holding the AC probe. In addition, there is a large, clearly marked 4½" meter for quick, easy readings, and a compartment in the rear of the case for leads.

25,000 Volt DC Probe for Television Testing

Complete, nothing to add, for use with Model 266
Weight: 6 oz. Shipping Weight: 8 oz.
DEALER'S NET PRICE, complete with Instructions................$14.85

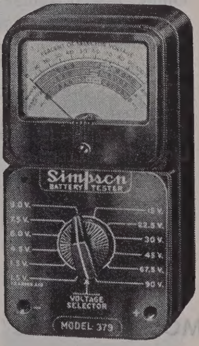
RANGES

Volts: (AC and DC) 0-1, 5, 10, 50, 100, 250, 500, 1000, 5000
Milliamperes, DC: 0-1, 5, 10, 50, 100, 250, 500
Amperes DC: 0-10
Ohms: 0-1000 (10 ohms center)

0-10,000 (100 ohms center)
0-100,000 (1000 ohms center)
0-1 megohm (10,000 ohms center)
0-10 megohms (100,000 ohms center)
0-100 megohms (1 megohm center)
0-1000 megohms (10 megohms center)

For 105-125 volts, 50-60 cycle.
Size: 8½"x9½"x8". Weight: 10¼ lbs.
Shipping Weight: 14 lbs.
DEALER'S NET PRICE, complete with Leads, AC Probe and Operator's Manual..$114.00

MODEL 379 BATTERY TESTER



Designed in accordance with the engineering specifications of leading battery manufacturers, this compact instrument is so ruggedly built that it will stand a lifetime of hard usage. The loading resistors have an accuracy of 1% and properly load all radio and hearing aid A and B batteries.

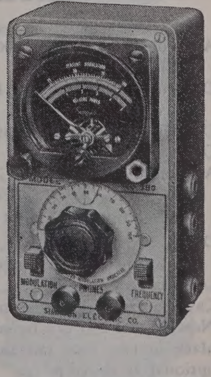
A single rotary switch selects the voltage of the battery under test and brings into line the correct loading resistor. The full 3" dial has three separate arcs, one for all radio A batteries, one for hearing aid A batteries, and one for all B batteries.

A percentage scale shows the exact condition of the battery in percentage of full voltage. The voltage reading can be quickly obtained by multiplying the percentage reading by the selector-switch voltage setting.

Size: 3"x5⅞"x2½". Weight 1¼ lbs. Shipping Wt. 3 lbs.
DEALER'S NET PRICE, including Test Leads and Operator's Manual $21.50
Leatherette covered Carrying Case, with compartment for leads.............. 5.00
Case colors available as per your request. Now Model 379 can be supplied in either black or two tone tan and brown. Color optional at above price.

MODEL 380 WAVEMETER MODULATION INDICATOR

The ideal instrument for the Ham.



1. An accurate band-spread wavemeter, and a sensitive 0-100 microammeter as a resonance indicator.
2. Separate plug-in coils for 10, 20, 40 and 80 meter bands supplied — coils for other bands available at slight extra cost.
3. Additional between-band coverage available at the flip of a switch.
4. Extremely sensitive field strength indicator.
5. Push button switch for dual meter sensitivity.
6. Provision for headphones for use in station monitoring and quality control.
7. A direct-reading Percentage Modulation Indicator with the instrument calibrated at 0-110% Modulation.
8. Designed to function on the 144, 235, and 420 megacycle bands without coils, but with a quarter wave antenna section.
9. Extremely rugged construction.
10. Used as a field strength indicator to determine radiation pattern.

Size: 3"x5⅞"x2½". Weight: 2 lbs. Shipping Weight: 4 lbs.
DEALER'S NET PRICE, complete with 4 coils, 2 ft. antenna, and Operator's Manual..................$37.85
Leatherette covered carrying case, with separate compartments for the instrument and 4 coils........ 8.00

★ Simpson

INSTRUMENTS THAT STAY ACCURATE

MODELS 240 and 230 VOLT-OHM-MILLIAMMETERS

These two "Micro-Tester" portables are famous throughout the world for their ruggedness and built-in accuracy. They exemplify the construction features and utility that distinguish the entire Simpson line shown in this section.

Both are shock-proof and incorporate the celebrated Simpson movement with its FULL BRIDGE-TYPE CONSTRUCTION AND SOFT IRON POLE PIECES. Resistors are in matched pairs to provide the greatest possible accuracy for all ranges.

Model 240 — the "Hammeter" — was designed for the additional voltage and sensitivity demanded in radio testing. With its maximum voltage range of 3000 AC or DC, it was the first self-contained pocket portable instrument built expressly to check high voltage and all the component parts of transmitters and receivers.

Model 230, with a maximum voltage of 1000 volts AC or DC, is ideal for most industrial testing. Its ranges are adequate for most line voltages, for telephone, teletype, and general purpose testing.

Both models are housed in heavily molded bakelite cases, with all numbers and symbols recessed in the panel and filled with white enamel for greatest legibility and ease of reading. Both have full size 3" meters.

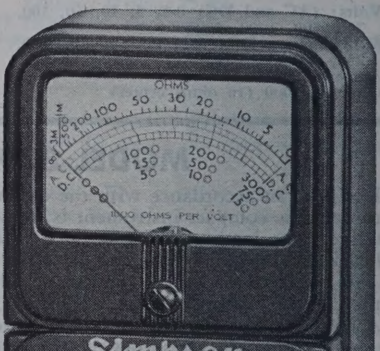
MODEL 240 AC and DC VOLT-OHM-MILLIAMMETER

RANGES

AC Volts: 0-15, 150, 750, 3000 (1000 ohms per volt)
DC Volts: 0-15, 75, 300, 750, 3000 (1000 ohms per volt)
DC Milliamperes: 0-15, 150, 750
Ohms: 0-3000 (center scale 30)
0-300,000 (center scale 3000)
Accuracy: DC 3% — AC 5%
Size: 3"x5⅞"x2½". Weight: 1¼ lbs. Shipping Weight: 2½ lbs.

DEALER'S NET PRICE, complete with Leads and Printed Instructions	$24.60
Leatherette Case	5.00

Case colors available as per your request. Now Model 240 can be supplied in either black or two tone tan and brown. Color optional at above price.


OHMS
1000 OHMS PER VOLT
Simpson
VOLTS M.A. OHMS
3000 V.
VOLTS M.A. 3000V.
ZERO OHMS
OHMS
R.
R×100
15 V.D.C.
75 V.D.C.
300 V.D.C.
750 V.D.C. 3000V.D.C.
15 M.A.
150 M.A.
750 M.A.
15 V.A.C.
150 V.A.C.
750 V.A.C. 3000 V.A.C.
MODEL 240

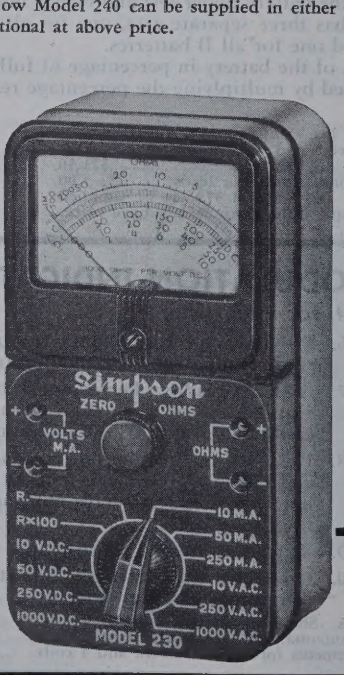
MODEL 230 AC and DC VOLT-OHM-MILLIAMMETER

RANGES

AC Volts: 0-10, 250, 1000 (400 ohms per volt)
DC Volts: 0-10, 50, 250, 1000 (1000 ohms per volt)
DC Milliamperes: 0-10, 50, 250
Ohms: 0-1000, 0-100,000
Accuracy: DC 3% — AC 5%
Size: 3"x5⅞"x2½". Weight: 1¼ lbs.
Shipping Weight: 3 lbs.

DEALER'S NET PRICE, complete with Leads and Printed Instructions	$23.40
Leatherette Case	5.00

Case colors available as per your request. Now Model 230 can be supplied in either black or two tone tan and brown. Color optional at above price.


Simpson
ZERO OHMS
VOLTS M.A.
OHMS
R.
R×100
10 V.D.C.
50 V.D.C.
250 V.D.C.
1000 V.D.C.
10 M.A.
50 M.A.
250 M.A.
10 V.A.C.
250 V.A.C.
1000 V.A.C.
MODEL 230

★ Simpson

SIMPSON ELECTRIC CO.

INSTRUMENTS THAT STAY ACCURATE

MODEL 370 AC AMMETER

(With self-contained current transformer)
(For use on 60 cycles)

In the Model 370, a current transformer and indicating instrument have been combined in one small case to meet the consistent demand for a small multiple range AC ammeter, at a price that you can afford. Its many uses include the measurement of current drawn by all types of electric appliances and motors, heating elements, lamps, radio sets, etc.

Size: 3"x5⅞"x2½". Weight 1½ lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE	$18.50
Test Leads with Prods	$1.25 extra
Test Leads with Alligator Clips and Insulated Sleeves	1.25 extra

Case colors available as per your request. Now Model 370 can be supplied in either black or two tone tan and brown. Color optional at above price.

RANGES

0-1, 0-2.5, 0-5, 0-10, 0-25 Amps.

AMPERES
Simpson
2.5
5
1
10
25
MODEL 370

MODEL 371 AC VOLTMETER

This instrument is a "must" for the industrial service kit or the lineman. Designed primarily for testing line voltages applied to motors, heating equipment or other industrial installations, the ranges are such that many additional applications will suggest themselves.

Size: 3"x5⅞"x2½". Weight: 1¼ lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE	$16.75
Test Leads with Prods	$1.25 extra
Test Leads with Alligator Clips and Insulated Sleeves	1.25 extra

Case colors available as per your request. Now Model 371 can be supplied in either black or two tone tan and brown. Color optional at above price.

RANGES

0-150, 0-300, 0-600 volts

VOLTS
Simpson
150
300
600
MODEL 371

MODEL 372 OHMMETER

A complete instrument with self-contained batteries. Has a wide range from .2 ohms to 50 megohms. "Ohms" adjuster compensates for variations in battery voltages. Wire wound and matched metallized resistors are used throughout. The basic movement has a sensitivity of 85 microamperes.

Size: 3"x5⅞"x2½". Weight: 1½ lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE, complete with Test Leads	$23.20

Case colors available as per your request. Now Model 372 can be supplied in either black or two tone tan and brown. Color optional at above price.

RANGES

0-500 ohms (5 ohms center)
0-5000 ohms (50 ohms center)
0-50,000 (500 ohms center)
0-500,000 (5000 ohms center)
0-5 Meg. (50,000 ohms center)
0-50 Meg. (500,000 ohms center)

OHMS
Simpson
ZERO OHMS
RX100
RX10
RX1
RX1000
RX10K
RX100K
MODEL 372

MODEL 373 DC MILLIAMMETER

The Model 373 provides for DC current measurements from .02 to 1000 MA. This tester is ideal for radio servicing and experimental work; checking burglar alarm circuits, railroad signal systems, telephone work, etc.

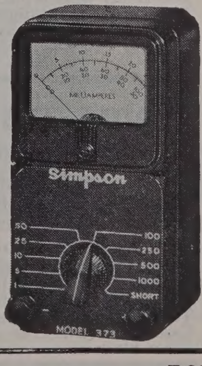
Size: 3"x5⅞"x2½". Weight 1¼ lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE	$18.25
Test Leads with Prods	$1.25 extra
Test Leads with Alligator Clips and Insulated Sleeves	1.25 extra

Case colors available as per your request. Now Model 373 can be supplied in either black or two tone tan and brown. Color optional at above price.

RANGES

0-1, 5, 10, 25, 50, 100, 250, 0-1000 MA.



★ Simpson

INSTRUMENTS THAT STAY ACCURATE

MODEL 374 DC MICROAMMETER

Incorporates a basic movement of 50 microamperes sensitivity with self-contained shunts for all other ranges. This tester can be used with external resistors or multipliers as a high sensitivity voltmeter at 20,000 ohms per volt. It is of particular value in photoelectric cell and other experimental work. The meter may be shorted out of the circuit by setting the selector knob to "short" position.

Size: 3"x5⅞"x2½". Weight 1½ lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE	$20.90
Test Leads with Prods	$1.25 extra
Test Leads with Alligator Clips and Insulated Sleeves	1.25 extra

Case colors available as per your request. Now Model 374 can be supplied in either black or two tone tan and brown. Color optional at above price.

RANGES

0-50, 100, 250, 500, 1000
Microamperes

Simpson
MODEL 374

MODEL 375 DC AMMETER

(Self-Contained)

A new multi-range instrument which is extremely useful in testing the current in DC circuits. Provides a complete range from a fraction of an ampere to 25 amperes without the necessity of using auxiliary external shunts. Excellent for checking auto radios and experimental work in DC circuits.

Size: 3"x5⅞"x2½". Weight: 1½ lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE	$18.70
Test Leads with Prods	$1.25 extra
Test Leads with Alligator Clips and Insulated Sleeves	1.25 extra

Case colors available as per your request. Now Model 375 can be supplied in either black of two tone tan and brown. Color optional at above price.

RANGES

0-1, 2.5, 5, 10, 25
Amperes

Simpson
MODEL 375

MODEL 376 AC VOLTMETER

(Rectifier Type 1000 ohms per volt)

An AC Voltmeter, especially useful in circuits where a limited amount of current is present. Makes an excellent output meter when used with proper condenser. The wide variety of ranges covers both primary and secondary voltage ranges of transformers used in radio sets, toys and appliances.

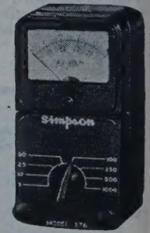
Size: 3"x5⅞"x2½". Weight 1¼ lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE	$18.25
Test Leads with Prods	$1.25 extra
Test Leads with Alligator Clips and Insulated Sleeves	1.25 extra

Case colors available as per your request. Now Model 376 can be supplied in either black or two tone tan and brown. Color optional at above price.

RANGES

0-5, 10, 25, 50, 100, 250,
500, 1000 AC volts



MODEL 377 DC VOLTMETER

(Resistance 1000 ohms per volt)

Measures all dry battery voltage, both A and B, for radio sets, also grid and plate voltage and filament voltage in battery-operated sets. High ranges may be used for checking DC line voltage.

Size: 3"x5⅞"x2½". Weight: 1½ lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE	$18.25
Test Leads with Prods	$1.25 extra
Test Leads with Alligator Clips and Insulated Sleeves	1.25 extra

Case colors available as per your request. Now Model 377 can be supplied in either black or two tone tan and brown. Color optional at above price.

RANGES

0-1, 2.5, 5, 10, 25, 50,
100, 250, 500, 1000
DC Volts

Simpson
MODEL 377

MODEL 378 AC MILLIAMMETER

(With self-contained current transformer)

Here is the instrument that answers your need for a low cost, handy size milliammeter that combines a current transformer and an indicating instrument in one case. It offers five separate ranges, making it suitable for a wide variety of testing jobs.

Size: 3"x5⅞"x2½". Weight: 1½ lbs. Shipping Weight: 3 lbs.

DEALER'S NET PRICE	$20.50
Test Leads with Prods	$1.25 extra
Test Leads with Alligator Clips and Insulated Sleeves	1.25 extra

Case colors available as per your request. Now Model 378 can be supplied in either black or two tone tan and brown. Color optional at above price.

RANGES

0-5, 25, 100, 250,
1000 MA.

Simpson
MODEL 378

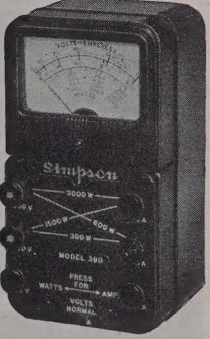
SIMPSON MODEL 390 VOLT-AMP-WATTMETER

Ruggedly constructed for full load, continuous operation, the Simpson Model 390 is the first tester of its size ever made to give you volt, ampere and wattage readings in one compact instrument. It embraces two ranges each of voltage and current, providing four wattage ranges which cover practically all types and makes of appliances. The panel has volt-ampere combinations clearly indexed to the proper wattage range on the scale, which makes the instrument easy to use. All readings are shown on one meter. In normal position, the meter indicates volts. Ampere and watt readings are obtained by depressing button on the panel. The widely separated binding posts make it possible for the Model 390 to be used as an individual voltmeter or as an ammeter. The Model 390 has a molded bakelite case with all figures recessed in the panel, which are filled with white enamel for better legibility.

Size: 3″x5⅞″x2½″. Weight: 1½ lbs. Shipping Weight: 4 lbs.

DEALER'S NET PRICE, complete with Break-in plug, leads and Operator's Manual	$39.50
Leatherette Covered Carrying Case, with compartment for Break-in plug and leads	5.00
Leather case	8.00

Case colors available as per your request. Now Model 390 can be supplied in either black or two tone tan and brown. Color optional at above price.



RANGES

AC Current, 60 cycles
Volts: 0-150, 0-300
Amperes: 0-3, 0-15
Watts: 0-300, 0-600, 0-1500, 0-3000

SIMPSON AC-DC VOLT-WATTMETERS MODELS 391 and 392

Designed for simultaneous reading of volts and watts, each of these handy little testers has two separate 3″ square meters, one for volts and one for watts. Each has a built-in cord and plug for connection to the line outlet, and a receptacle for connecting the appliance under test. The ranges for each meter are selected by separate toggle switches recessed in the molded bakelite case. The low power consumption combined with the high efficiency of these instruments results in negligible loss and error in reading.

Model 391 (3000 watts max.)

Ranges: AC or DC
Volts: 0-130, 0-260
Watts: 0-1500, 0-3000
Size: 3″x5⅞″x2½″. Weight: 1½ lbs.
Shipping Weight: 4 lbs.

DEALER'S NET PRICE, with Operating Instructions	$30.00
Leatherette carrying case	5.00

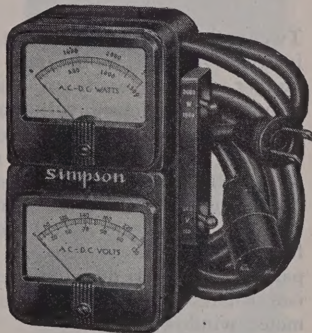
Case colors available as per your request. Now Model 391 can be supplied in either black or two tone tan and brown. Color optional at above price.

Model 392 (5000 watts max.)

Ranges: AC or DC
Volts: 0-130, 0-260
Watts: 0-1000, 0-5000
Size: 3″x5⅞″x2½″. Weight: 1½ lbs.
Shipping Weight: 4 lbs.

DEALER'S NET PRICE, with Operating Instructions	$35.00
Leatherette carrying case	5.00

Case colors available as per your request. Now Model 392 can be supplied in either black or two tone tan and brown. Color optional at above price.



MODEL 385 TEMPERATURE INDICATOR

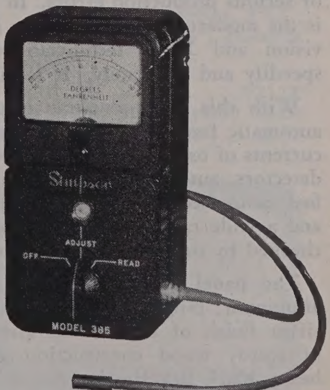
This is the newest addition to the Simpson Appliance Tester line. You will find this a compact instrument which is ideal for measuring temperatures from +70° F to as low as —50° F, where fast accurate temperature readings are important. The scale is designed so that the center portion is expanded, making the most widely used temperatures easy to read. The Model 385 is ideal for use in the refrigeration service field and wherever temperature readings are important, such as deep freeze units, home refrigerators, walk-in coolers and air conditioning units. The temperature readings can be taken at the end of the 15′ lead which is supplied with the unit. The lead cord is small in diameter, making it possible to close the door of the equipment, thus obtaining temperature indications under actual conditions.

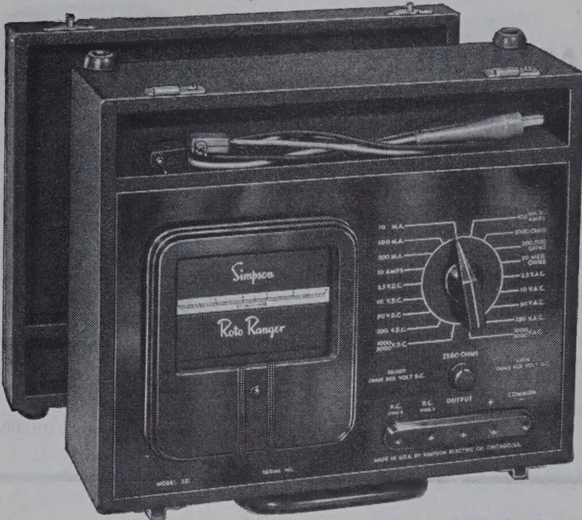
The probe can also be immersed in liquids where critical temperatures must be maintained.

Range: —50° to +70° F.
Battery, self-contained
Size: 3″x5⅞″x2½″. Weight: 1½ lbs.
Shipping Weight: 4 lbs.

DEALER'S NET PRICE, complete with Test Lead and Operating Instructions	$30.00
Leatherette Carrying Case	5.00

Case colors available as per your request. Now Model 385 can be supplied in either black or two tone tan and brown. Color optional at above price.





SIMPSON MODEL 221

ROTO RANGER

(High Sensitivity AC-DC Volt-Ohm-Milliammeter)

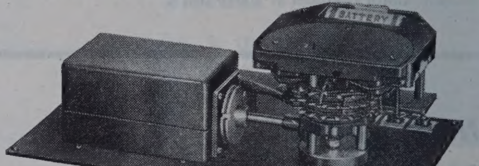
Twenty-five separate meters at the turn of a switch. That is what you get in the new Simpson Model 221 Roto Ranger. The necessity of reading numerous scales, so common in ordinary volt-ohm-milliammeters, is forever eliminated when you own a Roto Ranger. The chances for errors in making readings are reduced to a minimum. The Model 221 provides a separate direct reading scale for each range and does it automatically. Calibrations are not cramped. Each scale is full size, the same as it would be for a separate instrument. As the selector switch on the panel is moved to the range desired, an ingenious mechanism rotates the proper range into position behind the meter window.

The Model 221 has a direct current sensitivity of 20,000 ohms per volt and is ideal for research and experimental work where correct readings, quickly obtained, are essential. It is also ideal for critical industrial applications, where reading errors may result in costly material spoilage or serious production errors. In addition the Roto Ranger is the modern and final answer for the radio, radar, television and X-ray technician who must trouble shoot speedily and accurately. It is Simpson patented.

With this super-sensitive instrument you can measure automatic frequency control diode balancing circuits, grid currents of oscillator tubes and power tubes, bias of power detectors, automatic volume control diode currents, rectified radio frequency current, high-mu triode plate voltage and a wide range of unusual conditions which cannot be checked by ordinary servicing instruments.

The panel is of brilliantly gleaming black anodized aluminum; ranges and other markings are in the shining silver finish of the natural aluminum base. The case is of sturdy wood construction, leatherette covered, with heavy black bakelite handle, and includes a handy compartment for leads. Slip hinges on the cover permit quick removal.

INSIDE THE ROTO RANGER



Your first glance behind the panel of the Roto Ranger will show you an instrument that is radically different. The maze of wires common to most test instruments is gone—replaced by two clean housings. One is a bakelite box containing the drum that holds the range scales and the meter movement, the other the bakelite sub-panel of the meter circuit. Bakelite is used for the drum housing because it provides high insulation qualities for the meter and protection to the fine drum mechanism.

Model 221 has been carefully designed throughout to provide strength and simplicity of assembly, and the consequent accessibility of components. Molded of sturdiest bakelite, it possesses the requisite number of tiny recesses to provide separate pockets for resistors. This separation of resistors means orderly assembly, highest possible accessibility, and added insulation for preventing shorts; all connections are short and direct, eliminating the need for cable wiring. Each battery has a compartment of its own and is easily reached for replacement. These are refinements typical of Simpson manufacture, refinements that have made Simpson instruments finer than any similar instruments on the market.

RANGES

20,000 ohms per volt DC, 1000 ohms per volt AC
Volts, AC: 2.5, 10, 50, 250, 1000, 5000
Volts DC: 2.5 10, 50, 300, 1000, 5000
Milliamperes, DC: 10, 100, 500
Microamperes, DC: 100
Amperes, DC: 10
Output: 2.5, 10, 50, 250, 1000
Ohms: 0-2000 (12 ohms center), 0-200,000 (1200 ohms center), 0-20 megohms (120,000 ohms center)
Size: 12¾"x10⅛"x5⅜". Weight: 9 lbs. Shipping Weight: 13 lbs.
Price, complete with test leads and Operator's Manual........$69.85

HIGH VOLTAGE PROBE AVAILABLE FOR TELEVISION SERVICING

30,000 volts DC — 20,000 ohms per volt
Weight: 6 oz. Shipping Weight: 8 oz.
DEALER'S NET PRICE, complete with Instructions............$12.85

★ Simpson

INSTRUMENTS THAT STAY ACCURATE

TWO-INCH ROUND OR RECTANGULAR INSTRUMENTS

DIRECT CURRENT MILLIAMMETERS

Model 125 (Rd.—Open Face), 126 (Shroud) and 127 (Rectangular)

Range	
0-1	$6.90
0-5	6.90
0-10	6.90
0-15	6.90
0-25	6.90
0-50	6.90
0-100	6.90
0-150	6.90
0-200	6.90
0-250	6.90
0-300	6.90
0-500	6.90
0-1000	6.90

ALTERNATING CURRENT AMMETERS

Model 155 (Rd.—Open Face), 156 (Shroud) and 157 (Rectangular)

Range	
0-1	$6.75
0-3	6.75
0-5	6.75
0-10	6.75

DIRECT CURRENT VOLTMETERS

Model 125 (Rd.—Open Face), 126 (Shroud) and 127 (Rectangular)

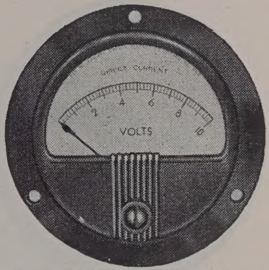
Range	
0-5	$6.90
0-10	6.90
0-15	6.90
0-25	6.90
0-50	$6.90
0-100	6.90
0-150	7.35
0-300	8.55

(Continued in next column)

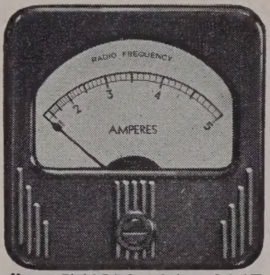
ALTERNATING CURRENT VOLTMETERS

Model 155 (Rd.—Open Face), 156 (Shroud) and 157 (Rectangular)

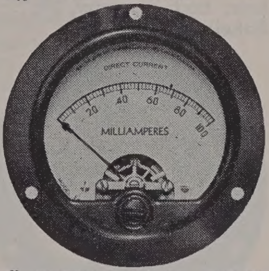
Range	
0-5	$6.75
0-10	6.75
0-15	6.75
0-25	6.75
0-50	6.75
0-100	6.75
0-150	8.40
0-300	9.60
0-500	12.00



2" ROUND CASE—SHROUD STYLE. Flange diameter, 2¾"; depth overall, 2$\frac{5}{16}$"; body diameter, 2$\frac{11}{64}$"; scale length, 1⅞". Bakelite case.



2" RECTANGULAR CASE. 2⅜" square. Mounts in round hole. Body diameter, 2$\frac{3}{16}$". Bakelite case.



2" ROUND CASE—OPEN FACE STYLE. Flange diameter, 2¾"; depth overall, 2$\frac{5}{16}$"; body diameter, 2$\frac{11}{64}$"; scale length, 1⅞". Bakelite case.

WATTMETERS — Electrodynamometer Type

RANGES			2 INCH Model 175 (Rd.—Open Face), 176 (Shroud), and 177 (Rectangular)	3 INCH Model 75 (Rd.—Open Face), 76 (Shroud), and 77 (Rectangular)	4½ INCH Model 79 (Rectangular)
0-75 Watts	150 V—	.75 A	$16.95	$18.00	$23.40
0-150 Watts	150 V—	1.5 A	16.95	18.00	23.40
0-300 Watts	150 V—	3.0 A	16.95	18.00	23.40
0-750 Watts	150 V—	7.5 A	16.95	18.00	23.40
0-600 Watts	300 V—	3.0 A	18.75	19.80	25.20
0-1500 Watts	300 V—	7.5 A	18.75	19.80	25.20
0-3000 Watts	300 V—	15.0 A	18.75	19.80	25.20

RADIO FREQUENCY AMMETERS

(Internal Thermocouple Type)

Model 35—3 inch round case.
Model 36—3 inch shroud case.
Model 37—3 inch rectangular case.

Ranges: 0-1, 0-1.5, 0-2, 0-2.5, 0-3, 0-5, 0-10 Amperes—$9.60

0-15, 0-20 Amperes—$12.00.

Model 135—2 inch round case.
Model 136—2 inch shroud case.
Model 137—2 inch rectangular case.

Ranges: 0-1, 0-1.5, 0-2, 0-3, 0-5, 0-10 Amperes—$8.40.

VU METERS

Two types of scales are available with all VU Meters. Both meet the standards set up by Bell Laboratories. The "A" scale stresses the level in VU and is primarily used in monitoring wire lines. The "B" scale stresses percent use of the transmitter output and is the standard for broadcast service.

VOLUME LEVEL INDICATORS

(Copper Oxide Rectifier Type)

Model 45—3 inch round open face; Model 46—3 inch round shroud case; Model 47—3 inch rectangular case.

DB METERS

Calibrated for use on 500 ohm line. Power 6MW.

General Purpose	45, 46 or 47 −10 to +6DB Meter—Resistance 2500 ohms $13.20 45, 46 or 47 −10 to +6DB Meter—Resistance 5000 ohms $16.50
High Speed	45, 46 or 47 −10 to +6DB Meter—Resistance 5000 ohms $24.00
Low Speed	45, 46 or 47 −10 to +6DB Meter—Resistance 5000 ohms $24.00
General Purpose	Model 145—2 inch round case. Model 146—2 inch shroud case. Model 147—2 inch rectangular case. 145, 146 or 147 −10 to +6DB Meter—Resistance 2500 ohms $11.50 145, 146 or 147 −10 to +6DB Meter—Resistance 5000 ohms $14.40

Model 45, 46 or 47 (Not Illuminated) "A" Scale or "B" Scale $21.00
Model 49 (Not Illum'd) "A" Scale or "B" Scale (4½ in. rectangular) 24.00
Model 49 (Illuminated) "A" Scale or "B" Scale (4½ in. rectangular) 28.50

4½" RECTANGULAR INSTRUMENTS

MODEL 29 D.C.

MA	
0-1	$8.85
0-10	8.85
0-50	8.85
0-100	8.85
0-200	8.85
0-500	8.85

VOLTS	
0-10	$8.85
0-15	8.85
0-25	8.85
0-50	8.85
0-150	9.30
0-300	10.80

AMPS	
0-1	$8.85
0-5	8.85
0-10	8.85
0-25	$8.85

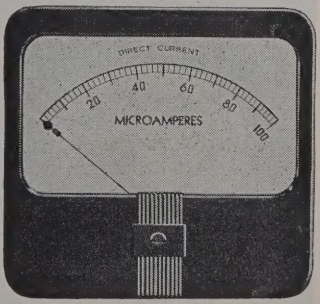
MICS	
0-50	$18.90
0-100	17.10
0-200	14.10
0-500	10.50

MODEL 59 A.C.

AMPS	
0-1	$9.00
0-3	9.00
0-5	9.00
0-10	9.00
0-25	9.60

VOLTS	
0-15	$9.00
0-150	10.50
0-300	12.60

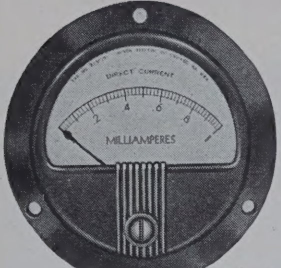
All Prices Dealer's Net



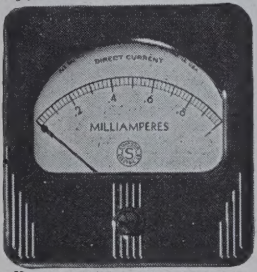
★ Simpson

SIMPSON ELECTRIC CO.
CHICAGO, ILLINOIS

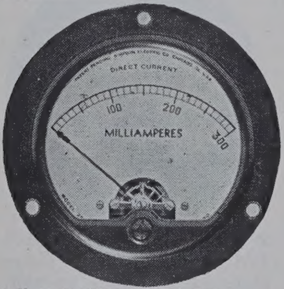
INSTRUMENTS THAT STAY ACCURATE



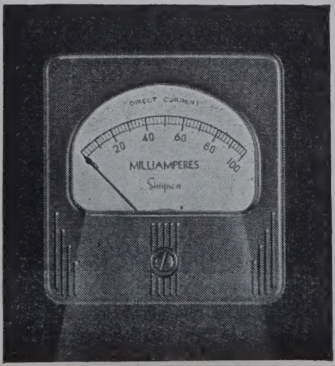
3" ROUND CASE — SHROUD STYLE. Flange diameter, 3½"; depth overall, 2¼"; body diameter, 2¾"; scale length, 2-9/16". Bakelite case.



3" RECTANGULAR CASE. Width, 3"; height, 3⅛". Mounts in round hole. Body diameter, 2¾". Bakelite case.



3" ROUND CASE — OPEN FACE STYLE. Flange diameter, 3½"; depth overall, 2¼"; body diameter, 2¾"; scale length, 2-9/16". Bakelite case.



THREE-INCH ROUND OR RECTANGULAR INSTRUMENTS

DIRECT CURRENT VOLTMETERS

Model 25 (Rd.—Open Face), 26 (Shroud) and 27 (Rectangular)

Range	
0-3	$7.95
0-5	7.95
0-10	7.95
0-15	7.95
0-25	7.95
0-50	7.95
0-100	7.95
0-150	8.40
0-200	9.00
0-300	9.90

(1000 ohms per volt)
Model 25 (Rd.—Open Face), 26 (Shroud) and 27 (Rectangular)

Range	
0-50	$9.30
0-100	9.60
0-200	9.90
0-300	10.20
0-500	10.50
0-1000	11.85

DIRECT CURRENT MILLIAMMETERS

Model 25 (Rd.—Open Face), 26 (Shroud) and 27 (Rectangular)

Range	
0-1	$7.95
0-3	7.95
0-5	7.95
0-10	7.95
0-15	7.95
0-25	7.95
0-50	7.95
0-100	7.95
0-150	7.95
0-200	7.95
0-250	7.95
0-300	7.95
0-500	7.95
0-1000	7.95

DIRECT CURRENT MICROAMMETERS

Model 25 (Rd.—Open Face), 26 (Shroud) and 27 (Rectangular)

Range	
0-50	$17.25
0-100	15.00
0-200	12.60
0-500	8.90

DIRECT CURRENT AMMETERS

Model 25 (Rd.—Open Face), 26 (Shroud) and 27 (Rectangular)

Range	
0-1	$7.95
0-3	7.95
0-5	7.95
0-10	7.95
0-25	7.95
0-50	7.95
30-0-30	7.95

ALTERNATING CURRENT VOLTMETERS

Model 55 (Rd.—Open Face), 56 (Shroud) and 57 (Rectangular)

Range	
0-3	$7.35
0-5	7.35
0-10	7.35
0-15	$7.35
0-25	7.35
0-50	7.35
0-100	7.35
0-150	8.85
0-300	10.20
0-500	12.90

(Continued in next column)

ALTERNATING CURRENT AMMETERS

Model 55 (Rd.—Open Face), 56 (Shroud) and 57 (Rectangular)

Range	
0-1	$7.35
0-3	7.35
0-5	7.35
0-10	7.35
0-15	7.35
0-25	7.65
0-50	8.40

ALTERNATING CURRENT MILLIAMMETERS

Model 55 (Rd.—Open Face), 56 (Shroud) and 57 (Rectangular)

Range	
0-15	$7.35
0-25	7.35
0-50	7.35
0-100	7.35
0-250	7.35
0-500	7.35

HIGH RANGE D.C. PLATE VOLTMETERS

(Complete with External Resistor)

Model 25—3 inch round case. Model 26—3 inch shroud case. Model 27—3 inch rectangular case.

Ranges: 0-1500, 0-2000, 0-3000, 0-4000 volts	$11.85
Range: 0-5000	12.75

(Price includes resistor)

External resistors supplied with high range voltmeters are contained in bakelite cases with binding posts for connections.

RECTANGULAR LUCITE ILLUMINATED METERS

3 INCH

3" wide, 3⅛" high. Mounts in round hole. Body diameter, 2¾"

DIRECT CURRENT VOLTMETERS MODEL 27

0-10	$9.45
0-50	9.45
0-150	9.90
0-300	11.40
0-500	12.00
0-1000	13.35
0-2000	13.35
0-3000	13.35
0-4000	13.35
0-5000	14.25

RADIO FREQUENCY AMMETERS MODEL 37

0-1	$11.10
0-2	11.10
0-3	11.10
0-5	11.10

DIRECT CURRENT MILLIAMMETERS MODEL 27

0-1	$9.45
0-10	9.45
0-25	9.45
0-50	9.45
0-100	9.45
0-200	9.45
0-300	9.45
0-500	9.45

ALTERNATING CURRENT VOLTMETERS MODEL 57

0-10	$8.85
0-15	8.85
0-150	10.35
0-300	11.70

2 INCH

2⅜" square case. Mounts in round hole. Body diameter, 2-3/16"

DIRECT CURRENT VOLTMETERS MODEL 127

0-10	$8.40
0-50	8.40
0-150	8.85
0-300	10.05

RADIO FREQUENCY AMMETERS MODEL 137

0-1	$14.85
0-2	14.85
0-3	14.85
0-5	14.85

Above prices include external thermocouple*

DIRECT CURRENT MILLIAMMETERS MODEL 127

0-1	$8.40
0-10	8.40
0-25	8.40
0-50	8.40
0-100	8.40
0-200	8.40
0-300	8.40
0-500	8.40

ALTERNATING CURRENT VOLTMETERS MODEL 157

0-10	$8.25
0-15	8.25
0-150	9.90
0-300	11.10

**Because of the Lucite construction there is no room to place a thermocouple within the 2" meter. Prices therefore include an external thermocouple.*

All Prices Dealer's Net

Simpson

INSTRUMENTS THAT STAY ACCURATE

MODEL 480 FM-TV GENESCOPE

The Simpson Model 480 Genescope is the result of many months of painstaking research and it is offered as our interpretation of a modern FM and TV instrument providing all the necessary signal sources for the proper alignment and servicing of FM and TV receivers.

In addition to a signal source, the Genescope includes a high sensitivity oscilloscope of unique advanced design, complete in every detail and equipped with a high frequency crystal probe for signal tracing.

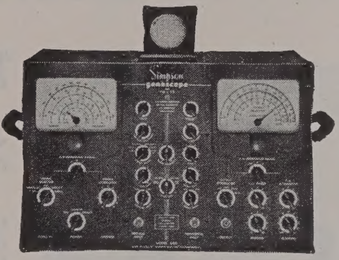
The variable oscillator sections are mounted one on each side of the oscilloscope section and are provided with large precision vernier dials having a 20:1 ratio and 1000 division logging scales. They are easy to read and can be quickly set for to an exact frequency.

Modern FM and TV development and servicing requires the use of test equipment made to exacting standards. With this in mind we offer you the Genescope with the assurance that everything possible has been done to make it the most accurate, flexible and convenient instrument available.

There are many vital component parts in the Genescope, almost all of which have been made to our exacting standards within our own modern plants. Most of these vital components have been developed and designed by us and substantial sums have been spent on modern tooling. The care we have taken to properly design and produce these parts is worthwhile assurance that the Genescope will render many years of uninterrupted service and always produce accurate results.

The center section of the Genescope contains the oscilloscope and all associated controls. The cathode ray tube of the oscilloscope is mounted vertically in the case in order to conserve bench space. The pattern on the tube is brought into view by use of a highly polished adjustable mirror at the top of the cabinet. The mirror may be quickly adjusted for any position of the operator. The tube face is placed well below the top surface of the cabinet in order to shield it from incident light thus producing a clear, sharp image unhampered by narrow angle light shields. The mirror when closed provides adequate protection for the cathode ray tube when not in use.

Direct connection to vertical and horizontal deflection plates and other internal functions are available through removable cover on the front panel.



RANGES

FREQUENCY MODULATED OSCILLATOR

Band A—2-120 megacycles
Band B—140-260 megacycles
Sweep width variable from zero to 15 megacycles
Sweep rate 60 cycles per second
Specially designed frequency sweep motor
Continuously variable attenuator

AMPLITUDE MODULATED OSCILLATOR

Band A—3.2-16 megacycles
Band B—15-75 megacycles
Band C—75-250 megacycles
30% modulation at 400 cycles or unmodulated
Continuously variable attenuator
Visual method of beat frequency indication

Crystal calibrator — 5 megacycles ± .05%
Audio Oscillator 400 cycles
AM and FM oscillator sections provided with large, easy to read dials with 20-1 vernier control and 1000 division logging scale.
Output impedance 75 ohms
Step attenuator for control of output

OSCILLOSCOPE

Vertical and Horizontal amplifiers are balanced DC type.

Frequency response essentially flat to 200 KC. Will respond to over 3 megacycles at lower output. Vertical input sensitivity 30 MV per inch peak to peak. Horizontal input sensitivity 50 MV per inch peak to peak. Input resistance .5 meg for low input, 10 meg for high input. 60 cycle sine sweep or linear sweep from 3 cycles to 60 KC.

Adjustable synchronization — internal, external or line frequency.

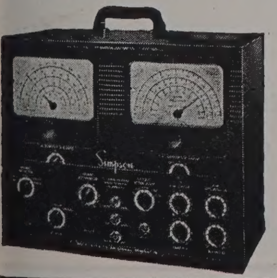
Provisions for internal blanking or Z axis modulation.

Direct deflection plate sensitivity:
Vertical—10 volts per inch peak to peak
Horizontal—15 volts per inch peak to peak

Size: 22″x14″x7½″. Weight 39 lbs.
Shipping Weight 48 lbs.

DEALER'S NET PRICE complete with Test Leads and Operator's Manual...... **$375.00**

Model 479 TV-FM Signal Generator



A modern instrument for today's TV-FM problems. Exactly the same circuits, ranges and functions as the Model 480, described above, with the exception of the oscilloscope.

Size 17″x14″x7½″. Weight 29 lbs.

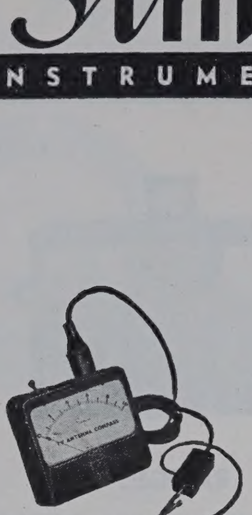
Shipping Weight 35 lbs.

DEALER'S NET PRICE with Test Leads and Operator's Manual **$245.00**

★ Simpson

INSTRUMENTS THAT STAY ACCURATE

MODEL 351 TV ANTENNA COMPASS



This valuable instrument is another example of Simpson television pioneering. One man can do a better installation job in less time than it used to take two men.

Model 351 takes the physical form of a ruggedly built pocket-size meter which connects by a simple insulation-piercing alligator clip to the video input of the cathode ray tube in the television receiver.

By an extension cord, it is carried to the antenna site. With a test pattern tuned in on the area's weakest station, the antenna is simply located and rotated for maximum deflection of the TV Antenna Compass. It is as simple as that. Identifies ghosts, too. And much more accurate than trusting to the old fashioned "human eye-and-headphones" method of shouting instructions back and forth from the living room to the roof—which has always resulted in only an approximate best orientation of the antenna. Can also be used to peak the RF mixer and oscillator sections. In that way you actually peak the set right on the station itself.

Size 4¾"x4¼"x1$\frac{9}{16}$". Weight 1 lb. Shipping Weight 4 lbs.

DEALER'S NET PRICE—Complete with Termination Box and Printed Instructions.. **$16.35**

MODEL 184 MICRO TUNER

MICRO TUNER

Tuning indicator for use on FM and Television receivers.

Enables operator to tune to the exact mid point of the band for perfect audio reception.

Of particular value to owners of television receivers which are equipped with a fine tuning control.

Supplied with 4 ft. flexible celanese covered lead which includes isolating resistor and special clip for attaching to tube prong.

Easily installed.

An excellent extra profit item for the dealer making television installations. Results in less call-backs.

Size: 2¼"x2½"x1¾". Weight 8 ozs. Shipping weight 2 lbs.

DEALER'S NET PRICE with Printed Instructions.. **$7.50**

HIGH VOLTAGE TV PROBE

Here are Simpson's three High Voltage Test Probes for Television servicing, each designed for use with the models listed here. They are molded of high temperature polystyrene to provide high dielectric strength and maximum insulation. Their small diameter permits reaching in small spaces and narrow openings.

Size Diameter $\frac{9}{16}$", Length 11½". Weight 6 oz. Shipping Weight 2 lbs.

DEALER'S NET PRICES

High Voltage Probe for 260 (25000 V) Complete, nothing to add......	**$12.85**
High Voltage Probe for 221 (30000 V) Complete, nothing to add......	**12.85**
High Voltage Probe for 266 (25000 V) Complete, nothing to add......	**14.85**

HICKOK TEST EQUIPMENT

NEW DYNAMIC MUTUAL CONDUCTANCE DISPLAY TUBE MERCHANDISER . . . WITH

9-Inch Illuminated Meter

Most Outstanding and Customer Convincing Display Tube Tester Ever Designed

ROLL CHART COVERS MANY HUNDREDS OF TUBE TESTS—INCLUDING NEW NINE PIN TYPES. EMPLOYS THE FAMOUS HICKOK PATENTED DYNAMIC MUTUAL CONDUCTANCE METHOD. LARGE ENGLISH READING DIAL—AND MICROMHO RANGES ARE THERE—WHERE YOU NEED THEM.

Let your customers see for themselves the condition of their tubes. The 533-DM builds customer confidence—helps you sell—makes more profit for you on over-the-counter sales. It is a quality built, accurate testing unit—and looks it. It's a sure-fire sales booster. Panel is modern, legible and lasting, with satin chrome finish.

Easy to read scales have MICROMHO ranges of 0-3,000, 0-6,000, 0-15,000 and English legends reading "Replace," "Doubtful" and "Good."

In selector switches complete flexibility has been provided to take care of all base pin connections; but in routine testing seldom more than one or two manipulations are necessary. It is easy to use.

Roll chart in the panel makes tube data easy to find.

Gas test provision quickly detects gassy tubes (which ruin AVC and IF stages).
Tests diodes separately with low voltage to prevent paralysis of the tube elements.
Tests all present-day tubes including Octal, Loktal, Miniature, Ballast, Magic Eye Tubes, and Nine Pin Tubes.

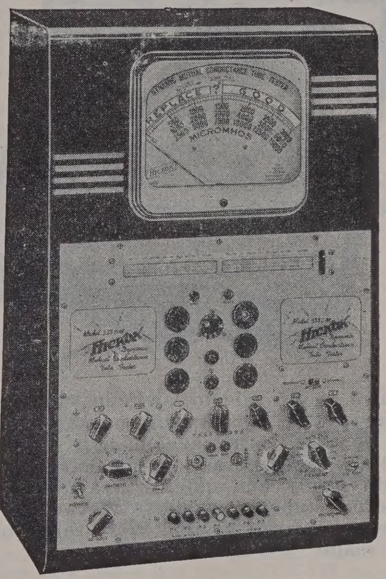
Will remain up-to-date for years and years. Provision for new tube designs is made.
Pure rectified D.C. current is used to energize plates and grids using two rectifiers.
Has all latest filament voltages. Dial is marked in voltage.

Tested and approved by the leading tube users in the country. Choice of high grade engineers.

Tests grid controlled rectifier tubes.

Size—26¾" high, 17" wide, 11" deep.
Shipping Weight—50 lbs.; net, 32 lbs.

Power Supply—100-130 Volts, 50-60 Cycles.
Tube Complement—1 No 83, 1 No. 5Y3GT.



Model 533DM
Net Price $144.65

SPECIAL "D" SERIES DISPLAY EQUIPMENT

To Sell and Safeguard Your Service

●

Start to build your business this sure-fire way NOW!

Seperate Display Cases Available for Any of These Hickok Testers You Already Have!

Most Convenient "Fit All Space" panels that are possible to design.

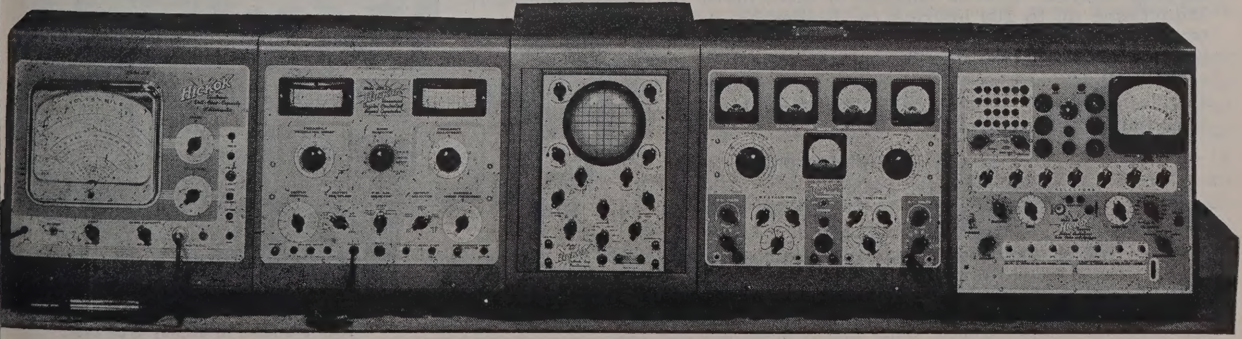
Makes a Most Magnificent, Solid and "Stay Put" Layout.

Can be arranged in Sections or Multiples of Associated Units for Specialized Service. Rearrangement may be made as desired. Show Your Service "Know-How." Put it out where your customers can see it.

"D" SERIES WILL SELL IT—CLINCH IT—SAFEGUARD IT. The following instruments are available in display cases—Models 209A—288X—195B—534B—292X—505A—533—610A.

Size, each case: 18¼" high, 17" wide, 11" deep. (Oscilloscope cases: 18½" deep)

Weights: Approximately same as regular models.



HICKOK TEST EQUIPMENT

DYNAMIC MUTUAL CONDUCTANCE (TRANSCONDUCTANCE)* TUBE TESTERS

Model 533-P

MODELS 533-P AND 533-C

The most complete full coverage, all purpose tube tester available today.

The HICKOK Model 533P (Portable) and 533C (Counter type) Tube Testers accurately test and sell more tubes in less time. Both have the world famous HICKOK Dynamic Mutual Conductance (Transconductance) circuit which was first choice of both Army and Navy throughout World War II. Duplicates the method actually used by tube manufacturers in the tube factory. Easy to read scales have MICROMHO ranges of 0-3,000, 0-6,000, 0-15,000 and English legends reading "Replace", "Doubtful" and "Good". Gas test provision quickly eliminates gassy tubes (which ruin AVC and IF stages). Highly sensitive noise test detects radio frequency disturbances. Locates shorts—hot or cold. Tests diodes separately with low voltage to prevent paralysis of the elements. Indicates accurately line voltage on a large test meter—from 100 to 130 volts. Tests all present-day tubes including Octal, Loktal, Miniature, Ballast and Magic Eye Tubes.

Provisions for new tube designs are made—this tester will remain up to date for a long time to come. Uses rectified current to energize both plates and grids using two rectifiers. Has filament voltage in steps to 117 volts. Panel is modern, legible, has satin chrome finish. In our selector switches complete flexibility has been provided to take care of unusual base pin connections; but in routine testing seldom more than one or two manipulations are necessary. Roll chart in the panel makes tube data easily and quickly available. Tests grid controlled rectifier tubes. Continuity checks can be made by a special new feature of design. Wide range of voltage checks can be made.

*Mutual conductance and transconductance mean the same thing.

Specify "P" for Portable, "C" for Counter Type
When Ordering.

Net Price, either Model, $133.20

SPECIFICATIONS

Size—17" x 18" x 8½". Weight 27 lbs.
Shipping Weight—34 lbs.
Power Supply—110-130 Volts 50-60 Cycles.
Tube Complement—1 No. 83—1 No. 5Y3 GT.
Other voltage or cycles available.

Model 533-C

NEW DESIGN ALL-PURPOSE TUBE AND SET TESTER — Model 534B

In addition to the many tube tester features of the 533, the Model 534B tube and set tester measures volts, ohms, milliamperes, capacitance, inductance, leakage and decibels. Specific features are as follows: Voltage Ranges: 0-20-200-500-1,000-5,000V A.C. and D.C. Resistance—0.1 ohm to 100 meghoms in three overlapping ranges. No batteries needed. Capacitance—0.0001 to 100 microfarads in overlapping ranges. Checks leakage of electrolytic or paper condensers. Inductance up to 100 henries (or higher by simple calculation) with or without D.C. component. Decibel ranges —10 to + 50 D.B. (or higher by simple calculation). Checks hum in any stage of the receiver. Meter scale 4½" long clearly marked for easy reading. Portable carrying case, black imitation leather covered hardwood with detachable cover.

SPECIFICATIONS

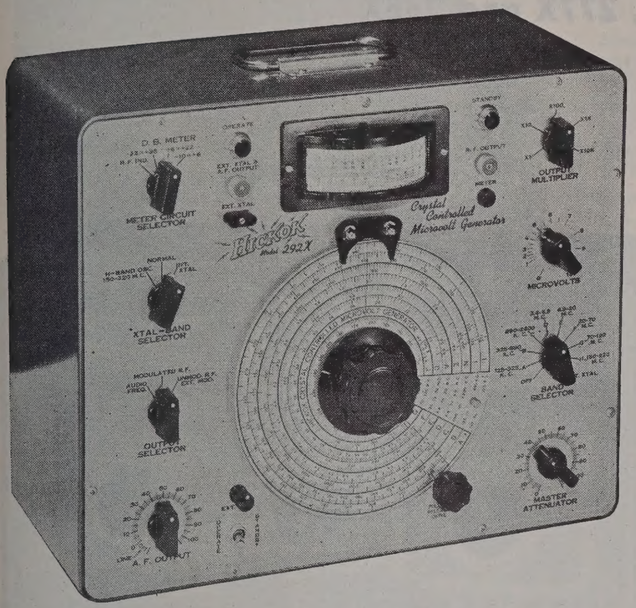
Size 17" x 18" x 8½"
Weight—28 lbs.
Shipping Weight—35 lbs.
Power Supply—110-130 Volts, 50-60 Cycles
Tube Complement—1 No. 83, 1 No. 5Y3GT
2 No. 6H6, supplied and installed.
Panel—Two-tone Satin Chrome finish

Net Price
$169.20

Model 534-B
Also available in display type case.

HICKOK TEST EQUIPMENT

NEW MICROVOLT SIGNAL GENERATOR for AM, FM, TV and Mobile Bands



Model 292-X **Net Price $195.00**

Model 292-X—125 kc to 220 mc on fundamentals.

THE ONLY SIGNAL GENERATOR WITH ALL THESE

FEATURES

- Covers all AM, FM, TV and Mobile Frequencies
- Measures Input of Units under test
- Modulated and Unmodulated Output from 1 to 100,000 microvolts
- Cast Aluminum Attenuator for Minimum Signal Leakage
- May be externally modulated from 15 to 10,000 cycles per second
- Decibel Meter for faster servicing
- Self-contained Crystal Oscillator Circuit — Crystals from 250 kc to 20 mc are available
- Over 100 inches of scale
- Most accurate Microvolt Generator available for practical radio servicing

●

OPTIONAL

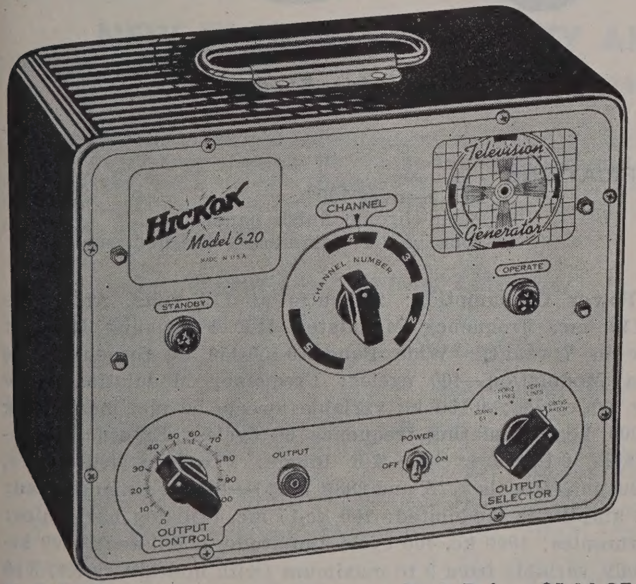
Crystal Oscillator for Accuracy to .005% in 152-162 mc Mobile Range.

●

This new HICKOK Model 292-X is the only popularly priced Microvolt Generator available that covers both Upper Channel TV and Mobile frequencies — on fundamentals.

TECHNICAL CHARACTERISTICS — **Fundamental Frequency Coverage:** Bands A through G — 125 kc to 110 mc; Band H — 150 to 220 mc. **Output Calibrated:** 1 to 100,000 microvolts. **Output Impedance:** X1, X10, and X100 microvolts — 5 ohms; X1K — 30 ohms. X10K — 0 to 100 ohms. **Modulation Fixed:** 400 cycles. **AF Output:** 0-2 volts. The Model 292-X is wired for a plug-in type crystal (152-162 mc), with accuracy to .005%. Self-Contained crystal oscillator circuit has crystal jack on front panel permitting crystal outputs at any frequency from 250 kc to 20 mc on fundamentals; and to over 250 mc on harmonics. Type CCO-56 Crystal Oscillator unit available with frequency accuracy to .005% for Mobile Band coverage. **Self-Contained Decibel Meter:** —10 to ±38 DB in 3 ranges. **Tube Complement:** 1 6SN7, 2 6J6, 1 6SG7, 1 6X5GT. **Power Consumption:** 35 watts at 115 volts. **Meter Model:** 50; 105-125 V., 50-70 cycles, A.C. 14" x 16½" x 8"; 29 lbs. Net: 38# Ship. Satin Chrome Panel. Blue lacquered steel case.

LINEARITY-PATTERN GENERATOR Model 620—Crystal Controlled (L. P.)



Model 620 **Net Price $144.85**

PROVIDES A STABLE VIDEO PATTERN
***At Any Time* for Alignment and Trouble Shooting**

NOW INDEPENDENT OF STATION OPERATION
THE MODEL 620 GIVES YOU THESE OUTSTANDING

FEATURES

- Provides Stable Linear TV Pattern at any time
- Checks Relative Receiver Sensitivity
- Detects Hum in Horizontal Deflection Circuits
- Provides Means for Checking and Aligning of:
    - Horizontal and Vertical Linearity and Drive Controls
    - Horizontal and Vertical Width, Height and Hold Controls
    - Horizontal A.F.C. Circuits
- Fast and Easy to use: Merely connect to receiver antenna
- Extremely useful in fringe areas where reception during installation is lacking or questionable

Today's Video serviceman needs an independent and more accurate pattern to rapidly trouble shoot in television servicing. The HICKOK Model 620 Cross-Hatch Generator has a high enough output to obtain a clear picture on the screen of any TV receiver. With a HICKOK 620 you can rapidly service in borderline areas where broadcast reception is unpredictable. You can align more hours per day — for more profit.

TECHNICAL CHARACTERISTICS — **Output Frequencies: 4 channel — 3 through 5 inclusive.** However, for servicing, only one channel is necessary. **Output Voltage: 50 to 5,000 Microvolts.** All modulating frequencies are crystal controlled. **Horizontal lines: 8 or 9. Vertical lines: 12.** Selection of Horizontal or Vertical lines can be made separately or simultaneously as a Cross-Hatch pattern. **Power: 105-125V., 60 cycles AC. Net weight: 11½ lbs. — Ship. weight: 18 lbs.** Beautiful blue hammertex steel case with sation chrome panel. Supplied complete with test leads.

UNIVERSAL CRYSTAL CONTROLLED SIGNAL GENERATOR

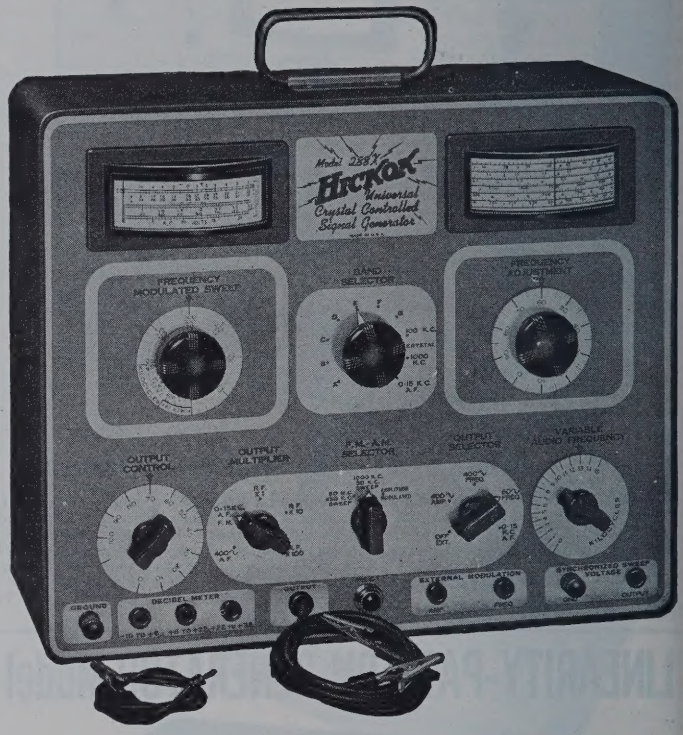
Models 277, 277X and 288X

The Universal Crystal Controlled Signal Generators, Models 277, 277X and 288X, are specifically designed to meet the many and varied needs of the radio engineer and service man working with frequency and amplitude modulated receivers and with television equipment. The wide range in radio-frequencies and audio-frequencies available, with the many choices of type of modulation, makes these Models most versatile and practical instruments.

All three models are the same except for the following features: 0.01% accurate crystal controlled outputs, both amplitude modulated at 400 cycles and unmodulated, offered in Models 288X and 277X only. Self-contained decibel meter with 42″ cable, Model 288X only.

SPECIAL FEATURES

Complete frequency modulation coverage with three variable bandwidths of sweep: 0-30 kc, 0-150 kc, 0-450 kc. Frequency modulation at two self-contained modulating frequencies: 60 cycles and 400 cycles. Provisions for external amplitude and frequency modulation to 15,000 cycles. Self-contained amplitude modulation at 400 cycles. Continuously variable audio frequency from 0-15,000 cycles. Audio frequency and radio frequency outputs are continuously variable from zero to maximum. 60 cycle synchronized sweep voltage is available for use with an oscillograph.



Model 288-X

Net Price, $169.20

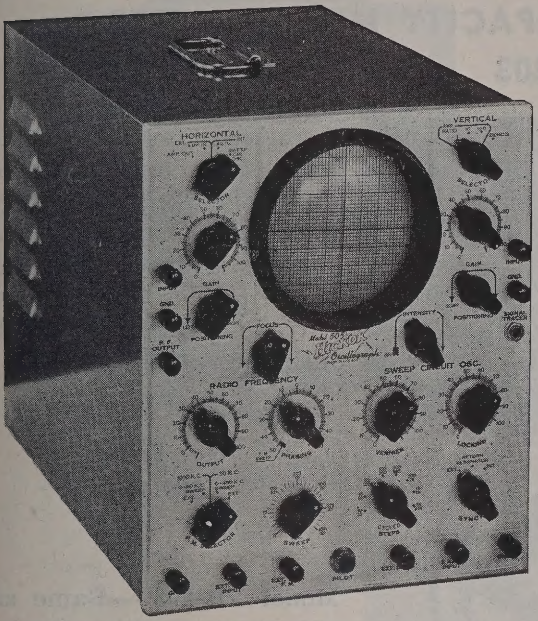
SPECIFICATIONS

Dimensions—14″ x 16½″ x 7″
Net Weight—25 lbs.—Ship. 36 lbs.
Meter—Model 51X, Model 288X only

Scale—over 100″
Satin-chrome finish panel
Blue baked Hammertex finished case.

POWER SUPPLY: 105-125 V, 50-70 cycles, A-C. Power Consumption: 20 watts at 115 volts. Amplitude Modulated, Pure R-F Frequency Range: 100 kc-110 mc. Frequency Modulated R-F Frequency Ranges: Narrow Band (0-30 kc Sweep): 100 kc to 110 mc in 7 ranges: Wide Band (0-150-450 kc Sweep) 1 mc to 160 mc in 7 ranges. Modulation: Amplitude Modulation—400 cycles; Frequency Modulation—0-450 kc variable sweep, 50 mc. modulating frequency 60 cycles; 0-150 kc variable sweep, 50 mc, modulating frequency 400 cycles; 0-30 kc variable sweep, 1000 kc, modulating frequency 60 cycles; External Modulation—Amplitude or frequency modulation, variable 0-15,000 cycles. A-F Range: Fixed at 400 cycles, variable from 0-15,000 cycles. Crystal Controlled Output (Models 277X and 288X only)—100 kc, Unmodulated: 100 kc-15 mc, utilizing harmonics; 100 kc, 400 cycle amplitude modulated: 100 kc-15 mc, utilizing harmonics; 1000 kc, Unmodulated: 1000 kc-125 mc, utilizing harmonics; 1000 kc, 400 cycle amplitude modulated: 1000 kc-125 mc, utilizing harmonics. Output: R-F, continuously variable from 0 to maximum (with multipliers X1, X10 and X100); A-F, continuously variable from 0 to maximum, linear control, for both 400 cycle and variable frequency outputs. Synchronized Sweep Voltage: for horizontal deflection of oscillograph (60 cycles.) DB Meter Range (Model 288X only): —10 to +6, +6 to +22, +22 to + 38. Tube Complement—1 6C4, 2 6SN7, 1 6SJ7, 1 6X5G.

HICKOK TEST EQUIPMENT



Model 505-A

Net Price: $179.00

Power Supply: 105-125 V, 50-70 cycles, A-C. Deflection Sensitivity: Vertical—0.03 volts (rms)/inch. Horizontal—0.3 volts (rms)/inch. Horizontal, Direct—45 volts (rms)/-inch. Input Impedance: Vertical—1 megohm, 25 mmf. Horizontal, Direct—3 megohm. Tube Complement: 1 5UP-1—cathode ray tube, 1 6SN7—r-f oscillator and mixer, 1 6J5, 1 6AG7—vertical amplifier, 1 6J7—horizontal amplifier, 1 6SG7—reactance tube, 1 5Y3—high voltage rectifier, 1 5Y3—low voltage rectifier, 1 884—sweep circuit oscillator.

NEW AM, FM, TV OSCILLOSCOPE

Model 505-A

Specifically designed for use with frequency modulated, amplitude modulated and television equipment. Permits a complete visual analysis of the electrical and electronic circuits of the i-f and r-f bands as well as the audio frequency stages. The effectiveness of a tube or circuit as an amplifier, rectifier, or source of special wave shapes may be readily determined.

Interprets modulation, phase relations, voltage amplitudes, distortion, etc. Responds accurately to voltages in wide ranges of both frequencies and amplitudes.

SPECIAL FEATURES

Wide band, high gain vertical amplifier, 30 cycles to 1 megacycle. Self-contained wide-band frequency modulated oscillator with variable sweep width, 0-450 kc. Self-contained narrow-band frequency modulated oscillator with variable sweep width, 0-30 kc. Signal tracer jack is incorporated so that, when used in conjunction with a speaker or ear phones, the signal may be simultaneously seen and heard. Provisions for modulation by an external audio frequency source to provide the equivalent of a frequency modulated transmitter for receiver checks. Self-contained mixer circuit provided so that when used in conjunction with any good external oscillator, wide band or narrow band frequency modulated outputs may be produced within the frequency limits of the external oscillator. High sensitivity amplifiers. Calibrated screen. Has self-contained frequency modulated oscillator. Can be used with any signal generator for servicing FM or AM sets.

SPECIFICATIONS

Dimensions—14" x 11½" x 15½"
Net Weight—32 lbs.—Ship. 42 lbs.
Cathode Ray Tube—5"
Satin-chrome finish panel
Blue baked Hammertex finished case

NEW 5" HIGH SENSITIVITY AM, FM, TV OSCILLOSCOPE

Model 195-B

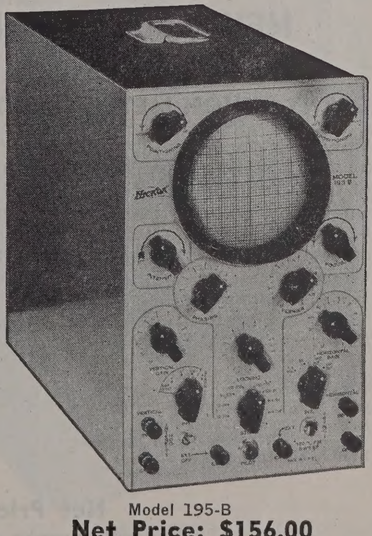
With this oscillograph you can align I. F. transformers, trace trouble, analyze wave shape of signal, determine unknown frequencies, amplify and view very weak signals. Has big 5" screen, extra high gain vertical amplifiers, sinusoidal sweep circuit and phasing control for proper I. F., R. F. and discriminator alignment.

TECHNICAL CHARACTERISTICS

1. Power supply required: 105-125 V, 50-70 cycles A.C.
2. Power Consumption: 50 Watts at 115 Volts
3. Deflection Sensitivity:
   A. Vertical—.03 Volt (rms) per inch
   B. Vertical, Direct—15 Volts (rms) per inch
   C. Horizontal — .15 Volt (rms) per inch
   D. Horizontal, Direct—20 Volts (rms) per inch
4. Input Impedance:
   A. Vertical—1 meg, 25 mmf
   B. Vertical, Direct—2.2 meg
   C. Horizontal—4 meg, 35 mmf
   D. Horizontal, Direct—2.2 meg
5. Frequency Range:
   Amplifier, Vertical—30 cycles to 1.0 mc
   Amplifier, Horizontal—10 cycles to 50 kc
6. Tube Complement:

	Tube	Function
1	6SJ7	Horizontal Amplifier
1	884	Sweep Circuit Oscillator
1	6AC7	Vertical Amplifier
1	6SN7	Vertical Amplifier and Cathode Follower
1	6X5	Low Voltage Rectifier
1	5Y3	High Voltage Rectifier
1	5UP1	Cathode Ray Tube

7. Size: 8$\frac{5}{16}$" wide x 18½" deep x 13" high
   Net Weight: 27½ lbs.—Ship. 38 lbs.



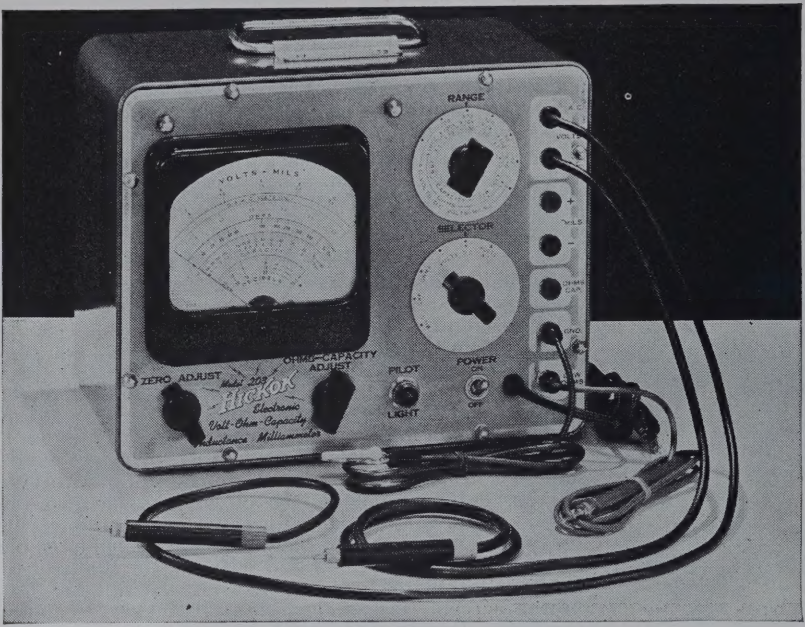
Model 195-B

Net Price: $156.00

HICKOK TEST EQUIPMENT

ELECTRONIC VOLT-OHM-CAPACITY MILLIAMMETER

Model 203


RANGE
SELECTOR
ZERO ADJUST
OHMS-CAPACITY ADJUST
PILOT LIGHT
POWER ON OFF
Model 203
Hickok
Electronic
Volt-Ohm-Capacity
Inductance Milliammeter
VOLTS - MILS

Model 203

A universal test instrument for all radio and electronic service work. Accurately and easily measures wide ranges of inductances, capacitances, resistances, currents and voltages, both A.C. and D.C.

Net Price
$89.40

Model PR-203 — Same as above except with probe as shown below on Model 209-A.

Net Price $99.60

High input impedance prevents loading when making voltage tests. Measurement of inductances are possible with the use of a conversion chart supplied in the instruction book. Damage due to overload is impossible in all except current measurements. Regulated power supply incorporated permits normal operation and accuracy with wide line voltage fluctuation.

SPECIFICATIONS
Dimensions—9″ x 11½″ x 7″
Net Weight—13 lbs.—Ship. 20 lbs.
Meter—Model S44A
Satin-chrome finish panel
Blue baked Hammertex
finished case

POWER SUPPLY: 105-125 V, 50-70 cycles. Ranges: Volts, A-C and D-C 0-3, 12, 30, 120, 300, 1200. Mils (D-C): 0-3, 12, 30, 120, 300, 1200. Cap.: 0-10,000 mmf in 2 ranges, 0-1000 mf in 5 ranges. Ind.: 50 mh-100 henries. Ohms: 0.1 ohm to 10,000 megohms in 7 ranges. Frequency: A-C up to approximately 5 megacycles may be measured. Input Impedance: Volts D-C: 15 megohms, Volt A-C: 12 megohms. Tube Complement: 6X5GT A-C rectifiers, 6SJ7 cathode follower, 6SN7GT vacuum tube voltmeter, OD3/VR150 voltage regulator.

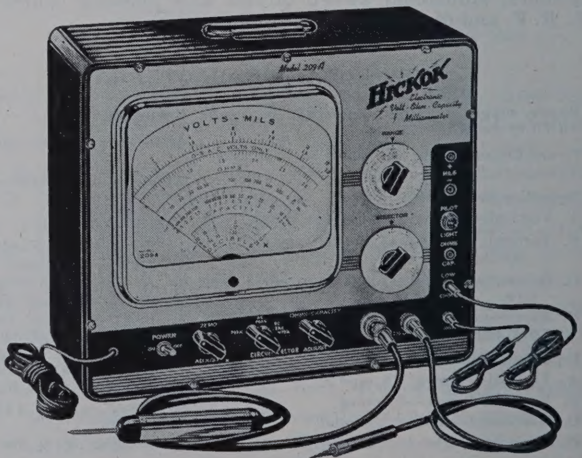
NEW ELECTRONIC VOLT-OHM-CAPACITY MILLIAMMETER

LARGE LABORATORY SIZE
GIANT 9-INCH METER — MODEL 209-A

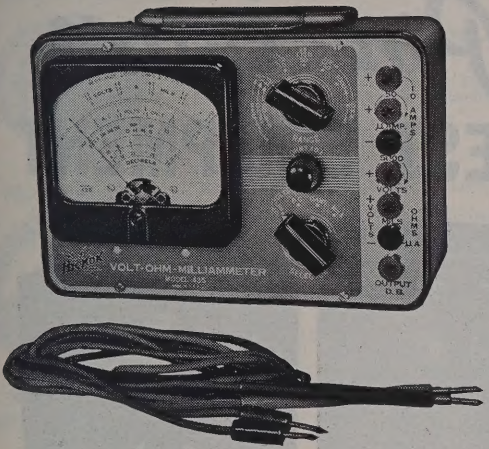
This new giant size instrument matches the size and attractiveness of the Hickok complete line of test equipment. Large 9-inch meter improves ease of operation. Has all the technical characteristics of the Model 203 above, and in addition has a 1200 Volt D.C. scale, and a new Peak-to-Peak Voltmeter to measure peak to peak or RMS values of A.C.
The new Zero-Center scale on D.C. permits much faster alignment than other similar instruments.

SPECIFICATIONS
Dimensions—14″ x 16½″ x 8″
Meter—Hickok Model S-22
Weight—18 lbs. Net.—25 lbs. Ship.
Blue baked Hammertex finish

Net Price: $119.40
Including probe and all leads.


Model 209A
HICKOK
Electronic
Volt-Ohm-Capacity
Milliammeter
VOLTS - MILS
RANGE
SELECTOR
PILOT LIGHT
POWER

HICKOK TEST EQUIPMENT



Model 435-A

Net Price, $37.50

VOLT OHM MILLIAMMETER

Model 435-A

The Model 435 is built to the highest Hickok standards of engineering design, workmanship and material. The meters used in these Volt-Ohm-Milliammeters are especially built by Hickok for this service. The movement is large and rugged and the very high torque weight ratio gives lively, instantaneous pointer action. The movement is curve-corrected by an exclusive Hickok process which gives a higher accuracy at all points on the scale.

SPECIAL FEATURES

20,000 ohms per volt sensitivity on D.C.
A-c power is not required for operation—especially convenient in many areas. Microampere, milliampere and ampere measurements provide an extremely wide range in current measurements. A.C. voltage output with D.C. components may be measured. Decibel power output measurements from —20 to +29 db may be made. Wide ranges in A.C. and D.C. voltage and resistance values may be measured.

SPECIFICATIONS

Dimensions—6″ x 8¼″ x 4″
Net Weight—3½ lbs.—Ship. 10 lbs.
Meter—Model S48
Satin-chrome finished panel
Blue backed crackle lacquer finished case

Ranges—AC Volts and DC Volts: 0-2.5, 10, 50, 250, 1000, 5000; Ohms 0-10 megohms (4 ranges); Microamperes: 0-50; Milliamperes: 0-2.5, 10, 50, 250, 1000; Amperes: 0-10; Decibels: —20 - +3, —8 - +15, +6 - +29; Output Volts: 0-2.5, 10, 50, 250, 1000, 5000. Sensitivity: A.C. Volts: 5000 ohms/volt; D.C. Volts: 20,000 ohms/volt; Meter: 40 microamperes. Battery Complement: 1 Dry Battery, Radio C, 4.5 volts.

VOLT-AMPERE WATTMETER

Model 900-B

Electrical Appliance Tester and Circuit Analyzer.
True to the Finest Hickok Tradition

Net Price, $59.07

For Measuring Actual Values of Volts, Amperes and Watts. Ranges: A.C. Watts: 0-20-100-500-1000-2000. **A.C. Amperes:** 0-1.3-6.-5-13-26. **A.C. Volts:** 0-130-260. **A.C. Milliamperes:** 0-260.

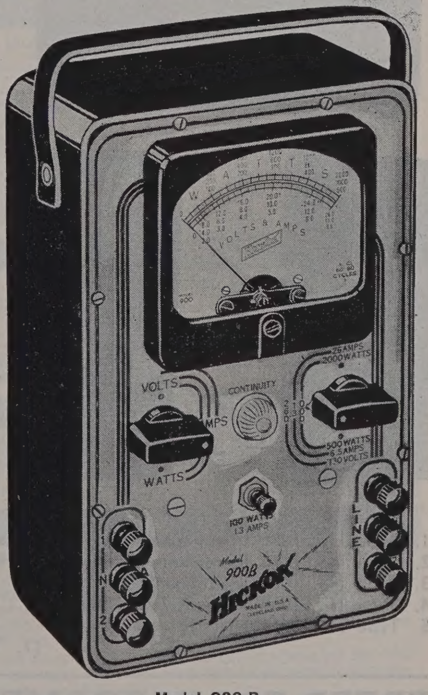
Scale is 3¾″ long, clear and legible. The Model 900-B Volt-Amp-Wattmeter has been designed for all A.C. appliance-testing, from bell transformers and clocks to electric ranges operating on the 220-volt three-wire Edison system. The extremely low range of 0-20 watts will measure the power consumed by the smallest of appliances and is protected from accidental overload by a fuse. For measuring electric ranges the Number 9A and 9B special leads are available with standard three-wire range connnctors. It tests appliances while in actual operation, indicating wattage consumption, amperes, and line voltage.

Mounted in a durable welded steel case with strap handle and rubber bumpers. Detachable leads, for small appliances, are furnished. Test leads with prods also included.

Service men will find a wattmeter especially handy for checking all A.C. sets.

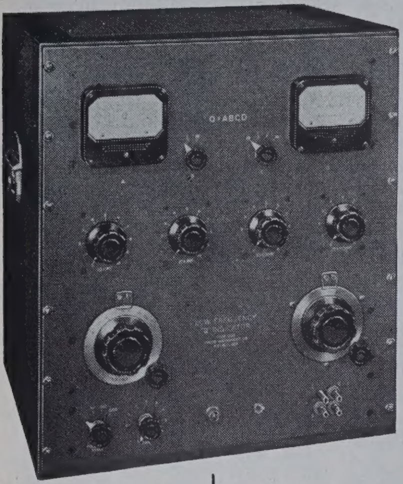
Part No. C-105—This external current transformer is designed to give ranges of 5,000 and 10,000 watts and 65 and 130 amperes when used with Model 900-B. Part No. C-105 transformer may be installed in lead compartment of carrying case. When transformer and carrying case are ordered together, transformer will be installed before shipping.

Model 900-B—Size: 9½″ high, 6¼″ wide, 3″ deep.
Shipping Weight: 8½ lbs.—Net 6½ lbs.

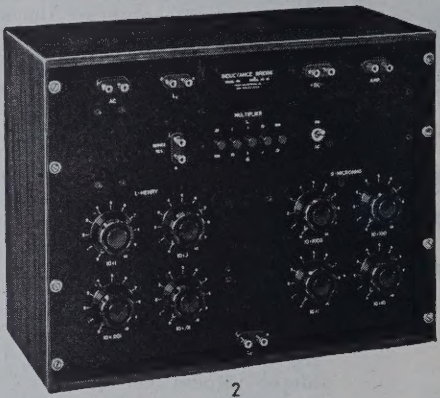


Model 900-B

FREED *Precision* LABORATORY TEST EQUIPMENT



1


INDUCTANCE BRIDGE
MULTIPLIER
L-HENRY
R-MICROHMS

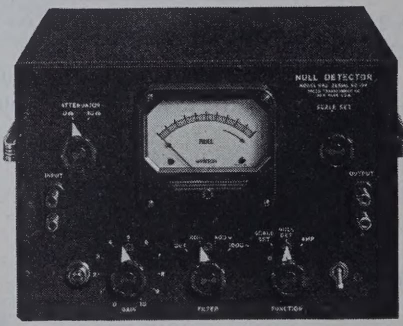
2

HIGH
LOW
GUARD
MEGOHMMETER

3

A.C.-V.T. VOLTMETER
INPUT
OUTPUT
VOLTS

4


NULL DETECTOR
ATTENUATOR
INPUT
OUTPUT
GAIN
FILTER
FUNCTION

5

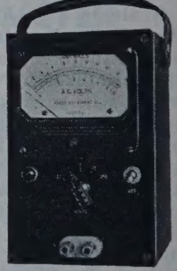
6

7

8

9

10



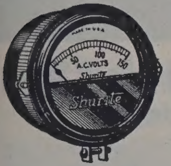
11

1. Type No. 1030 Low Frequency "Q" Indicator
2. Type No. 1110 Incremental Inductance Bridge
3. Type No. 1020 Megohmmeter
4. Type No. 1060 Vacuum Tube Voltmeter
5. Type No. 1140 Null Detector
6. Type No. 1010 Comparison and Limit Bridge
7. Type No. 1160 Inductor Decade 10x1. Hy 10x.1 Hy 10x.01 Hy
8. Type No. 1161 Inductor Decade 10x.1 Hy 10x.01 Hy 10x.001 Hy
9. Type No. 1162 Inductor Decade 10x.01Hy 10x.001Hy 10x.0001Hy
10. Type No. 1164 Inductor Decade 10x10 Hy 10x1 Hy 10x.1 Hy
11. Type No. 1040 Vacuum Tube Voltmeter

FREED TRANSFORMER CO., Inc.—INSTRUMENTS DIVISION

Send for Descriptive Literature

Shurite PANEL METERS



Model 550-AC

Shurite panel meters are attractive, rugged, dependable instruments with accuracy well within 5%. All models are metal, telephone-black finish, all require 2⅝₂" hole. DC meters are polarized-vane solenoid type, AC meters are double vane repulsion type.

Advantages of this complete line.

All-metal dials, age and moisture resistant, lithographed in black on white for high visibility.

Improved design, with new coil frames and attached insulators for greater rigidity, yet interchangeable in other respects with similar type of instrument formerly available.

Improved appearance, with concealed coils, full view scales, and attractive styling and finish.

Guarantee: All Shurite meters are guaranteed to users against defective workmanship and material, and will be repaired or replaced if sent to the factory postpaid with 25¢ handling charge within one year after date of purchase.

Model 550-DC, flush case, narrow ring, round, has long U-bracket.

Model 550-AC, flush case, narrow ring, round, has ring clamp.

Models 650-DC and 650-AC, flush case, wide round flange, have screw holes for mounting, hardware included.

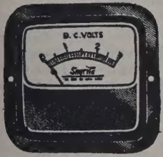
Models 950-DC and 950-AC, flush case, square flange, have screw holes for mounting, hardware included.

D.C. MILLIAMPERES
Shurite

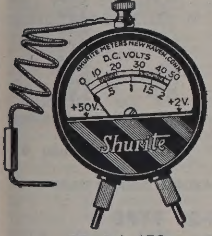
Model 550-DC with Zero Adjuster

A.C.VOLTS
Shurite

Model 650-AC



Model 950-DC(or AC)



Model 450

IMPORTANT—How To Order:

For all standard models, give: (1) Model Number, (2) Range, (3) Stock Number. If Model number and stock number are not stated, Model 550 will be supplied.

ZERO ADJUSTERS(Z)

Zero Adjusters are available only on Models 550-DC and 650-DC. No zero adjuster on Model 950. When ordering, add Z to stock number. Example: Stock number for Model 550-DC voltmeter, 0-1 volt range—**without zero adjuster is 5101. With zero adjuster, it is 5101-Z.**

PANEL CALIBRATION(S)

Meters are calibrated for non-magnetic panels. If for magnetic (steel) panel mounting, specify thickness and overall size of panel, and add-S to stock number when ordering, as 5101-S. If thickness of panel is not specified, meter will be supplied for .040 panel.

(Prices shown are net for individually boxed meters)

DC AMMETERS

RANGE	MODEL 550*		MODEL 650*		MODEL 950	
Amps.	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0–1	5201	$1.30	6201	$1.40	9201	$1.45
0–3	5202	1.30	6202	1.40	9202	1.45
0–5	5203	1.30	6203	1.40	9203	1.45
0–8	5204	1.30	6204	1.40	9204	1.45
0–10	5205	1.30	6205	1.40	9205	1.45
0–15	5206	1.30	6206	1.40	9206	1.45
0–25	5207	1.60	6207	1.70	9207	1.75
0–50	5208	2.00	6208	2.10	9208	2.15
1–0–1	5209	1.30	6209	1.40	9209	1.45
3–0–3	5210	1.30	6210	1.40	9210	1.45
5–0–5	5211	1.30	6211	1.40	9211	1.45
6–0–6	5212	1.30	6212	1.40	9212	1.45
10–0–10	5213	1.30	6213	1.40	9213	1.45
20–0–20	5214	1.40	6214	1.50	9214	1.55
30–0–30	5215	1.80	6215	1.90	9215	1.95
50–0–50	5216	2.00	6216	2.10	9216	2.15

*For zero adjuster, add 30¢ to price and Z to stock number. No zero adjuster on Model 950.

AC AMMETERS

RANGE	MODEL 550		MODEL 650		MODEL 950	
Amps.	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0–1	5501	$2.35	6501	$2.45	9501	$2.50
0–3	5502	2.35	6502	2.45	9502	2.50
0–5	5503	2.35	6503	2.45	9503	2.50
0–10	5504	2.35	6504	2.45	9504	2.50
0–30	5505	2.50	6505	2.60	9505	2.65
0–50	5506	3.00	6506	3.10	9506	3.15

DC MILLIAMMETERS

RANGE	MODEL 550*		MODEL 650*		MODEL 950	
Ma.	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0–3**	5314	$2.60	6314	$2.70	9314	$2.75
0–3	5301	2.00	6301	2.10	9301	2.15
0–5	5302	1.85	6302	1.95	9302	2.00
0–10	5303	1.75	6303	1.85	9303	1.90
0–15	5304	1.35	6304	1.45	9304	1.50
0–25	5305	1.30	6305	1.40	9305	1.45
0–50	5306	1.30	6306	1.40	9306	1.45
0–100	5307	1.30	6307	1.40	9307	1.45
0–150	5308	1.30	6308	1.40	9308	1.45
0–200	5309	1.30	6309	1.40	9309	1.45
0–300	5310	1.30	6310	1.40	9310	1.45
0–400	5311	1.25	6311	1.35	9311	1.40
0–500	5312	1.25	6312	1.35	9312	1.40

** 500 ohm internal resistance. Sensitive type; moving magnet construction — patent pending. Scale arc 75°

***** **For zero adjusters add 30¢ to price and Z to stock number.** No zero adjuster on Model 950.

AC MILLIAMMETERS

RANGE	MODEL 550		MODEL 650		MODEL 950	
Ma.	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0–10	5607	$2.65	6607	$2.75	9607	$2.80
0–25	5601	2.35	6601	2.45	9601	2.50
0–50	5602	2.35	6602	2.45	9602	2.50
0–100	5603	2.35	6603	2.45	9603	2.50
0–250	5604	2.35	6604	2.45	9604	2.50
0–500	5605	2.35	6605	2.45	9605	2.50

DC VOLTMETERS

RANGE	MODEL 550*		MODEL 650*		MODEL 950	
Volts	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0–1	5101	$1.25	6101	$1.35	9101	$1.40
0–3	5102	1.30	6102	1.40	9102	1.45
3–0–3	5103	1.30	6103	1.40	9103	1.45
0–5	5104	1.30	6104	1.40	9104	1.45
0–6	5105	1.30	6105	1.40	9105	1.45
0–8	5106	1.30	6106	1.40	9106	1.45
0–10	5107	1.35	6107	1.45	9107	1.50
0–15	5108	1.40	6108	1.50	9108	1.55
0–20	5121	1.40	6121	1.50	9121	1.55
0–25	5109	1.30	6109	1.40	9109	1.45
0–50	5122	1.35	6122	1.45	9122	1.50
0–25H**	5110	2.40	6110	2.50	9110	2.55
0–50H**	5111	2.80	6111	2.90	9111	2.95
0–75	5112	1.40	6112	1.50	9112	1.55
0–100	5113	1.50	6113	1.60	9113	1.65
0–100H**	5114	3.00	6114	3.10	9114	3.15
0–150	5115	1.70	6115	1.80	9115	1.85
0–150H**	5116	3.00	6116	3.10	9116	3.15
0–300H**	5117	3.25	6117	3.35	9117	3.40
0–500H**	5118	3.75	6118	3.85	9118	3.90
0–750H**	5119	4.50	6119	4.60	9119	4.65
0–8–160	5120	2.25	6120	2.35	9120	2.40

*For zero adjuster, add 30¢ to price and Z to stock number.
**H denotes high resistance. No zero adjuster on Model 950.

AC VOLTMETERS

RANGE	MODEL 550		MODEL 650		MODEL 950	
Volts	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
0–4	5401	$2.35	6401	$2.45	9401	$2.50
0–6	5402	2.35	6402	2.45	9402	2.50
0–10	5403	2.35	6403	2.45	9403	2.50
0–15	5404	2.35	6404	2.45	9404	2.50
0–50	5405	3.00	6405	3.10	9405	3.15
0–150	5406	3.10	6406	3.20	9406	3.25
0–300	5407	3.70	6407	3.80	9407	3.85
0–600	5408	4.50	6408	4.60	9408	4.65
0–750	5409	5.10	6409	5.20	9409	5.25

RESISTANCE METERS

RANGE		MODEL 550		MODEL 650		MODEL 950	
Ohms.	Volts	Stock No.	Net Each	Stock No.	Net Each	Stock No.	Net Each
10,000	4.5*	5701	$1.80	6701	$1.90	9701	$1.95

* Requires 3 flashlight cells for resistance readings but does not require resistor for voltage readings.

FLANGE ADAPTER RING

A sturdy flange ring for use with any Model 550 (round) Shurite meter where a flange mount is preferred. Makes appearance similar to Model 650. Wide flange, 2¾" dia. Telephone black finish. Screws, lockwashers and nuts included.

Model 5-A, NET..$0.18

POCKET TYPE METERS

A series of Shurite pocket meters using the Model 450 case is in production. Model 450 has nickel plated case, with two or three terminals, depending on ranges. Ranges suitable for pre-war and post-war batteries, portable radio batteries and many other electrical applications, including polarity indication types have been made, although they are not regularly stocked.

For ordering, use stock number regularly listed, changing the first digit to 4. For example, a 0-3 DC ammeter as illustrated becomes Stock No. 4202 as a pocket meter.

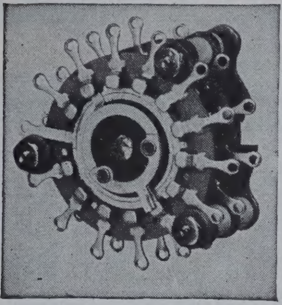
To arrive at price, add $0.40 to catalog price of Model 550 meters sold at $1.70 or less; add $0.30 for meters sold at $1.75 and above. For details, request Bulletin "Shurite Pocket Types."

Instruments J-B-T Testers

J-B-T INSTRUMENTS, INC.

INSTRUMENT AND TESTER SWITCHES (LAMINATED)

Rotary Selector — Single and Multi-Gang — Non-Shorting and Shorting*



SS-14-2

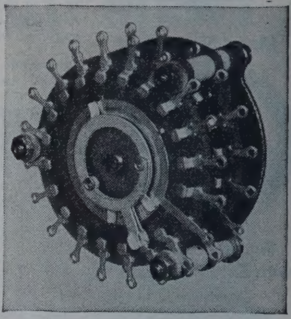
The switch that's IN LAST PLACE on the trouble-shooter's check list . . . AND PROUD OF IT!

J-B-T Instrument Type Rotary Selector Switches were designed and developed to meet the need for trouble-free, dependable performance in hard service. These superior switches are used extensively in high quality test equipment, portable instruments, inspection setups and experimental circuits. Available in two basic types—14 and 20 position—the design gives extra contacts in minimum space. One to six decks.

FEATURES:

Reliability—Rigid, 3-post deck suspension, instead of the usual 2; all parts heavily coin silver plated to meet 200 hour salt spray test; ball bearing action, beryllium-copper spring, and special design detent wheel assure positive indexing. Laminated plastic decks and rotors selected for maximum mechanical and dielectric strength.

Exceptional Compactness—14-position switch takes 13 circuits and "off" in 2" circle; 20-position switch handles 19 circuits and "off" in 2-23/32" circle. Additional decks require only 5/16" spacing per section.



SS-20-2

Low Contact Loss—Double-grip collector arms, and large-area contacts, silver to silver, result in an average contact resistance of .007 ohms or less during the useful life of the switch.

Ample Dielectric—Normal make-and-break with resistance load, 25 Ma. at 300 volts AC or DC; normal carrying capacity (not make-and-break), 1 amp.; maximum momentary capacity (not make-and-break), 5 amp.; maximum voltage between contacts and ground, 1000 volts R.M.S.; between decks and ground, 2000 volts R.M.S.

* Standard items, but not regularly stocked; check with your distributor.

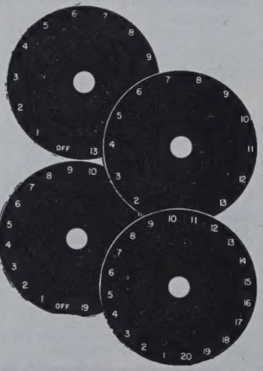
BASIC 14-POSITION: Knob supplied only on individually packed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to flat of shaft, unless otherwise specified. **Contact lugs** and common lugs positioned as shown, 13 contacts per deck. **One to six decks;** for each additional deck (or gang) add 5/16" to depth. **Continuous rotation type** supplied unless otherwise specified. **Adjustable Stop** supplied when requested. **Panel Locator** available on special order. Special **stabilizing end ring** used on switches with three or more decks. **Panel locator** positioned as shown unless otherwise specified on bulk orders.

BASIC 20-POSITION: Knob supplied only on individually packed units—not on bulk orders unless specified. **Collector arm** placed directly opposite to flat on shaft, unless otherwise specified. **Contact lugs** and common lug positioned as shown, 19 contacts per deck, continuous rotation types. **One to six decks;** for each additional deck, add 5/16" to depth. Continuous rotation type supplied unless otherwise specified. **Panel locator** positioned as shown unless otherwise specified on bulk orders.

ETCHED DIAL PLATES

SS-14 or MS-14 Series
SS-20 or MS-20 Series

EP-13 off thru 13	$0.19
EP-14 1 thru 14	$0.19
EP-19 off thru 19	$0.19
EP-20 1 thru 20	$0.19



LAMINATED SWITCHES, SS-14 TYPE

(14 positions; angular indexing 25° 43′)

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Net Price, Individually Boxed, Including Knob
SS-14-1	14	1	1	N-S	**$1.35**
SS-14-1A*	5†	2	1	N-S	**1.40**
SS-14-1S*	14	1	1	S	**1.35**
SS-14-1CS‡	14	1	1	CS	**1.70**
SS-14-2	14	1	2	N-S	**1.65**
SS-14-2A*	5†	2	2	N-S	**1.75**
SS-14-2S	14	1	2	S	**1.65**
SS-14-2CS‡	14	1	2	CS	**2.30**
SS-14-3	14	1	3	N-S	**2.05**
SS-14-3S*	14	1	3	S	**2.05**
SS-14-4	14	1	4	N-S	**2.65**
SS-14-6	14	1	6	N-S	**3.85**

*Standard items, but not regularly stocked; check with your distributor.

†Denotes correction in former catalogs; 5 positions include 4 "live" and 1 "off".

‡Complete shorting — all contacts shorted except one in use.

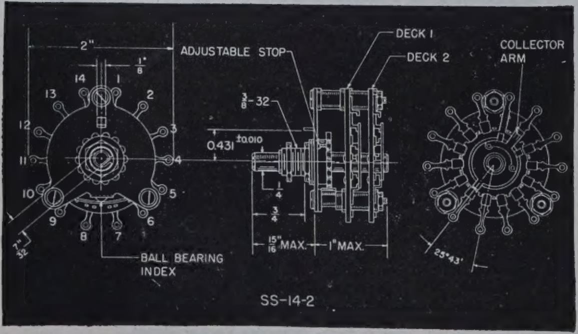
LAMINATED SWITCHES, SS-20 TYPE

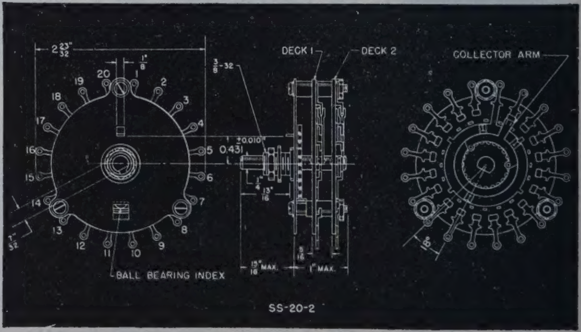
(20-positions; angular indexing, 18°)

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Net Price, Individually Boxed, Including Knob
SS-20-1	20	1	1	N-S	**$1.75**
SS-20-1A*	6§	2	1	N-S	**1.80**
SS-20-1S*	20	1	1	S	**1.75**
SS-20-2	20	1	2	N-S	**2.20**
SS-20-2S*	20	1	2	S	**2.20**
SS-20-3	20	1	3	N-S	**2.95**
SS-20-4	20	1	4	N-S	**3.60**
SS-20-6	20	1	6	N-S	**5.10**

*Standard items, but not regularly stocked; check with your distributor.

§Denotes correction in former catalogs; 6 positions include 5 "live" and 1 "off".





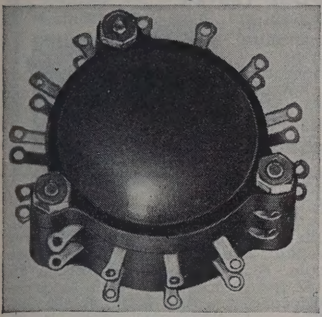
Special **stabilizing end ring** used in 14-position switches with three or more decks.

Instruments J-B-T Testers

J-B-T INSTRUMENTS, INC.

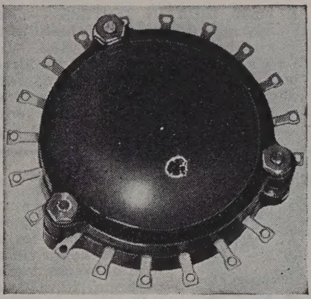
BRAND NEW! MOLDED ROTARY SELECTOR SWITCHES

Fully Enclosed — Single and Multi-Gang — Shorting and Non-Shorting*



MS-14-2

- **All moving contacts enclosed — eliminates dirt and corrosion.**
- **Contact lugs permanently integrated into switch assembly.**
- **Sturdy construction with 3-post deck suspension, double grip collector arms, and rectangular drive shaft through decks for precision indexing.**
- **Interchangeable, electrically and mechanically, with J-B-T 14- and 20-position laminated switches, widely used by industry and Armed Services.**



MS-20-1

FEATURES:

For description of rigid 3-post construction; heavy coin silver plating to meet 200-hour salt-spray test; exceptional compactness; .007 ohm average contact resistance; current-carrying capacity and voltage breakdown, see adjoining page on SS-14 and SS-20 laminated switches. Besides fully enclosing all the moving contact parts, the molded switches differ from the laminated construction in the design of the detent mechanism, but both types provide the positive indexing which quickly identifies the superior quality of J-B-T switches.

BASIC 14-POSITION MOLDED (MS-14): 13 circuits and "off" per deck in 2" circle for compactness. **Molded end cover** regularly supplied on MS-14 series. **Knob** included with individually boxed units — not on bulk orders unless specified. **Collector arm** placed directly opposite to flat of shaft, so that knob pointer points to live contact. **Common or "off" contact lug** is bent down for ready identification. **Internal construction:** double-grip collector arms hold contact lug on upper and lower surfaces; collector ring is self-wiping. **One to six decks** add $\frac{5}{16}$" per deck (or gang) to depth; for special orders beyond six decks indexing mechanisms at top and bottom of switch are recommended, adding 1" extra to over-all depth. **Continuous rotation type** supplied unless adjustable stop (type MAS) is ordered or, on quantity orders, pre-set fixed stops are specified. **Panel locator** is available on quantity orders when specified; on MS-14-4 and MS-14-6, extra hex nut and longer screw are supplied for inverting supporting screw nearest common, thus converting into panel locator.

BASIC 20-POSITION MOLDED (MS-20): 19 circuits and "off" per deck in $2\frac{23}{32}$" circle for compactness. **Molded end cover** regularly supplied. **Knob** included with individually boxed units — not on bulk orders unless specified. **Collector arm** placed directly opposite to flat of shaft, so that knob pointer points to live contact. **Common or "off" contact lug** is bent down for ready identification. **Internal construction:** double-grip collector arms and self-wiping collector ring are standard construction. **One to six decks;** add $\frac{5}{16}$" per deck (or gang) to depth. **Continuous rotation type** supplied; on quantity orders, pre-set fixed stops are available. **Panel locator** available on quantity orders when specified; on MS-20-4 and MS-20-6, extra hex nut and longer screw are supplied for inverting supporting screw nearest common, thus converting into panel locator.

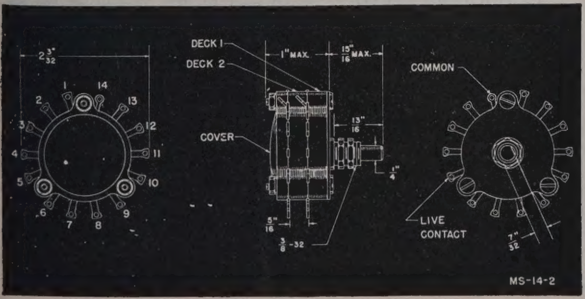
MOLDED SWITCHES, MS-14 TYPE

(14 positions; angular indexing 25° 43')

Continuous rotation, no stops

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Net Price, Individually Boxed Including Knob
MS-14-1	14	1	1	N-S	**$1.35**
MS-14-1S*	14	1	1	S	**1.35**
MS-14-2	14	1	2	N-S	**1.65**
MS-14-2S*	14	1	2	S	**1.65**
MS-14-3	14	1	3	N-S	**2.05**
MS-14-4	14	1	4	N-S	**2.65**
MS-14-6	14	1	6	N-S	**3.85**

*Standard items not regularly stocked; check with your distributor.



MOLDED SWITCHES, MS-20 TYPE

(20 positions; angular indexing 18°)

Continuous rotation, no stops

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Net Price, Individually Boxed Including Knob
MS-20-1	20	1	1	N-S	**$1.75**
MS-20-1S*	20	1	1	S	**1.75**
MS-20-2	20	1	2	N-S	**2.20**
MS-20-2S*	20	1	2	S	**2.20**
MS-20-3	20	1	3	N-S	**2.95**
MS-20-4	20	1	4	N-S	**3.60**
MS-20-6	20	1	6	N-S	**5.10**

*Standard items not regularly stocked; check with your distributor.

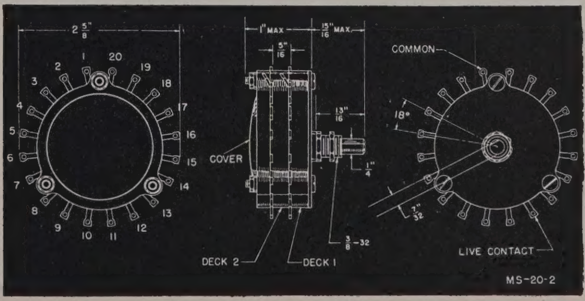
ADJUSTABLE STOP MOLDED SWITCHES, MAS-14 TYPE

(14 positions; angular indexing 25° 43')

IMPORTANT: Enclosed adjustable stop mechanism located on panel side of switch will increase over-all switch length $\frac{5}{32}$".

Model	Positions Per Circuit	Circuits Per Deck	Decks or Gangs	Shorting, Non-Shorting	Net Price, Individually Boxed Including Knob
MAS-14-1	14	1	1	N-S	**on application**
MAS-14-1S*	14	1	1	S	**on application**
MAS-14-2	14	1	2	N-S	**on application**
MAS-14-2S*	14	1	2	S	**on application**
MAS-14-3	14	1	3	N-S	**on application**
MAS-14-4	14	1	4	N-S	**on application**
MAS-14-6	14	1	6	N-S	**on application**

*Standard items not regularly stocked; check with your distributor.

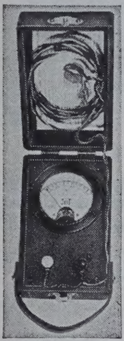


Instruments J-B-T Testers

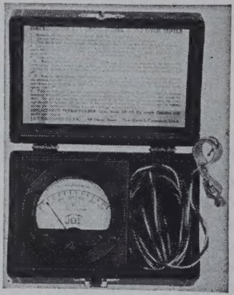
J-B-T INSTRUMENTS, INC.

APPLIANCE TEMPERATURE TESTERS

A NEW IDEA IN TESTERS — The need for scientific but sturdy portable test equipment in the appliance service field is met by this exclusive line. Here the user profits from J-B-T's wide experience in building field test sets for many well-known manufacturers of ranges, irons, refrigerators, deep freeze units, and similar equipment. All J-B-T testers include the principle of remote reading of temperature,—and temperature measures the real usefulness of the appliance.

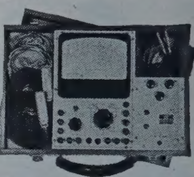


MODEL 32-JP-4. Checks oven temperature of gas and electric ranges and other appliances. Ideal for testing and setting thermostats. Has binding posts for quick attachment of thermocouples listed below to check irons, toasters, waffle-bakers, roasters, clothes dryers, etc. Exceptionally fast, continuous response; automatically compensates for ambient temperature. For full details see Bulletin JP-104. Range 0—650° F; black leatherette case 6" x 3⅞" x 3¾". Complete with SA-116 5½' calibrated thermocouple, clip for attaching to grill, and convection shield for steady readings......**$23.75**



MODEL 32-JP-3. A very popular oven tester with all the features of Model 32-JP-4 except that no carrying strap is included, and the thermocouple supplied is attached permanently instead of to binding posts. This model is extensively used for service work, sales demonstrations and inspection. Range 0-650° Fahrenheit; 10° divisions readable to 2½°; automatically compensated for ambient temperature. For more details, see Bulletin JP-103. Complete with attached SA-116 5½' calibrated thermocouple, clip and shield..................**$22.75**

ALL-PURPOSE TESTER

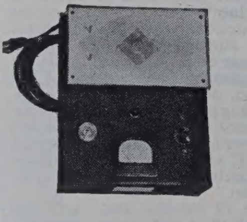


MODEL 61-JRT. This 9-in-1 tester is the very latest for accurate temperature adjustment and precise electrical circuit analysis. For ranges, refrigerators and many other appliances. Rapidly reads four cold zones, —100° to +80°F, up to 14' distant; two heat zones, 0—600° F, up to 5½' distant; one voltage range, 0—300 A.C.; and, with transformer, two current ranges, 0—30 and 0—60 amps., A.C. Sturdy, polished walnut case 15½" x 10$\frac{3}{16}$" x 4¾" with handle and slip hinges. Two-color etched metal panel. Separate switches protect bulb and ammeter circuits. Requires one standard flash-light cell, replaceable in the field. Temperature scale accuracy ±2% of full scale. A.C. readings ±5% (±3% for rectifier). Space for four SA-162 Resistance Bulbs with 14' polyethylene lead, two SA-116 thermocouples with clip and shield, one pair of 4' electrical leads with prods and plugs, 6" jumper leads, and enclosed transformer. Other accessories, listed below, may be added for testing irons, grills, roasters, toasters, etc. As described, except including two SA-162 resistance bulbs, two SA-116 thermocouples, necessary electrical leads, and AS-TR-2 built-in transformer **$97.50**

For more details, see Bulletin JRT-349.

MODEL 61-JRT (LESS TRANSFORMER). Same unit, same scales, except does not read in amperes; AS-TR-2 transformer assembly omitted **$85.00**

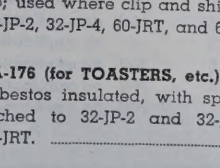
IRON TESTER



MODEL 32-JIT. Self-contained bench type tester; checks all makes of irons; measures thermostat temperatures; and shows open or short circuits. Automatically compensated for room temperature. Also indicates operating temperature of the sole plate (working surface) on non-electric or cordless irons. Black metal case; overall size 10" x 12" x 5½", scale 0—650°F, 15 amp. fuse, 6' cord, 110-volt, 50-60 cycles..........**$28.75**

ATTACHMENTS AND SPARE PARTS

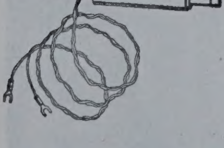
THERMOCOUPLES



SA-116 with SHIELD and CLIP. Flexible No. 22 gauge iron constantan, asbestos insulated, 5½', with attachment clip and convection shield; for use with Models 32-JP-1, 32-JP-2, 32-JP-3 and 32-JP-4 oven testers; also 60-JRT and 61-JRT all-purpose testers. **$1.65**

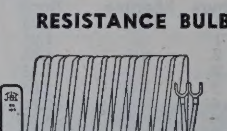
SA-175 (PLAIN TIP). For roasters, waffle irons, etc., 5½' iron constantan flexible No. 22 gauge, asbestos insulated, with small ball tip; used where clip and shield of SA-116 not suitable; for Models 32-JP-2, 32-JP-4, 60-JRT, and 61-JRT..................**$1.30**

SA-176 (for TOASTERS, etc.) 5½' iron constantan No. 22 gauge, asbestos insulated, with special disc to collect heat; easily attached to 32-JP-2 and 32-JP-4 oven testers, also 60-JRT and 61-JRT. **$2.25**



SA-300 (FOR SURFACE READINGS). Spring-type iron constantan in Transite tip with handle and 5' No. 22 gauge lead for extremely rapid heat readings; for attachment to 32-JP-3, 32-JP-4, 60-JRT and 61-JRT appliance testers **$5.00**

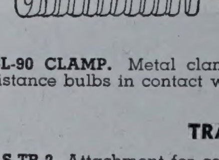
SA-301 (REPLACEMENT TIP FOR SA-300). Transite tip and thermal element only **$2.50**



IRON TESTER THERMOCOUPLE, MODEL IT-1. This attachment is identical with the 32-JIT, except there is no meter. It is easily connected to Models 32-JP-2, 32-JP-4, 60-JRT and 61-JRT. Shows open circuits and shorts, checks sole plate temperatures and thermostats on all types of irons. **$14.75**

SA-170 (REPLACEMENT THERMOCOUPLE for IRON TESTERS 32-JIT and IT-1). Thermocouple and lead, including aluminum plate and special tip, quickly installed in the field..................**$1.90**

RESISTANCE BULBS (FOR COLD TESTING)



SA-142. For use only with Model 60-JRT; calibration is not interchangeable with SA-162; has no embossed number..................**$5.00**

SA-162. For use only with Models 50-50 and 61-JRT; identified by embossed part number..................**$5.00**

CL-90 CLAMP. Metal clamp for holding SA-142 and SA-162 resistance bulbs in contact with surfaces up to ¼"..................**$0.25**

TRANSFORMERS

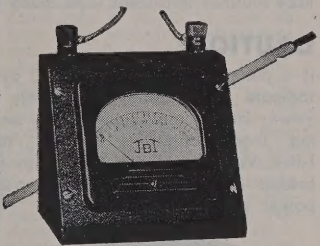
AS-TR-2. Attachment for compartment of 61-JRT all-purpose tester, completely housed, with jumper lead and panel; reads 30 and 60 AC amp. scales on tester..................**$15.00**

AS-TR-3. Attachment for increasing usefulness of 60-JRT all-purpose tester. Includes side rails for attaching inside compartment; fully housed. Reads 30 and 60 AC amp. by dividing volt scale by 10 or 5..................**$16.50**

TEMPERATURE INDICATORS

WHERE TO USE: To check heat rise of motors, transformers and coils; for laboratory furnaces, inspection set-ups, for remote indication of infra-red and other oven temperatures; and to maintain controlled industrial processes such as heat treating and annealing. When used with selector switch, permits centralized reading of one to ten thermocouples, as in Diesel exhaust manifold applications.

MODEL 32-J



MODEL 32-J PYROMETER IN SN-3 STAND. Mounted in sloping front black metal stand, 4¼″ high x 4⅜″ deep x 4⅛″ wide. Compensated for ambient temperature. Medium resistance system, damped for quick reading on 2⅜″ scale, assures ruggedness and pointer stability. To retain the accuracy of the installation: use only the type and resistance of thermocouple and lead which are provided; do not cut extra lead—coil it — change in length changes calibration. A protection tube is not generally required. Many users find it convenient to keep an extra couple and lead on hand.

MODEL 32-J IN SN-3 STAND

0°— 650° F— 350° C, includes SA-91 thermocouple, SA-84 lead, and CB-1 connector block........ **$27.50**

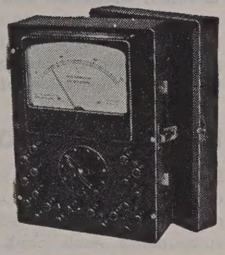
0°—1200° F— 650° C, includes SA-87, SA-82, and CB-1........ **27.50**

0°—2000° F—1100° C, includes SA-87, SA-82, and CB-1........ **27.50**

MODEL 32-J IN SN-5 STAND (not illustrated). With 3 binding posts to accommodate flexible extra lead and thermocouple for hard-to-reach locations.

0°—650° F with SA-91 thermocouple, SA-84 lead, CB-1 connector block, and SA-86 flexible lead and thermocouple........ **$31.00**

MODEL 60-JPS



MODEL 60-JPS. This portable makes it easy to **know** temperatures at **one to ten** locations. Excellent for study of heat in various parts of the same equipment, or in a battery of units. Knife-edge pointer, 5.6″ scale. Heavy-duty thermocouple switch has average contact resistance of .00075 ohms or less. Automatically compensated for ambient temperature, indoors or outdoors. To retain accuracy of 1% full scale, use leads and thermocouples equal to resistance and e.m.f.vs-temperature characteristics for which instrument is calibrated. Medium resistance system assures portability. Housed in natural-finish wood case 11⅜″ x 8⅝″ x 4⅝″ over rubber feet. A "must" for inspection, maintenance, and engineering.

60-JPS—0°—600° F with SA-86, 7′ thermocouple and lead for small apertures........ **$92.60**

60-JPS—0°—1200° F with SA-88, SA-82, and CB-1........ **95.00**

60-JPS—0°—2000° F with SA-88, SA-82, and CB-1........ **95.00**

60-JP—For one thermocouple only; furnished with thermocouple and lead same as 60-JPS, but without selector switch.

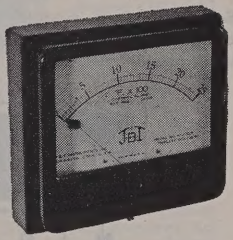
0°— 600° F, with SA-86........ **$67.60**

60-JP—0°—1200° F, with SA-88, SA-82, and CB-1........ **70.00**

60-JP—0°—2000° F, with SA-88, SA-82, and CB-1........ **70.00**

Note: When ordering additional thermocouples, specify couples and leads as above. Centigrade equivalent scales available on order.

Model 70-J



MODEL 70-J PYROMETER, for accurate reading at a distance, has full 6″ scale and spade pointer, with accuracy of 1% of total scale deflection. Automatically compensated for ambient temperature. Molded case mounted in metal protecting shell 7⅜″ x 8⅛″ x 1½″. Connections through bottom of case for wall or front-of-board mounting. When ordering, specify which standard scale range: 0°—600° F for 1938 std. I-C; 0°—1200° F for C-A; 0°—2000° F for C-A thermocouples.

PRICE, including 24″ thermocouple and 26′ lead........ **$60.00**

Note: Centigrade equivalent scales available on order.

TEMPERATURE ACCESSORIES

LEAD WIRES. To bring the reference junction within the pyrometer, compensating or extension lead wires should always be used. See the instrument dial for (1) the kind of lead and (2) combined resistance of lead and thermocouple. Standard leads include:

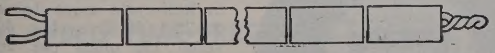
SA-82 6′ compensating lead for chromel-alumel couples; duplex, stranded; asbestos-insulated, cotton-braid impregnated with moisture-proof and flame-proof compound; terminals at instrument end; other end tinned for connector block **$1.40**

SA-83 26′ compensating lead for chromel-alumel as above **$4.40**

SA-84 6′ extension lead for iron-constantan, 1938 calibration; duplex; moisture-proof and flame-proof; prepared as above **$1.40**

SA-85 26′ extension lead for iron-constantan, 1938 calibration; similar to above........ **$4.40**

SA-86 7′ iron-constantan thermocouple and lead combined; twisted pair No. 20 Ga., asbestos-insulated—for intermittent use on 600° F scales; terminals at instrument end; other end welded; (resistance is not interchangeable with SA-84 nor with SA-85)........ **$1.70**



THERMOCOUPLES. For pyrometers and leads above, J-B-T thermocouples are carefully selected, standardized, and tested.

SA-87 12″ No. 14 Ga. chromel-alumel, 2-hole ceramic beads, fits 5/16″ hole; welded tip........ **$2.80**

SA-88 same except 24″ No. 14 Ga........ **$3.50**

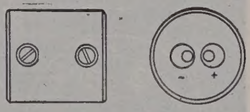
SA-89 12″ No. 8 Ga. chromel-alumel, 2-hole ceramic beads, fits 7/16″ hole; welded tip........ **$2.80**

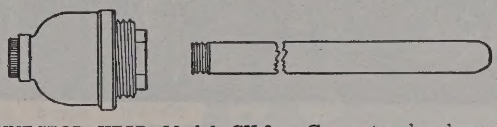
SA-90 same except 24″ No. 8 Ga........ **$3.50**

SA-91 12″ No. 14 Ga. iron-constantan, 1938 calibration; 2-hole ceramic beads, fits 5/16″ hole; welded tip........ **$2.35**

Flexible Thermocouple, 7′ length, see SA-86 lead wire.

CONNECTOR BLOCK Model CB-1. Lava connector block, withstands high temperatures, accommodates all thermocouples up to No. 6 Ga. Heavy brass connectors keep contact resistance low. Can be used independent of connector head........ **$1.50**





CONNECTOR HEAD Model CH-6. Connector head encloses connector block and rigidly supports protection tube around thermocouple. Opens for thermocouple inspection without disconnecting circuit. Normally supplied with reducing bushing for ½″ i.p.s. Composition bushing at top can be removed for permanent ½″ conduit installation. Including block........ **$2.50**

PROTECTION TUBES protect and support "base-metal" thermocouples such as above. Used in permanent installations at higher temperatures, or in damaging atmospheres. One end is closed, other end normally threaded for ½″ i.p.s. Proper quality of tubing is very important.

No. 1 Wrought Iron—For temperatures to 1200° F in oil baths, brazing, and general intermittent duty.

TU-11 No. 1—12 inches **$1.50** **TU-12** No. 1—24 inches **$2.00**

No. 7 Alloy—27% chromium, iron; seamless drawn tube; for cyanide pots, salt baths with cyanide, open fire with sulphurous content; to 2300° F.

TU-5 No. 7—12 inches **$6.25** **TU-6** No. 7—24 inches **$9.85**

No. 9 Alloy—62% nickel, 13% chromium; seamless drawn; for salt baths without cyanide; for gas and oil open fire furnaces and general use, except sulphurous atmospheres; to 2300° F.

TU-2 No. 9—12 inches **$4.75** **TU-3** No. 9—24 inches **$8.25**

Note: For temperatures above 2300° F; platinum, platinum-rhodium thermocouples are available.

VIBRATING REED FREQUENCY METERS (PATENTED)

J-B-T Vibrating Reed Frequency Meters are used extensively in radio, telephone, and television service, on engine generator sets, in laboratories, in many types of electronic equipment, on panel and control boards in central stations and industrial plants—wherever constant or known frequency is important to efficient operation of equipment.

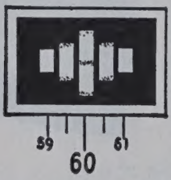
PRINCIPLE OF OPERATION:

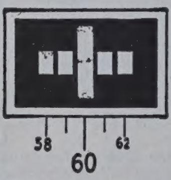
Simple in design, the J-B-T Meter consists of a case, base, dial and central mounting frame, with a series of spring steel reeds screwed to a reed mounting bar, individual driving coil surrounding each bank of reeds, permanent magnet, series resistor and terminal studs.

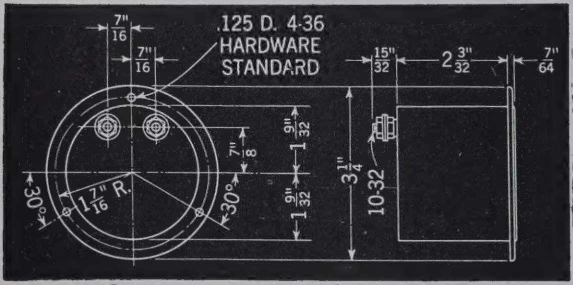
Each reed is adjusted to respond by resonance to but one frequency. As the alternating current (or interrupted direct current) excites the driving coil, the one reed "in tune" with the frequency in the coils will respond by vibrating rapidly because of permanent magnet polarization and induced magnetism from the coil. The instrument is adapted to specified operating voltage by a series resistor. Frequency of the current is read on the graduated face of the instrument.

ADVANTAGES:

Some standard models are available in either half cycle or full cycle steps, as shown below on two meters indicating a frequency of 60 cycles.

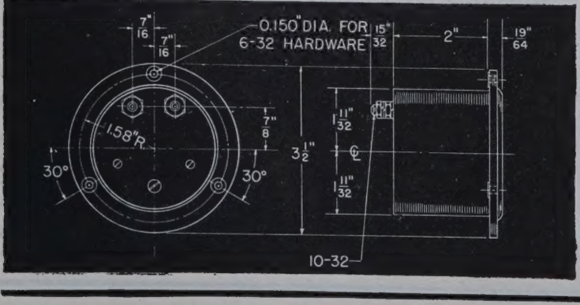





7"/16
7"/16
.125 D. 4-36 HARDWARE STANDARD
15"/32
2 3"/32
7"/64
1 9"/32
7"/8
1 9"/32
3 1"/4
10-32
30°
1 7"/16 R.
30°

Above: Models 30-F, 31-F, 33-F, 34-F; Metal Case

Below: Models 30-FX, 31-FX, 33-FX, and 34-FX; Molded Case Meets Mounting Dimensions of JAN-1-6 and AWS


7"/16
7"/16
0.150" DIA. FOR 6-32 HARDWARE
15"/32
2"
19"/64
1.58"R
7"/8
3 1/2"
1 11"/32
℄
1 11"/32
30°
30°
10-32

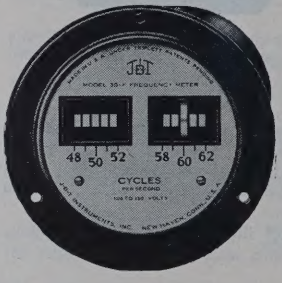
Both response patterns are extremely easy to read. In the half-cycle instrument the response is broad; in the full-cycle instrument the response is sharp.

Guaranteed accuracy of ±0.3% or better of the frequency being measured, depending on the model. High fatigue safety factor for continuous operation, and outstanding temperature stability. Temperature compensators are not required.

All meters are permanently calibrated at the factory and do not require subsequent adjustment. Accuracy is not affected by wave form or external magnetic fields. Built with no pivoted parts and with lock washers at every critical point, these rugged meters can take rougher treatment than many instruments.

CAUTION:

If a meter plugged in on a 60 cycle AC power line does not indicate a frequency of exactly 60 cycles, trust the meter! Power supply may momentarily be off-frequency due to changing load conditions beyond the control of Utility. All J-B-T Vibrating Reed Frequency Meters are accurately calibrated at the factory, entirely independent of frequency of power supply.


JBT
MODEL 30-F FREQUENCY METER
48 50 52
58 60 62
CYCLES
PER SECOND
J-B-T INSTRUMENTS, INC. NEW HAVEN, CONN.

MODEL 30-F

MODEL 30-F

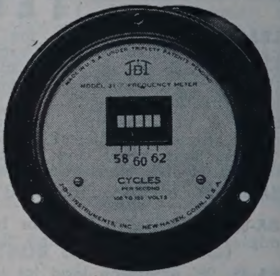
Range: 48-52 and 58-62 cycles. Double window for ease of reading frequency in either range. Often specified for export. 100-130 volts; 130 ohms per volt; 1 watt power consumption. Accuracy ±0.3%. Flush panel mounting. For details, Bulletin VF-43.

30-F, 48-52 and 58-62 cy., 3¼" Metal Case	$25.00
30-FX, 48-52 and 58-62 cy., 3½" Molded Case, AWS mtg.	$25.00

MODEL 31-F

Used in standby power equipment. Handy for accurately measuring frequency of power source. Five reeds, 58-62 cycles. Other characteristics same as Model 30-F. For details, Bulletin VF-43).

31-F, 58-62 cy., 3¼" Metal Case	$21.50
31-FX, 58-62 cy., 3½" Molded Case, AWS mtg.	$21.50

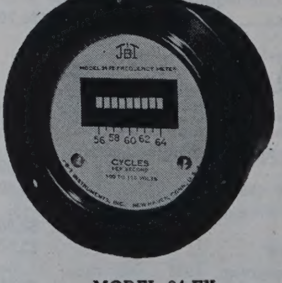

JBT
MODEL 31-F FREQUENCY METER
58 60 62
CYCLES
PER SECOND
J-B-T INSTRUMENTS, INC. NEW HAVEN, CONN.

MODEL 31-F

MODEL 34-FX

Used where a broader frequency band is desirable. Nine reeds, 56-64 cycles, or in half-cycle steps (accuracy ±0.2%) 58-62 cycles. 100-130 volts; 130 ohms per volt; 1 watt power consumption. Flush panel mounting. For details, Bulletin VF-43.

34-F, 56-64 cy., 3¼" Metal Case	$24.75
34-FX, 56-64 cy., 3½" Molded Case	$24.75
34-F, 58-62 cy., 3¼" Metal Case	$26.25
34-FX, 58-62 cy., 3½" Molded Case, AWS mtg.	$26.25

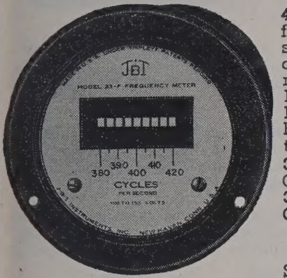

JBT
MODEL 34-FX FREQUENCY METER
56 58 60 62 64
CYCLES
PER SECOND
J-B-T INSTRUMENTS, INC. NEW HAVEN, CONN.

MODEL 34-FX

Instruments J-B-T Testers

J-B-T INSTRUMENTS, INC.

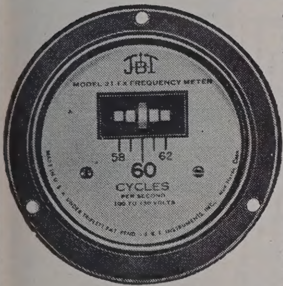
MODEL 33-F



400-cycle. Used for measuring frequency of high-cycle power sources, including new heavy aircraft. Accuracy ±0.3%. Nine reeds, 380 to 420-cycle range. 100-130 volts; 70 ohms per volt; 1.75 watts power consumption. Flush panel mounting. For details, see Bulletin VF-43-1A.

33-F, 380-420 cy., 3¼" Metal Case **$31.00**
33-FX, 380-420 cy., 3½" Molded Case, AWS mtg. **$31.00**

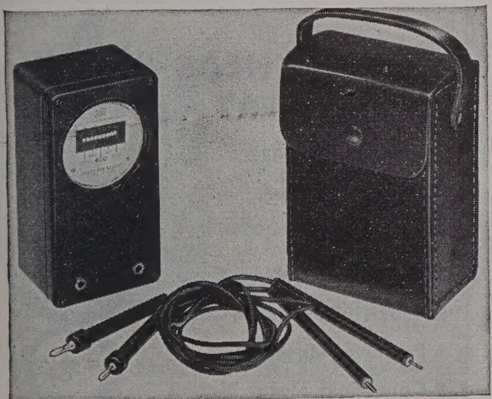
MODEL 21-FX



Smallest frequency meter manufactured. Meets ASA (AWS) C39.2-1944 in depth of case as well as in mounting dimensions and mounting hardware. Matches other 2½" panel instruments. Weighs only 4½ oz. 100-130 volts; 5 reeds; 58-62 cycles; 190 ohms per volt; 0.6 watt power consumption. Also 116 to 124 cy.; 160 ohms per volt; 0.7 watt power consumption. 390 to 410 cy.; 85 ohms per volt; 1.3 watts power consumption. Flush panel mounting. For details, see Bulletin VF-43-1B.

21-FX, 58-62 cy., 2-11/16" Molded Case **$20.50**
21-FX, 116-124 cy., 2-11/16" Molded Case, AWS mtg. .. **$23.00**
21-FX, 390-410 cy., 2-11/16" Molded Case **$25.00**

PORTABLE FREQUENCY TESTERS



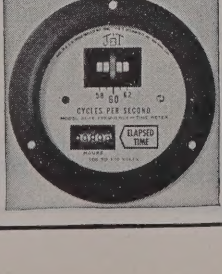
MODEL 33-FP-9L. Handy, compact, portable instrument of exceptional accuracy even under poor wave-form conditions, fluctuating voltage or external magnetic disturbances. Meets exacting test requirements of aviation, signal and communication equipment. Housed in sturdy molded case 5⅞" x 3$\frac{1}{16}$" x 2⅝" with leather carrying case 6$\frac{3}{32}$" x 4¼" x 2¾". 4' leads are supplied complete with sharp 5" insulated test picks and banana plugs. Electrical characteristics identical with 400 cycle 33-F. Model 34-FP-9L electrical characteristics identical with 60-cycle 34-FX.

33-FP-9L, 380-420 cy. (Supersedes Model 33-FP-9) **$43.25**
34-FP-9L, 56-64 cy. (Supersedes Model 34-FP-9) **37.00**

ELAPSED TIME-FREQUENCY METER

MODEL 31-FE. A unique panel instrument which combines the elapsed time meter or running time meter with frequency reeds. It is especially useful on motor generator sets and on electrical equipment where maintenance routine calls for periodic servicing. Reads 9,999.9 hours; 58-62 cycles at 110-130 volts. Self-starting.

31-FE **$30.00**



VACUUM TUBE FREQUENCY METERS

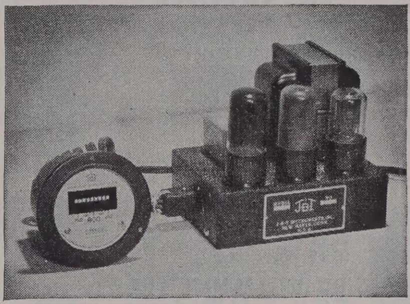
(PATENTS PENDING)

PRINCIPLES OF OPERATION: J-B-T Models 33-VTF and 39-VTF Vacuum Tube Frequency Meters provide the maximum degree of accuracy in measuring frequencies located within definite bands. A multi-vibrator circuit in the electronic unit divides the incoming frequency by two, three or higher integers, then measures resultant frequency on a reed instrument.

WHERE USED: These models are especially useful for checking audio-oscillators, frequency converters, radar equipment, and for standardizing less accurate frequency measuring units.

ADVANTAGES: **Extreme Accuracy:** Within ±0.25% for any indicated frequency. **Permanent Accuracy:** Calibrated at factory — no subsequent calibration or standardization required. **Temperature Drift Eliminated:** No initial stabilization period required. **Burn-Out Proof:** No protection needed against accidental frequencies above the range being measured. **Few Controls:** No complicated operation. **Stability of Circuit:** Accuracy of reading is independent of line voltage variation. No voltage regulator, external or internal, is required.

MODEL 33-VTF, FIELD TYPE



Model 33-VTF with cover removed. Vacuum tube unit attaches to rear of panel, meter is flush.

Frequency ranges: 380-420 cycles; 760-840 cycles; 1140-1260 cycles; available singly or in combination. (See Model 33-F for single range 380-420 cycle meters). Voltage range: 100-130 volts. Power to operate the units is obtained from an inverter or other source of frequency being measured. Power consumption: approximately 20 watts. This model requires no power supply other than the source whose frequency is being checked. Input impedance: approximately 650 ohms. Tubes used: 1—6N7-GT/G multi-vibrator; 1—6V6-GT/G amplifier; 1—6X5-GT/G rectifier. Size 4⅝" x 5½" x 6"; weight: approximately 6 lb. Black wrinkle finish. Frequency meter is 3½" standard flush panel mounting. Connecting leads included.

MODEL 33-VTF
Single range 760-840 cy. **$110.00**
Single range 1140-1260 cy. **117.50**
Double range 760-840; 1140-1260 cy. **125.00**

MODEL 39-VTF, LABORATORY TYPE

Frequency ranges: Basic range, 380-420 cycles. Multiplier switch permits use in ranges of 2, 3, 4, 6 and 9 times the fundamental range. (400, 800, 1200, 1600, 2400 and 3600 cycle bands). Voltage range: 100-350 volts. Power consumption: Approximately 25 watts at 115 volts. 60 cycles. Input sensitivity: 500,000 ohms. Size: housed in metal cabinet 8" x 10" x 8" with sloping panel.

Model 39-VTF, Series A— $257.00

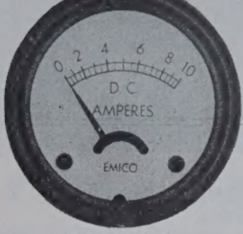
Model 39-VTF, Series A, showing portability

JBT
ELAPSED TIME METER
00000
HOURS
115-125 VOLTS
60 CYCLES

ELAPSED TIME METER

MODEL 31-EX. To record operating time of 60 cycles, 115 volts, A.C. electrical and electronic equipment, this instrument registers in 1/10 hour steps to 9,999.9 hours, then automatically re-sets. Molded 3½" case matches "X" frequency meters, fully encloses all parts. Popular for tube life, maintenance schedules, machine time, etc.

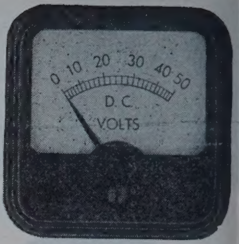
31-EX **$14.50**



TYPE NF-2C

EMICO PRECISION INSTRUMENTS
FOR
PANELS AND TEST SETS

Electro Mechanical Instrument Co.
813 Chestnut Street, Perkasie, Pa.



TYPE RF-2C

EMICO panel and test meters are rugged and reliable instruments. Cases are of steel and finished in durable black. DC meters have the new HI-TORK magnetic movements and are accurate to well within 5%. AC meters are of the moving iron type and are also accurate to within 5%.

MOUNTING—All model NF-2C and RF-2C meters will fit into a 2$\frac{1}{16}$" diameter hole and are mounted by means of a **U.** clamp.

DESIGN—EMICO meters are designed to give satisfactory service under the most severe conditions. They are styled to add to the prestige and appearance of electrical equipment.

CALIBRATION—Since the instruments are calibrated in steel cases, their accuracy is not affected by panels made of magnetic materials of nominal thickness.

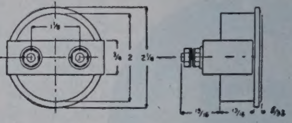
GUARANTEED—All EMICO instruments are guaranteed against defective material and workmanship for a period of one year after date of purchase, and will be repaired or replaced if sent to the factory postpaid with a 50c handling charge.

EMICO instruments are available in quantities to jobbers or manufacturers in the following sizes: NF-2", RF-2", RF-2½", and RF-4½" at 3% accuracy. We invite your inquiries on instruments for special application.

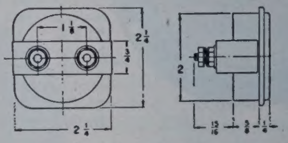
PRICES—Prices listed are net and include all hardware and individual boxing.

DEALERS' PRICE LIST

Range	MODEL NF-2C Catalog Number	MODEL NF-2C Dealers' Net Price	MODEL RF-2C Catalog Number	MODEL RF-2C Dealers' Net Price
DC AMMETERS				
0-1	2101	$1.30	2201	$1.40
0-5	2102	1.30	2202	1.40
0-10	2103	1.30	2203	1.40
0-20	2104	1.30	2204	1.40
0-30	2105	1.30	2205	1.40
1-0-1	2109	1.30	2209	1.40
3-0-3	2110	1.30	2210	1.40
6-0-6	2111	1.30	2211	1.40
10-0-10	2112	1.30	2212	1.40
15-0-15	2113	1.30	2213	1.40
20-0-20	2114	1.30	2214	1.40
30-0-30	2115	1.30	2215	1.40
DC MILLIAMMETERS				
0-3	2121	$1.90	2221	$2.00
0-5	2125	1.85	2225	1.95
0-10	2126	1.75	2226	1.85
0-20	2127	1.30	2227	1.40
0-30	2128	1.30	2228	1.40
0-50	2129	1.30	2229	1.40
0-100	2130	1.30	2230	1.40
0-150	2130-A	1.30	2230-A	1.40
0-200	2130-B	1.30	2230-B	1.40
0-300	2131	1.30	2231	1.40
0-500	2132	1.30	2232	1.40
DC VOLTMETERS (LOW RESISTANCE)				
0-1	2134	$1.30	2234	$1.40
0-3	2135	1.30	2235	1.40
3-0-3	2136	1.30	2236	1.40
0-5	2136-A	1.30	2236-A	1.40
0-8	2136-B	1.30	2236-B	1.40
0-10	2137	1.30	2237	1.40
0-50	2138	1.40	2238	1.50
DC VOLTMETERS (HIGH RESISTANCE) (100 ohms/volt except 150 and 300 volt ranges are 200 ohms per volt)				
0-10	2140	$2.00	2240	$2.10
0-30	2141	2.25	2241	2.35
0-50	2142	2.60	2242	2.70
0-150	2143	2.70	2243	2.80
0-300	2144	2.70	2244	2.80
AC AMMETERS				
0-1	6101	$2.25	6201	$2.35
0-3	6102	2.25	6202	2.35
0-5	6103	2.25	6203	2.35
0-10	6104	2.25	6204	2.35
0-25	6105	2.50	6205	2.60
0-50	6106	2.75	6206	2.85
AC MILLIAMMETERS				
0-25	6125	$2.25	6225	$2.35
0-50	6126	2.25	6226	2.35
0-100	6127	2.25	6227	2.35
0-250	6128	2.25	6228	2.35
0-500	6129	2.25	6229	2.35
AC VOLTMETERS				
0-5	6135	$2.25	6235	$2.35
0-10	6136	2.25	6236	2.35
0-15	6137	2.25	6237	2.35
0-25	6137-A	2.25	6237-A	2.35
0-50	6138	2.25	6238	2.35
0-150	6139	3.30	6239	3.40
0-300	6140	3.90	6240	3.95



TYPE NF-2C

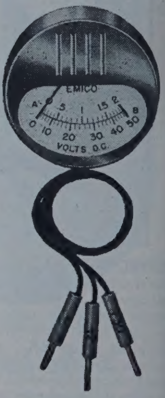


TYPE RF-2C

EMICO HEARING AID BATTERY TESTER

MODEL 103A

Note These Features:



- **Unbreakable Metal Case**
- **Beautifully Finished Case**
- **Powerful Mechanism**
- **Color-Fast Metal Dial**
- **Easily Read Dial**
- **Reliably Accurate**
- **Will Not Drain Batteries**

Designed to Test
All Types of
2 Volt "A" Batteries
and 22½, 30 and 45 Volt "B" Batteries

Available also in
0-9 and 0-90 Volt Range —
Specify Model 103B

Write to Factory for Prices

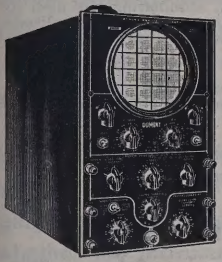
DUMONT Cathode-Ray TUBES ★ OSCILLOGRAPHS ★ EQUIPMENT

DU MONT TYPE 164-E 3″ CATHODE-RAY OSCILLOGRAPH

★ A compact, portable instrument especially suitable for laboratory, shop, or field work. The 3″ cathode-ray tube operates at an accelerating potential of 1,100 volts, thus providing brilliant, well-defined traces. Both amplifiers have uniform frequency response over their operating range: the single-stage vertical amplifier has a voltage gain of approximately 43; the horizontal amplifier, which serves to amplify either sweep or externally applied signals, has a voltage gain of approximately 55. For added convenience, deflection signals may be applied directly to the cathode-ray tube without removing the cabinet.

CATHODE-RAY OSCILLOGRAPH

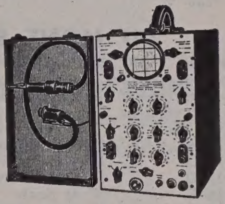
DU MONT TYPE 208-B 5″ CATHODE-RAY OSCILLOGRAPH



★ A moderately priced 5″ instrument embodying many recent improvements that facilitate its application to the great majority of laboratory and production requirements. The Type 208-B is furnished with a 5″ intensifier-type, high vacuum tube which operates at an accelerating potential of 1,400 volts, thus insuring trace brilliance. Freedom from origin distortion, sharp focus at all deflecting frequencies, and a high deflection sensitivity that permits the viewing of moderately low-potential signals without the use of amplifiers, are additional features. The wide-band amplifiers provide symmetric deflection, and are direct-coupled to eliminate "electrical backlash" in the position-control circuits.

DU MONT TYPE 224-A 3″ CATHODE-RAY OSCILLOGRAPH

★ The wide-range response of this instrument provides faithful reproduction of all wave-forms with steep fronts and resultant large-harmonic content, thereby permitting the study of signals such as pulses and square waves involving frequency components as high as 5 megacycles. Numerous combinations of signal-input connections at the front panel provide added flexibility and convenience of operation. A special feature is the provision for intensity modulation of the grid of the cathode-ray tube. Included is a test probe with cable shielded to eliminate stray pickup for high-frequency work.



CATHODE-RAY
OSCILLOGRAPH
DUMONT

DU MONT TYPE 274-A 5″ CATHODE-RAY OSCILLOGRAPH

★ The Du Mont Type 274-A Cathode-ray Oscillograph was developed as an inexpensive, general-purpose instrument for laboratory, radio service, and educational applications. The Type 274-A serves as an excellent null-indicator on inductance-capacitance bridges, as a means of viewing voltage waveforms, as an output meter, as a means for measuring time and amplitude of pulses, as an indicator in studies of sound, light, electricity, and electronics, and many for other general applications.

THE DU MONT TYPE 241 — CATHODE RAY OSCILLOGRAPH

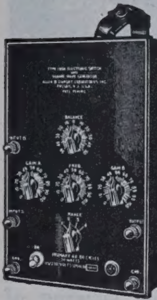
The Du Mont Type 241, like the Type 224-A is designed as a high frequency oscillograph. Employing a 5-inch cathode ray tube, the Type 241, however, supplies the operator with greater visibility. The frequency response of the vertical amplifier is uniform within 30% to 2 megacycles, and uniform within 50% to 4 megacycles. This wide frequency response allows faithful reproduction of signals which are rich in harmonic content. The sensitivity of the instrument, using the Y-axis amplifier, is 0.07 rms volts per inch. The beam-modulation circuit of the Type 241 is equipped with a Z-axis amplifier. Timing markers may be impressed on the trace by applying an intensity modulation signal, of either polarity, to this amplifier. A shielded, high-impedance input probe insures efficient coupling of the signal to the Y-axis amplifier of this instrument.

CATHODE-RAY OSCILLOGRAPH
DUMONT

For Oscillograph Prices and Specifications See Other Side

DUMONT *Cathode-Ray* TUBES ★ OSCILLOGRAPHS ★ EQUIPMENT

DU MONT TYPE 185-A ELECTRONIC SWITCH



★ The Du Mont Type 185-A Electronic Switch may be used in conjunction with any oscillograph to observe two related or unrelated signals simultaneously on the screen of the cathode-ray tube. The zero axes of the two signals may be displaced for individual study of either pattern. The two patterns may also be superimposed for comparative studies. A typical application is the use of one channel for the signal to be studied while using the second channel for a timing signal.

SPECIFICATIONS

Switching rate: 10 to 2000 times/sec.
Frequency response: d-c to 5 kc.
Voltage gain: 10.
Input resistance: 0.1 meg.
Output resistance: 50,000 ohms.
Maximum input voltage: 150 v.
Maximum signal output: 75 v. peak-to-peak.
Dimensions: 11½" h., 7⅜" w., 13" d.

PRICE: Cat. #1072-A, 115 v, 40-60 cps........$105.00

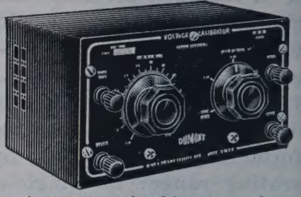
PRICE: Cat. #1073-A, 230 v, 40-60 cps........$105.00

DU MONT SCALES AND FILTERS

★ The Type 216 Calibrated Scales provide a convenient means for making relative and quantitative measurements with the cathode-ray oscillograph. They are mounted on the cathode-ray screen by the celluloid clips.

Type No.	Description	Cat. No.	Price
216-A	3" Cal. Scale	1129-A	$0.85
216-C	5" Cal. Scale	1128-A	1.20
216-D	5" Log. Decrement Scale	1130-A	2.25
216-E	5" Q Scale	1131-A	2.25
216-F	5" Polar Coordinate Scale	1132-A	2.50
216-G	5" Green Filter	1133-A	2.10
216-H	5" Blue Filter	1134-A	2.10
216-J	5" Amber Filter	1135-A	2.10
216-K	Calibrated, polar coordinate, green translucent scale, 0.720° clockwise		6.50
2518	Calibrated acrylic scale, with rectangular mask		5.15
2519	Calibrated acrylic scale with circular mask		8.95
2520	Calibrated acrylic scale with circular mask		4.00

DU MONT TYPE 264-B VOLTAGE CALIBRATOR



★ The Du Mont Type 264-B Voltage Calibrator is designed to measure the peak-to-peak voltage of any signal viewed on a cathode-ray oscillograph. It may be used with any commercial cathode-ray oscillograph. Its square-wave output is continuously variable from 0 to 100 volts in 4 ranges. By throwing a selector switch, the signal to be measured or any of 4 ranges of calibrating voltage is applied to the input of the oscillograph, eliminating the need to switch leads between signal and calibrating voltage. Amplitude measurements of any part of a complex, composite waveform may be made with the Type 264-B.

Range: 0-0.1; 0-1.0; 0-10; 0-100 volts.
Accuracy: ± 5% of full scale on each range.
Input Impedance: 20 $\mu\mu$f (signal connected through calibrator).
Size: 4½" x 8" x 5¾"; wt. 5 lbs.

PRICE: Catalog #1441-A 115 v. 50-60 cps. $39.50
Catalog #1442-A 230 v. 50-60 cps. $39.50

DU MONT CATHODE-RAY TUBES

Type	Cat.	Price
3AP1A	2201-A	$14.85
3AP11A	2206-A	16.50
3GP1A	2211-A	22.00
3GP11A	2216-A	23.65
3JP1	2025-A	24.00
3JP2	2026-A	27.50
3JP7	2029-A	28.75
3JP11	2030-A	25.65
5BP1A	2221-A	24.75
5BP11A	2226-A	27.50
5CP1A	2231-A	34.90
5CP2A	2232-A	$40.40
5CP7A	2235-A	42.40
5CP11A	2236-A	37.65
5JP1A	2251-A	67.50
5JP2A	2252-A	73.00
5JP7A	2255-A	75.00
5JP11A	2256-A	70.25
5LP1A	2261-A	39.50
5LP2A	2262-A	45.00
5LP7A	2265-A	47.00
5LP11A	2266-A	42.25

TYPE 2521 MAGNETIC SHIELD

★ The Type 2521 Magnetic Shield is designed for use with the Du Mont Type 5CP-A Cathode Ray Tube. Over-all length, including the tube base clamp is 17¼ inches. Maximum diameter is approx. 5⅔ inches.

PRICE: Catalog #1438-A $22.75

DU MONT OSCILLOGRAPH SPECIFICATIONS

Instrument Type Number	Input Impedance					Frequency Range		Deflection Factor (RMS) V/in.					Linear Time Base	Dimensions in Inches		
	Amplifier		Y-Direct		Probe											
	Y	X	Bal	Unbal		Y-Amp	X-Amp	Y-Amp	X-Amp	Y-Dir	X-Dir	Probe	Continuous	H	W	D
164-E	1.0 meg.	0.8 meg.				5 cps-100 kc	5 cps-100 kc	0.70	0.55	30	30		15-30,000 cps	11⅝	7⅜	14
208B	2.0 meg.; 30 uuf	5.0 meg.; 25 uuf				2 cps-100 kc	2 cps-100 kc	0.01	0.5	21	22		2-50,000 cps	15¾	8⅞	20¼
224-A	2.0 meg.; 30 uuf	2.0 meg.; 30 uuf	10.0 meg.; 20 uuf	5.0 meg.; 25 uuf	1.0 meg.; 20 uuf	20 cps-2 mc	10 cps-100 kc	0.1	0.7	25	28	0.4	15-30,000 cps	14⅛	8¾	15⅛
274-A	1 meg.; 40 uuf	1 meg.; 40 uuf	4.7 meg.; 50 uuf			20 cps-100 kc	20 cps-100 kc.	0.2	0.25	16	18		8-30 k cps.	14	8⅝	19⅜
241	2 meg.; 40 uuf.	2 meg.; 40 uuf.	5 meg.; 20 uuf.	5 meg.; 25 uuf.	1 meg.; 10 uuf.	20 cps. 2 mc	50 cps. 100 kc.	0.07	0.7	22	21	0.7	15-30,000 cps.	17½	10¾	21

ORDERING DATA FOR DU MONT OSCILLOGRAPHS

Type	Description	Cat.	Price
164-E	115 v, 40-60 cps, 3AP1A	1064-A	$124.50
164-E	230 v, 40-60 cps, 3AP1A	1065-A	124.50
164-E	115 v, 40-60 cps, 3AP11A	1066-A	124.50
164-E	230 v, 40-60 cps, 3AP11A	1067-A	124.50
208-B	115 v, 40-60 cps, 5LP1A	1146-A	285.00
208-B	230 v, 40-60 cps, 5LP1A	1147-A	285.00
208-B	115 v, 40-60 cps, 5LP11A	1148-A	285.00
208-B	230 v, 40-60 cps, 5LP11A	1149-A	285.00
208-B	115 v, 40-60 cps, 5LP7	1150-A	285.00
208-B	230 v, 40-60 cps, 5LP7	1151-A	$285.00
224-A	115 v, 40-60 cps, 3GP1A	1191-A	290.00
224-A	115 v, 40-60 cps, 3GP11A	1203-A	290.00
241	115 v, 50-60 cps, 5JP1A	1192-A	458.00
241	115 v, 50-60 cps, 5JP11-A	1205-A	458.00
274-A	115 v, 50-60 cps, 5BP1A	1420-A	124.50
274-A	115 v, 50-60 cps, 5BP11A	1422-A	124.50
274-A	230 v, 50-60 cps, 5BP1A	1423-A	124.50
274-A	230 v, 50-60 cps, 5BP11A	1425-A	124.50

E NAME MARION MEANS
THE MOST IN METERS

MARION ELECTRICAL INSTRUMENT COMPANY

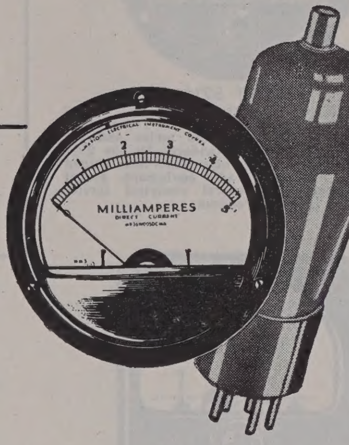
Manchester, New Hampshire

EXPORT DIVISION 458 BROADWAY NEW YORK 13, U. S. A. CABLES MORHANEX

IN CANADA: THE ASTRAL ELECTRIC COMPANY, SCARBORO BLUFFS, ONTARIO

MARION TRULY HERMETICALLY SEALED 2½" AND 3½" LECTRICAL INDICATING INSTRUMENTS...100% GUARANTEED!

Sealed like a vacuum tube



Marion Glass-To-Metal Truly Hermetically Sealed Electrical Indicating nstruments are guaranteed for six months. You get top performance . . . ritical accuracy . . . at a price no higher than that of most competitive nsealed instruments.

Additional economy is offered in Marion's special replacement offer. fter the initial six-month guarantee expires, any 2½" and 3½" type, anging from 200 microamperes upward, will be replaced, regardless f whether the instrument has been overloaded, burned out, or mis- reated . . . provided the seal has not been broken, for a flat fee of 1.50. Instruments with sensitivity greater than 200 microamperes will e replaced for $2.50.

MARION "4 FOR 1" FEATURE

Interchangeable Round and Square Colored Flanges . . . one instrument can thus fill four different needs:

1. ***ROUND***

2. ***ROUND FOR STEEL PANEL***

3. ***RECTANGULAR***

4. ***RECTANGULAR FOR STEEL PANEL***

SPECIFICATIONS

Model HM2 — 2½" **Model HM3 — 3½"**

- There are no rubber gaskets, and no cement seals.
- Can withstand all extremes of temperature and humidity, required by any service, or test specification, without deterioration to the seals, or harm to the efficiency of the moving system.
- Windows are of double thickness tempered glass processed for solder sealing, and are highly resistant to shock.
- Instruments are completely dehydrated and are filled with dry air at sea level pressure.
- A newly designed crowned crystal permits greater scale length, reduces shadows, and makes for better visibility.
- Magnetic shielding permits interchangeability on any type of panel without affecting calibration; can be supplied silver plated for extra R.F. shielding.
- Silver clad beryllium copper hair springs reduce zero shift at all temperatures.
- Standard Kovar glass bead type terminals with solder lugs.
- Instruments manufactured in accordance with AWS Spec. C-39.2 1944 and JAN I-6 plus hermetic sealing.
- They are positively interchangeable—Type HM2 with AWS Types MR24 and 25; Type HM3 with AWS Types MR 34 and 35.

RANGES

DC INSTRUMENTS

DC MICROAMPERES
0-30
0-50
0-100
0-200
0-500
0-800

DC MILLIAMPERES
0-1
0-1.5
0-3
0-5
0-10
0-15
0-25
0-50
0-100
0-200
0-250
0-500
0-800

DC MILLIVOLTS
0-15
0-25
0-50
0-100

DC VOLTS
0-1.5
0-3
0-5
0-10
0-15
0-25
0-50
0-150
0-250
0-500

AC INSTRUMENTS

0-5 Volts AC
0-15 Volts AC
0-50 Volts AC
0-150 Volts AC
0-250 Volts AC
0-500 Volts AC

THE NAME MARION MEANS
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Manchester, New Hampshire

EXPORT DIVISION 458 BROADWAY NEW YORK 13 U. S. A. CABLES MORHANEX

IN CANADA: THE ASTRAL ELECTRIC COMPANY, SCARBORO BLUFFS, ONTARI

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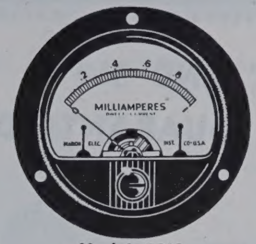
This dial illumination feature is available on all, except Marion Glass-To-Metal Truly Hermetically Sealed Meters.

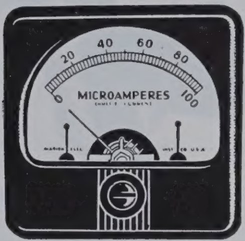


Model 52N

Models 52N and 52S are standard 2½" class instruments, the 52N meeting JAN I-6 physical dimensions for MR 25 round series and the 52S meeting commercial standards for the 2½" rectangular types. These instruments have gained popularity in portable radio equipment, packet test equipment and general electrical service where space is at a premium.

MARION STANDARD INSTRUMENTS

The most important ingredient of Marion design, engineering and construction is simplicity. Our instruments, in special and unusual types as well as conventional models, employ a minimum of parts, each selected for quality and durability. Combined with simplicity of design and engineering, this makes for better performance, under severe conditions, over longer periods of time. Whether your requirements demand custom-built or standard instruments, you can depend upon the functional simplicity of Marion designs to provide the most in service and value.



Model 52S

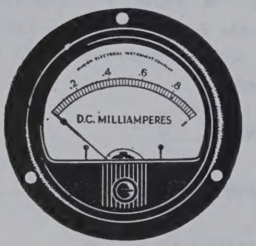
METERTESTER
MILLIAMPERES

MARION MULTI-RANGE METERTESTER

With self-contained power supply and control equipment for operation on 110 volts, AC, 60 cycles . . . for production testing, and calibration of DC instruments. The MARION METERTESTER is designed with many operational features which will definitely improve the production rates of any meter inspection department. Moreover, its accuracy is such that it may be used for checking purposes in any department and all laboratories employing instruments. It may also be used as a precise source of DC current and voltage. Overall accuracy is better than ½ of 1%. Basic sensitivity of the Mirror Scale Standard Instrument is 10 milliamperes. The complete unit is housed in a hand-rubbed, solid walnut carrying case.

For use in any department and all laboratories where instruments are employed and their performance must be carefully checked.

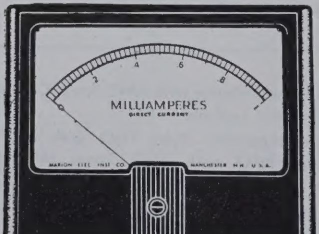
With self-contained power supply and control equipment for operation on 110 volts, AC, 60 cycles . . . for production testing and calibration of DC instruments. No additional accessories are required. Merely connect the two clips to the instrument under test, and proceed to analyze its accuracy and general performance.



Model 53RN

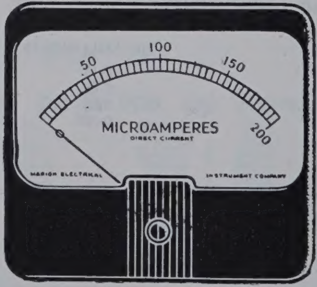
INCLUDES . . .

- Regulated Power Supply.
- Stepless Vacuum Tube Voltage Control.
- Large 8½" Mirror Scale Standard Instrument, Hand Calibrated.
- Decade of .1% Accurate Manganin Wire Wound Resistors.



Model 57S

Model 57S is an 8½" x 7" instrument with a large open face and an extra long scale. It is constructed with enlarged pole shoes, and with a higher torque movement than other Marion types in order to give maximum performance in an instrument of its size. This instrument is supplied with a very high damping factor and is not just an overgrown 3" meter. Overall accuracy of 1%, and can be supplied with mirror scales.
The 57S finds wide application in large vacuum tube voltmeters, in multitesters, and as an easily read production instrument in many of the measuring and testing operations that are performed in any electrical or electronic manufacturing plant. It is commonly used, too, as a production ohm-meter, limit bridge indicator, and in such varied applications as vibration amplitude measurements and automatic tire balancing.



Model 55

Model 55 is a popular test equipment item, having a large case—4⅝" x 4⅛"—and long 100° scale. It is well suited for use in vacuum tube voltmeters, bridges and volt-ohm-milliammeters. The internal construction is identical with that of the 53RN. Can be supplied with mirror scales for special applications.

Ranges of MeterTester

0-25 UA	0-800 UA
0-50 UA	0-1 MA
0-100 UA	0-5 MA
0-200 UA	0-10 MA
0-400 UA	0-100 Volts
0-500 UA	

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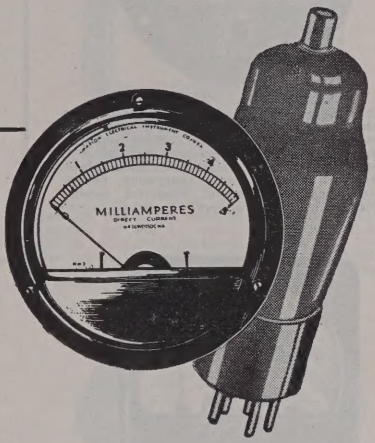

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RANGES

DC INSTRUMENTS

DC MICROAMPERES	DC MILLIAMPERES		DC MILLIVOLTS	DC VOLTS	
0-30	0-1	0-50	0-15	0-1.5	0-25
0-50	0-1.5	0-100	0-25	0-3	0-50
0-100	0-3	0-200	0-50	0-5	0-150
0-200	0-5	0-250	0-100	0-10	0-250
0-500	0-10	0-500		0-15	0-500
0-800	0-15	0-800			
	0-25				

AC INSTRUMENTS

0-5 Volts AC	0-150 Volts AC
0-15 Volts AC	0-250 Volts AC
0-50 Volts AC	0-500 Volts AC

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MILLIAMPERES

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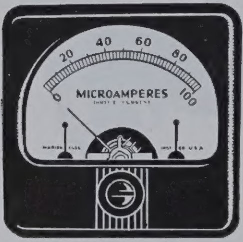

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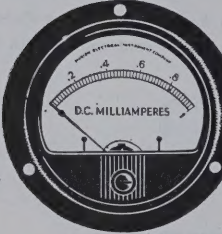

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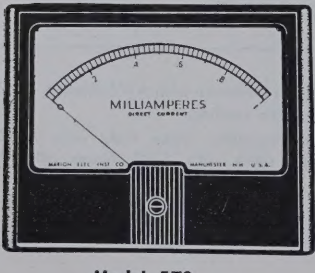
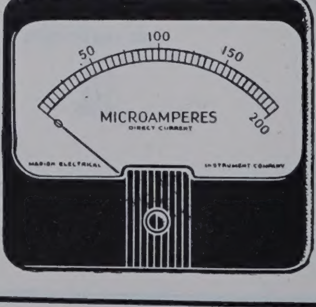
- Large 8½" Mirror Scale Standard Instrument, Hand Calibrated.
- Decade of .1% Accurate Manganin Wire Wound Resistors.



Model 57S

Model 57S is an 8½" x 7" instrument with a large open face and an extra long scale. It is constructed with enlarged pole shoes, and with a higher torque movement than other Marion types in order to give maximum performance in an instrument of its size. This instrument is supplied with a very high damping factor and is not just an overgrown 3" meter. Overall accuracy of 1%, and can be supplied with mirror scales.
The 57S finds wide application in large vacuum tube voltmeters, in multitesters, and as an easily read production instrument in many of the measuring and testing operations that are performed in any electrical or electronic manufacturing plant. It is commonly used, too, as a production ohm-meter, limit bridge indicator, and in such varied applications as vibration amplitude measurements and automative tire balancing.



Model 55

Model 55 is a popular test equipment item, having a large case—4⅝" x 4⅛"—and long 100° scale. It is well suited for use in vacuum tube voltmeters, bridges and volt - ohm - milliammeters. The internal construction is identical with that of the 53RN. Can be supplied with mirror scales for special applications.

Ranges of MeterTester

0-25 UA	0-800 UA
0-50 UA	0-1 MA
0-100 UA	0-5 MA
0-200 UA	0-10 MA
0-400 UA	0-100 Volts
0-500 UA	

Net

THE NAME MARION MEANS
THE MOST IN METERS

MARION ELECTRICAL INSTRUMENT COMPANY

Manchester, New Hampshire

EXPORT DIVISION 458 BROADWAY NEW YORK 13, U. S. A. CABLES: MORHANEX

IN CANADA: THE ASTRAL ELECTRIC COMPANY, SCARBORO BLUFFS, ONTARIO

A SPECIAL SERVICE
FOR YOUR INDUSTRIAL CUSTOMERS

Marion has opened a Short Run Shop for the production of "special" instruments to meet your specifications . . . precision-built units that you can buy in *sample* lots.

You'll appreciate the savings in time, money and materials that this modern, completely equipped Short Run Shop can achieve for you. The high degree of functional simplicity and critical accuracy which Marion "Specials" offer, improve product performance . . . make it unnecessary for users to develop their own makeshift instruments with Special characteristics.

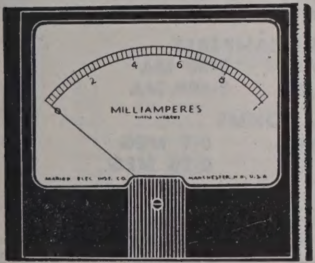
Your Marion specials will give the utmost in satisfaction, service and value . . . the same high standard of performance that has identified the regular line of Marion instruments for years.

Send us your specifications, we will send you a quotation.

RANGES—For The Twelve Models Illustrated Here

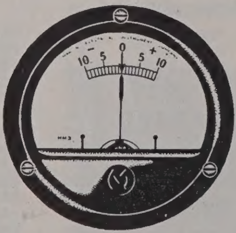
DC MICROAMPERES	DC MILLIAMPERES		DC AMPERES	DC MILLIVOLTS	DC VOLTS	AC VOLTS
0-20	0-1	0-250	0-1	0-15	0-1.5	0-5
0-30	0-1.5	0-250	0-1.5	0-25	0-3	0-15
0-50	0-3	0-800	0-3	0-50	0-5	0-50
0-100	0-5		0-5	0-100	0-10	0-150
0-200	0-10		0-10		0-15	0-250
0-500	0-15		0-15		0-25	0-500
0-800	0-25		0-25		0-50	
	0-50		Self-		0-150	
	0-100		contained		0-250	
	0-200		Shunts		0-500	

AVAILABLE IN ZERO CENTER AND OTHER RANGES ON SPECIAL ORDER



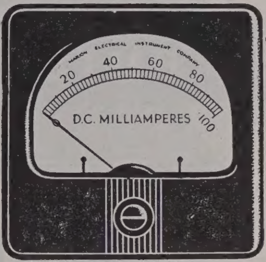
Model 56—6½"

Model 56 is a 6½" x 5¼" bakelite cased instrument of entirely new design with heavy cross sections to stand the most rugged use. It fills the need for an instrument between Models 55 and 57S which are 5 and 8 inch meters. It has a 100°, 5½ inch arc and a large open face readily adaptable to multi arc dials. Supplied with large Alnico II magnets in milliammeter ranges and Alnico V in the more sensitive microammeter ranges. Employs a Marion Bulldozer bracket which assures rugged construction and long, dependable service. Ideal for equipment which needs a large dial easily read from a distance or with plenty of space for a multi-range scale.



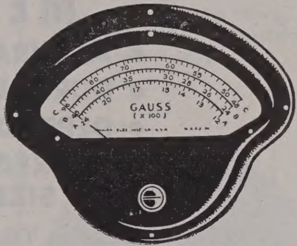
NULL INDICATORS

Marion Null Indicators are extremely sensitive shaded pole piece D'Arsonval type galvanometers. They are used primarily as bridge and potentiometer balance indicators and in any application where an instrument with very high sensitivity about the zero or balance point is desired. We particularly recommend Types HM2 and HM3 because they are hermetically sealed instruments which completely shield the galvanometers from the effects of moisture and dirt, and external factors. Ideal for use in discriminator alignment of FM receivers and as general laboratory balance indicators.



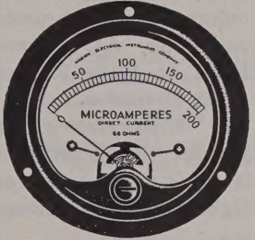
Model 53SN

Models 53RN and 53SN are standard 3½" class instruments, the 53RN meeting JAN I-6 physical dimensions for MR 35 round series and the 53SN meeting commercial standards for the 3½" rectangular types. Application include radio and electrical test equipment, radio, radar, telegraph and telephone switchboards and general laboratory usage.



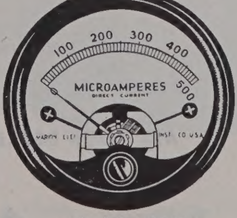
Model MC1—4"

Model MCI features the rugged Alnico construction of the Types 53RN, 54S, 55S, etc., plus the magnetic shielding which a steel case affords. Has a much longer scale than the standard 3½" type. Normal accuracy is 1%, may be ordered to an accuracy of ½%, with hand-marked mirror scales. Every type MCI includes a shatterproof glass window. Applications include finer type of test equipment, switchboards and marine use where great precision and extreme ruggedness are required. Available at prices that are unusually economical for an instrument of this quality.



Model 53R

Model 53R features the sintered soft iron pole shoes, heavy Alnico magnet, and excellent overall accuracy. An enlarged face opening permits inclusion of more information on the scale when used for special applications. Applications include radio and electrical test equipment, radio, radar, telegraph and telephone switchboards, and general laboratory assignments.



Model 52RM

Model 52RM is a narrow flange, brass cased instrument. (The brass case offers R. F. shielding for many applications.) It contains the same rugged Alnico movement and the same scale length that are common to the 52S and the 52N.

THE NAME MARION MEANS
THE MOST IN METERS

MARION ELECTRICAL INSTRUMENT COMPANY

Manchester, New Hampshire

EXPORT DIVISION 458 BROADWAY NEW YORK 13, U. S. A. CABLES MORHANEX

IN CANADA: THE ASTRAL ELECTRIC COMPANY, SCARBORO BLUFFS, ONTARIO

BUILD YOUR OWN TEST
EQUIPMENT

with the

MARION MULTI-RANGER METER

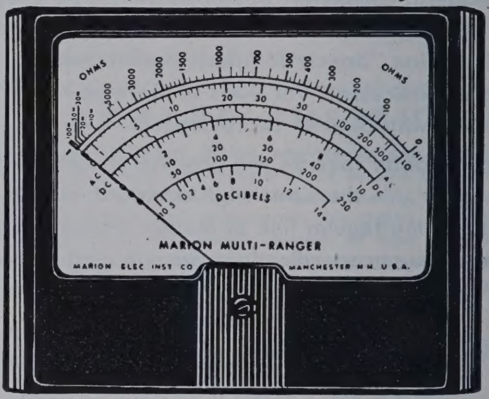
- **ACCURATE!**
- **DURABLE!**
- **DEPENDABLE!**
- **A GREAT VARIETY OF SIZES!**

When it comes to TEST EQUIPMENT build your own with Marion Multi-Ranger Meters. They will solve your problem of finding reasonably priced instruments with the critical accuracy you demand for test equipment or other auxiliary equipment with multiple functions.

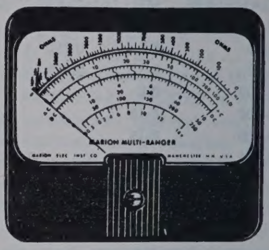
These Multi-Ranger Meters permit you to assemble a highly accurate instrument for use as a voltmeter, milliammeter, high and low resistance ohmmeter, AC voltmeter and decibel meter.—Build As Many Ranges As You Desire.

All instruments use Alnico Magnets, have full 100° three-color scales, feature the new, tough Marion "Bulldozer" moving system that insures long life under severe operating conditions plus the highest degree of accuracy.

Model 57S List $20.00



Model 53SN
List $12.00



Model 55
List $15.00

MARION RESISTOR KIT
NEW! LOW-PRICED! VERSATILE!

Contains: 18 Resistors Ranging from .4 Ohms to 750,000 Ohms. A Schematic Diagram for Constructing Your Own Test Equipment.

It's easy to construct accurate, useful, versatile test equipment with the Marion Resistor Kit, used in conjunction with Marion Multi-Ranger Instruments. List $12.50

ASK YOUR DEALER . . . OR WRITE DIRECT

SCALE RANGES POSSIBLE WITH STANDARD RESISTOR KIT

VOLTS AC-DC

0-10 Volts	0-250 Volts
0-50 Volts	0-1000 Volts

MILLIAMPERES

0-1 MA	0-50 MA
0-10 MA	0-500 MA

OHMS

0-500 Ohms	0-1 MEG
0-100 M	0-10 MEG

DECIBELS

−10 — +14 decibels
+ 4 — +28 decibels
+18 — +42 decibels
+30 — +54 decibels

ALSO AVAILABLE WITH VTVM SCALES

THE NAME "MARION" MEANS THE "MOST" IN METERS

Export Division
458 Broadway
New York 13, U. S. A.
Cables MORHANEX

In Canada:
The Astral Electric Company
Scarboro Bluffs, Ontario

MARION ELECTRICAL INSTRUMENT COMPANY

Manchester, New Hampshire

STERLING PANEL METERS

AMMETERS, VOLTMETERS, MILLIAMMETERS
FOR USE ON DIRECT AND ALTERNATING CURRENT
A COMPLETE MODERN LINE

These improved STERLING Panel Meters while retaining the accuracy, beauty and ruggedness which have always characterized STERLING instruments, show a modern trend in the gracefully unique arrangement of the broader and more clearly defined scales. The meters for alternating current and direct current are perfectly matched and therefore suitable for mounting on the same panel. Both the A.C. and D.C. meters are of the permanent magnet, iron vane, solenoid type. This affords positiveness of action and breadth of movement suggestive of those of the D'Arsonval type. The large needle-tipped pointers and wide clearly marked scale divisions of these panel meters make them easily read.

STERLING Panel Meters may be had in any of the types illustrated.

SPECIAL COMBINATION A.C.-D.C. METERS WITH HAIR-SPRING REPULSION TYPE MOVEMENT FITTING SAME CASES, ARE ALSO AVAILABLE.

Standard package, 100 meters, Shipping weight 30 lbs.

ALL STERLING Panel Meters are guaranteed accurate within 5%.

Alternating Current Meters

A. C. VOLTMETERS

Number	Range	List Price
870	0-4 Volts	$3.00
871	0-6 Volts	3.00
872	0-10 Volts	3.00
873	0-15 Volts	3.00
874	0-150 Volts High Res.	4.75
875	0-300 Volts	5.75
876	0-600 Volts	6.60
877	0-750 Volts	8.50
878	0-10-140 Volts	4.75
879	0-50 Volts	3.60
910	0-30 Volts	3.00
911	0-75 Volts	3.60
912	0-250 Volts	5.25
913	0-500 Volts	6.60

A. C. MILLIAMMETERS

Number	Range	List Price
880	0-25 Milliamperes	$3.00
881	0-50 Milliamperes	3.00
882	0-100 Milliamperes	3.00
883	0-250 Milliamperes	3.00
884	0-500 Milliamperes	3.00
914	0-300 Milliamperes	3.00

A. C. AMMETERS

Number	Range	List Price
886	0-1 Amperes	$3.00
887	0-3 Amperes	3.00
888	0-5 Amperes	3.00
889	0-10 Amperes	3.00
890	0-20 Amperes	3.30
891	0-50 Amperes	3.60
892	0-30 Amperes	3.30
893	0-60 Amperes	3.75
894	0-75 Amperes	3.75
895	0-100 Amperes	3.75
915	0-2 Amperes	3.00
916	0-7½ Amperes	3.00
917	0-15 Amperes	3.30
918	0-25 Amperes	3.30
919	0-125 Amperes	*

*Special—Price on Application

RESISTANCE METERS
Direct Reading

Number	Range	List Price
901	4.5 Volts, 10,000 Ohms 3 Flashlight cells required.	$3.00
902	2 M. A., 9 Volts, 100,000 Ohms 6 Flashlight cells required.	4.40

Direct Current Meters

D. C. VOLTMETERS

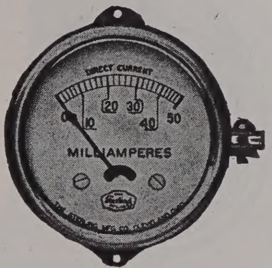
Number	Range	List Price
801	0-1 Volts	$1.65
802	0-3 Volts	1.65
803	3-0-3 Volts	1.65
804	0-5 Volts	1.65
805	0-6 Volts	1.65
806	0-8 Volts	1.65
807	0-10 Volts	1.65
808	0-15 Volts	1.65
809	0-25 Volts	1.65
810	0-25 Volts High Res.	3.00
811	0-50 Volts	1.65
812	0-50 Volts High Res.	3.60
823	0-75 Volts	1.75
813	0-100 Volts	1.85
814	0-100 Volts High Res.	3.60
815	0-150 Volts	2.25
816	0-150 Volts High Res.	3.50
817	0-300 Volts	3.50
818	0-500 Volts	5.00
819	0-750 Volts	6.00
820	0-8-160 Volts	3.00

D. C. MILLIAMMETERS

Number	Range	List Price
835	0-2 Milliamperes	$4.00
836	0-5 Milliamperes	2.50
837	0-10 Milliamperes	2.20
838	0-15 Milliamperes	1.65
839	0-25 Milliamperes	1.65
840	0-50 Milliamperes	1.65
841	0-100 Milliamperes	1.65
842	0-150 Milliamperes	1.65
843	0-200 Milliamperes	1.65
844	0-300 Milliamperes	1.65
845	0-400 Milliamperes	1.65
846	0-20-100 Milliamperes	2.50
847	0-15-150 Milliamperes	2.50
848	0-500 Milliamperes	1.65

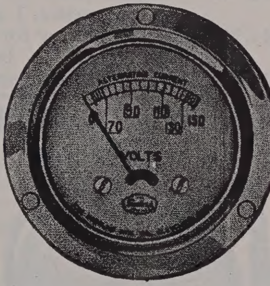
D. C. AMMETERS

Number	Range	List Price
855	0-1 Amperes	$1.65
856	0-3 Amperes	1.65
857	0-5 Amperes	1.65
858	0-10 Amperes	1.65
859	1-0-1 Amperes	1.65
860	3-0-3 Amperes	1.65
861	6-0-6 Amperes	1.65
862	10-0-10 Amperes	1.65
863	20-0-20 Amperes	1.65
864	0-15 Amperes	1.75
865	0-30 Amperes	2.20
866	0-50 Amperes	2.75
867	30-0-30 Amperes	2.20
868	0-20 Amperes	1.85
869	0-40 Amperes	2.75



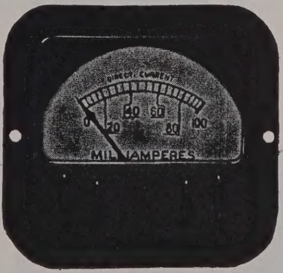
TYPE 80

Flush case, narrow flange, standard finish black enamel. Circular adjustable back clamp for mounting.
Diameter flange $2\frac{5}{32}''$
Diam. case 2". Depth case $\frac{31}{32}''$.
Requires hole $2\frac{1}{32}''$ in Diameter
Length terminals $\frac{7}{16}''$



TYPE 70

Flush case, wide flange, standard finish black enamel. Screw holes in flange for mounting.
Diameter flange 2⅝"
Diam. case 2". Depth case ⅞"
Requires hole $2\frac{1}{32}''$ in Diameter



TYPE 68

Flush case, square flange, standard finish black enamel. Screw holes in flange for mounting. Width flange 2⅝". Dia. case $2\frac{1}{32}''$. Depth case ¾".

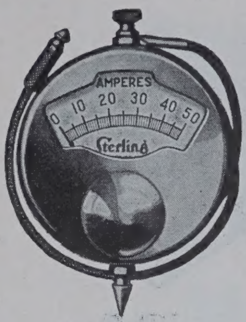
Type 68 square flange case furnished for any range of meter at an additional list price of 40 cents each.

Sterling

STERLING POCKET METERS

STANDARD LINE

Direct Current Pocket Ammeters, Voltmeters and Voltammeters for all Purposes

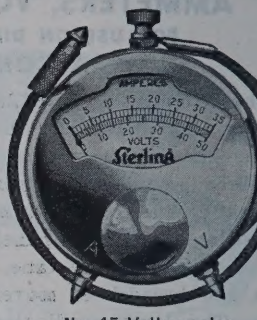


No. 24A Ammeter

STERLING Pocket Meters are useful in all kinds of battery testing, in railroad signal work, and in telephone and low-voltage electrical work generally. **They are polarity indicators.**

No. 24 Ammeter, for testing No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions. **List Price** **$1.85**

No. 24A Ammeter for testing dry cells including the heavy-duty Ignition type of cell. 0-50 ampere scale, 1 ampere divisions. .... **List Price, $2.10**



No. 45 Voltammeter

No. 23 Ammeter, for photo-flash dry batteries. 0-20 amp. scale, 1/2 amp. div. .... **List Price, $2.25**

No. 33 Voltmeter for ordinary single cells and "Flashlight" cells, 0-3 v. scale, 1/10 v. div. **List Pr., $2.10**

No. 34 Voltmeter for "Hot Shot" and Radio batteries. 0-10 volt scale, 1/5 volt div. .... **List Price, $2.10**

No. 34A Voltmeter for 12 volt batteries. 0-16 volt scale, 1/2 volt divisions .... **List Price, $2.30**

No. 34B Voltmeter for ordinary 22½ v. radio "B" batteries. 0-30 v. scale, 1 v. divisions .... **List Price, $2.30**

No. 34C Voltmeter for testing ordinary 45 v. radio "B" batteries. 0-50 v. scale, 1 v. div. .... **List Price, $2.60**

No. 44 Voltammeter for "Hot Shot" and Radio batteries and No. 6 dry cells, 0-35 ampere scale, 1 ampere divisions; 0-10 volt scale, 1/5 volt divisions .... **List Price, $2.50**

No. 44A Voltammeter for 12 volt batteries and No. 6 dry cells. 0-35 ampere scale, 1 ampere divisions; 0-16 volt scale, 1/2 volt divisions .... **List Price, $2.75**

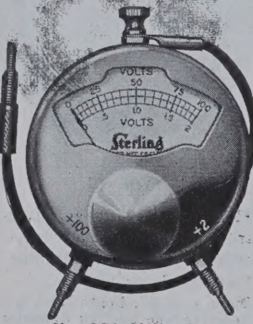
No. 45 Voltammeter for testing No. 6 dry cells and ordinary 45 volt radio "B" batteries. 0-35 ampere scale, 1 ampere divisions; 0-50 volt scale, 1 volt divisions .... **List Price, $3.60**

No. 45A Voltammeter for testing dry cells including the heavy-duty Ignition type and ordinary 45 v. radio "B" batteries. 0-50 amp. scale, 1 amp. div.; 0-50 v. scale, 1 v. div. .... **List Price, $3.85**

Meters 2¼" in diameter and ⅝" thick. Nickel finish. Standard package, ten instruments, ship. wt. 4 lbs.

STERLING SPECIAL-PURPOSE POCKET METERS—NEW SERIES

Testers for Portable Radio Batteries



No. 38A Voltmeter

The special "A" and "B" dry batteries built for the operation of Portable Radio sets cannot be satisfactorily tested with ordinary battery testers. The new STERLING double voltmeters are designed for testing with correct loads the special "A" and "B" dry batteries used on Portable Radio sets. The new STERLING flexible plugs of these meters fit easily into the small closely spaced socket holes.

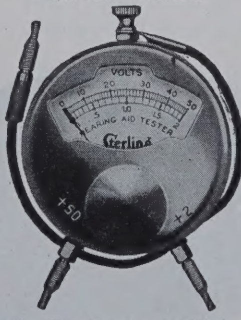
No. 37A Voltmeter for 45 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-50 v., 1 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. "B" and 1½ v. "A" batteries .... **List Price, $3.00**

No. 38A Voltmeter for 90 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-100 v., 5 v. div. Scale 0-2 v., 1/10 v. div. Tests 45 v. and 90 v. "B" batteries and 1½ v. "A" batteries .... **List Price, $3.25**

No. 39A Voltmeter for 90 v. and 135 v. "B" batteries and 1.5 v. "A" batteries. Scale 0-150 v., 5 v. div. Scale 0-2 v., 1/10 v. div. Tests 90 v. and 135 v. "B" batteries and 1½ v. "A" batteries. **List Price, $3.25**

No. 40A Voltmeter for 90 v. and 135 v. "B" batteries and 4.5 v., 6 v. and 7.5 v. "A" batteries. Scale 0-150 v., 5 v. div. Scale 0-10 v., 1/5 v. div. Tests 90 v. and 135 v. "B" batteries and 4½ v., 6 v. and 7½ v. "A" batteries .... **List Price, $3.50**

No. 42A Graphic General Tester. Red and Green color chart for all standard batteries including 45 v. and 90 v. "B" batteries and 1.5 v., 4.5 v., and 7.5 v. "A" batteries. 0-100 v. scale for special sizes of "B" batteries, 5 v. div. Tests all Portable Radio batteries. **List Price, $6.00**



No. 31A Hearing Aid Tester

Testers for Hearing Aid Batteries

No. 31A Double voltmeter for special 30 or 45 v. "B" batteries and 1½ v. "A" batteries, scale 0-50 v., 1 v. div., scale 0-2 v., 1/10 v. divisions. Carefully engineered to impose the correct loads on the small delicate batteries used to operate vacuum tube hearing aids. Equipped with new STERLING flexible plugs **List Price, $3.50**

No. 531 Plug-in—Safety type double voltmeter for testing hearing aid batteries. This new tester has the same capacity and scales as the No. 31A. No cord is necessary because the rigid plug-in type terminals are designed to fit hearing aid batteries having accessible keyed sockets. This arrangement makes it impossible to overload the No. 531 instrument or reverse the polarity while it is being used for testing hearing aid batteries .... **List Price, $3.50**

No. 32A Double Voltmeter for special 22½ or 30 v. "B" batteries and 1½ v. "A" batteries, scale 0-35 v., 1 v. div., scale 0-2 v. 1/10 v. divisions. Equipped with new STERLING flexible plugs. **List Price, $3.50**

Meters 2¼" in diameter and ⅝" thick. Nickel finish. Standard package, ten instruments, ship. wt. 4 lbs.

WESTON INSTRUMENTS

MODEL 769 HIGH FREQUENCY ELECTRONIC ANALYZER

A versatile three-in-one instrument built to Weston standards of quality. Provides a conventional Volt-Ohm-Milliammeter, a high impedance Electronic Volt-Ohmmeter, and a stable, probe type Vacuum Tube Voltmeter for use to 300 megacycles. RF and special D-C probe supplied.

Complete stability is attained on all ranges from 3 to 1200 Volts and 200 Ohms to 2000 Megohms full scale.

RANGES

VOLT-OHM-MILLIAMMETER

D-C VOLTS (at 10,000 ohms per volt): 3/12/30/120/300/1200.†

A-C VOLTS (at 1,000 ohms per volt): 3/12/30/120/300/1200.

DECIBELS: −6 to +62 in six ranges: 1 milliwatt, 0 level, 600 ohm line.

D-C CURRENT: 300 microamperes 1/1.2/6/30/120/600 ma.

RESISTANCE: 2,000 / 20,000 / 200,000 ohms full scale. 20/200/2,000 ohms center scale.

ACCURACY: D-C ±3% A-C ±5%

† For higher ranges to 6000 volts d-c order Model 766 Type 4 Televerter at $21.00 net.

PROBE TYPE VACUUM TUBE VOLT METER

A-C VOLTS: 3/12/30/120.

DECIBELS: −6 to +42 in four ranges. 1 milliwatt, 0 level, 600 ohm line.

ACCURACY: ±5% (direct reading) at 50 cycles to 150 megacycles.
±12% (direct reading) at 150 to 300 megacycles.
±8% (with correction curve) at 150 to 300 megacycles.

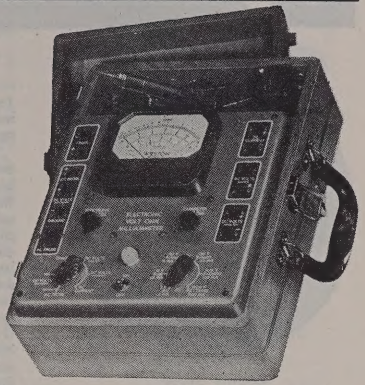
ELECTRONIC VOLT-OHMMETER

D-C VOLTS: ±3/12/30/120/300/1200.

RESISTANCE: 2,000 / 20,000 / 200,000 ohms full scale. 2/20/2,000 megohms full scale.
20/200/2,000/20,000/200,000 ohms center scale, 20 megohms center scale.

VOLTMETER RESISTANCE: 15 megohms on all ranges.

ACCURACY: ±4% of full scale on all ranges.



MODEL 769

RF PROBE

FREQUENCY RANGE: 50 cycles to 300 megacycles.

INPUT RESISTANCE: 5 megohms.

INPUT CAPACITY: Approximately 5 micro-microfarads.

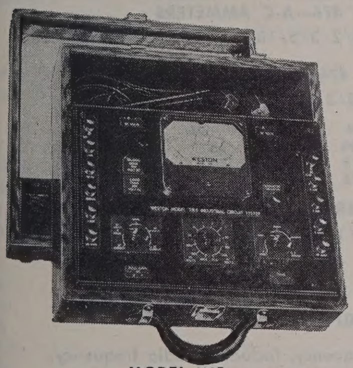
DIMENSIONS: 3½″ x ¾″.

Size: 10″ x 13″ x 6⅛″.
App. Wgt. 13½ lbs.

PRICE....................$247.50 **NET**

MODEL 785 INDUSTRIAL CIRCUIT TESTER

Established in industry as the most complete single unit for general maintenance and ultra-sensitive test purposes, particularly on electronic equipment. Provides 28 ranges for measuring D-C voltage and current; A-C voltage and current; and resistance. Current and voltage ranges can be extended for insulation testing. Provisions for instantaneous current and voltage readings.



MODEL 785

RANGES

D-C Volts: (Full scale) 1/10/50/200/500-/1000 Volts (20,000 Ohms per volt), 100 Millivolts direct or with external shunt.
Accuracy: 2% to 500 V.; 3% at 1000 V.

A-C Volts: (Full scale) 5/15/30/150/300-/750 Volts (1000 Ohms per volt).
Accuracy: 3%.

D-C Current: (Full scale) 50 Microamps; 1/10/100 Milliamps; 1/10 Amps.
Accuracy: 2%. Higher ranges with 100 mv. shunts.

A-C Current: (Full Scale) .5/1/5/10 Amperes. Accuracy: 3% on 60 cycles. Higher ranges with external current transformers.

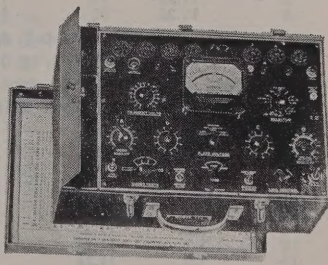
Resistance: (Full scale) 3,000/30,000/-300,000 Ohms; 3/30 Megohms. (Center scale) 25/250/2,500/25,000/-250,000 Ohms.

Sizes: 13″ x 12½″ x 5½″
Weight (complete) 13½ Lbs.

Model 785 (Oak carrying case)...**$157.50 Net**
Model 785 (Steel case) .... **127.50 Net**

MODEL 798 TUBE CHECKER

The Model 798 Tube Checker uses a new method of proportional mutual conductance testing . . . the differential frequency system which provides readings similar to actual operating conditions. This tube checker supplies mutual conductance and "Good-Bad" readings on all receiving tube types . . . tests all Voltage Regulator and low power type Thyratron tubes . . . has adjustable plate, screen, signal and grid bias voltages. Only six settings required for most tubes . . . switching flexibility provides for testing future tubes as they are announced.



MODEL 798

SPECIFICATIONS

Tube Checker ranges: 3000/6000/12000 micromhos.

Tube sockets: 4, 5, 6, and 7 prong, octal, loctal, miniature, acorn and 9 pin types. (Spare miniature socket provided.)

Power Requirements: 105/125 Volts, 50/60 Cycles A-C.

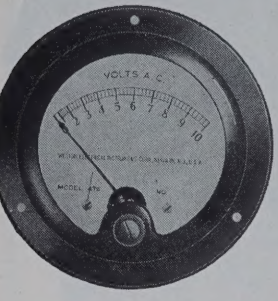
Size: 17¾″ x 11⅜″ x 6⅛″—Weight: 23 Lbs.

Price....................$291.50 NET

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

Weston RADIO INSTRUMENTS

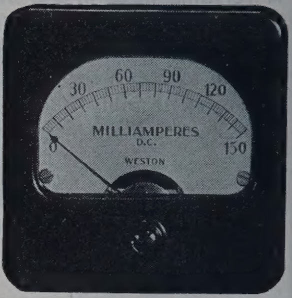
PANEL INSTRUMENTS



Round Style

These panel instruments reflect over half a century of instrument skill, and the Weston tradition of building instruments to the highest standards of dependability and service.

Models 301, 425 and 476 are available in round flush bakelite cases 3½" or 3⅜", and 3¼" metal cases with black finish; also in round surface metal and rectangular flush bakelite cases. Models 301 and 425 supplied in round surface bakelite cases. Models 506, 507, 517 regularly supplied in round flush 2½" bakelite and black finished metal cases; flush narrow flange metal and rectangular flush bakelite cases with a clamp for panel mounting. Model 506 available in surface metal case. All are calibrated normally for use on non-magnetic panels. For magnetic panel use, instruments will be adjusted for steel panel thickness of .09". Order instruments in bakelite cases for use on circuits above 300 volts when it is not possible to connect in grounded side of line. For other instrument prices, write to Weston Electrical Instrument Corporation, Newark 5, New Jersey.



Rectangular Style

3½" PANEL INSTRUMENTS

MODEL 301—D-C VOLTMETERS

Approximate resistance of Model 301 in ohms per volt—1 to 40 volts, 62; 50 to 150 volts, 200; 200 volts, 250.

Range	Price	Range	Price	Range	Price
3	$14.25	15	$14.25	150	$15.75
5	14.25	30	14.25	200	16.50
8	14.25	50	14.25		
10	14.25	100	15.00		

With Resistance of 1,000 ohms per volt

Range	Price	Range	Price	Range	Price
50	$15.00	300	$18.75	1500	$41.75*
100	15.75	500	23.25	2000	46.75*
200	17.25	1000	30.75*	3000	56.75*

* Supplied with external resistor. Scale reading in kilovolts.

MODEL 301—D-C MILLIAMMETERS *

Range	Approx. Res. Ohms	Price	Range	Approx. Res. Ohms	Price
1	105	$14.25	30	1.2	$14.25
1.5	27	14.25	50	2.0	14.25
2	27	14.25	100	1.0	14.25
5	5.7	14.25	150	0.66	14.25
10	2.0	14.25	300	0.33	14.25
15	2.0	14.25	500	0.2	14.25

* Milliammeters with ranges above 40 MA. are shunted, and have a drop of approximately 100 MV.

MODEL 301—D-C AMMETERS *

Single Ranges: 1/1.5/5/10/15/30/50 at $14.25

*Ammeters are supplied in self-contained ranges up to 50 amperes inclusive, and have a drop of 50 MV ±5%. Ranges above 50 amperes require external shunts.

MODEL 301—D-C MICROAMMETERS

Range	Price	Range	Price
50	$28.25	200	$18.00
100	27.00	500	18.00

MODEL 301—RECTIFIER TYPE A-C VOLTMETERS

Range	1000 ohms per volt	2000 ohms per volt	Range	1000 ohms per volt	2000 ohms per volt
1	……..	$25.50	50	$22.50	$25.50
1.5	……..	25.50	100	23.25	26.25
3	$22.50	25.50	150	24.00	27.00
5	22.50	25.50	300	26.25	……..
15	22.50	25.50			

MODEL 301—RECTIFIER TYPE A-C MILLIAMMETERS

Range	Price	Range	Price
0.5	$25.50	2	$21.75
1	21.75	5	21.75

MODEL 301—RECTIFIER TYPE A-C MICROAMMETERS

Range	Price
500	$25.50

MODEL 301 VU METER

	Price
A or B Scale	$40.50

MODEL 476—A-C AMMETERS

Single Ranges: 1/1.5/2/3/5/10/15/20/30/50 at $14.25

MODEL 476 A-C VOLTMETERS

Single Ranges: 1.5/3/5/8/10/15/30/50 at $14.25

Range	Price	Range	Price
100	$15.00	250	$17.25
130	15.75	300	18.00
150	15.75	500	21.00

MODEL 425—THERMOCOUPLE TYPE AMMETERS

Single Ranges: 1/1.5/2/3/5/10/15/20 at $21.00

2½" PANEL INSTRUMENTS

MODEL 506—D-C VOLTMETERS

Approximate resistance of Model 506 in ohms per volt: 3 to 150 volts, 125; 200 volts, 200.

Range	Price	Range	Price	Range	Price
3	$11.25	10	$11.25	100	$12.00
5	11.25	15	11.25	150	12.75
8	11.25	50	11.25		

MODEL 506—D-C AMMETERS

Single Ranges: 1/1.5/5/10/15/30/50 at $11.25

Ammeters, self-contained up to 50 amps., inclusive—drop 50 MV ±5%

MODEL 506—D-C MILLIAMMETERS

Range	Approx. Resis.	Price	Range	Approx. Resis.	Price
1	105	$11.25	50	1	$11.25
1.5	18	11.25	100	.5	11.25
2	18	11.25	150	.33	11.25
5	9.5	11.25	300	.16	11.25
10	3.2	11.25	500	.1	11.25
15	1.5	11.25			

Milliammeters above 40 MA are shunted—drop approximately 50 MV.

MODEL 507—THERMO AMMETERS

For use on any frequency, including radio frequency.
Single Ranges: 1/1.5/2/2.5/5/8/15/20 at $18.00

MODEL 517—A-C AMMETERS

Range	Approx. Resis. in ohms	Price	Range	Approx. Resis. in ohms	Price
1	.17	$13.50	20	.0012	$13.50
3	.024	13.50	30	.00085	13.50
5	.01	13.50	50	.00072	13.50
10	.0037	13.50			

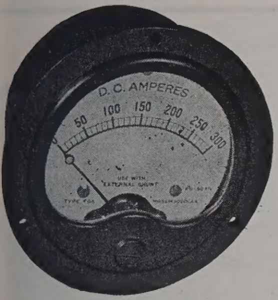
MODEL 517—A-C VOLTMETERS

Range	Approx. Ohms per volt	Price	Range	Approx. Ohms per volt	Price
5	10	$13.50	50	52	$13.50
10	14	13.50	130	110	15.00
15	14	13.50	150	110	15.00
25	26	13.50	250	167	16.50
			300	167	17.25

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

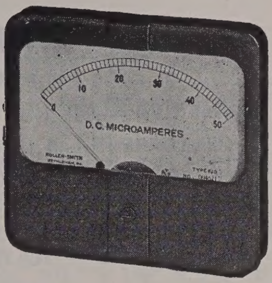
ROLLER-SMITH INSTRUMENTS

BETHLEHEM, PENNA.



ROUND-FLUSH MOUNTING

This line of panel instruments is ideally suited to the many varied uses in test units, analyzers, battery testers and chargers, radio tube testers, control panels, communication equipment, general testing panels and hundreds of other uses where **quality, accuracy, stability** and **economy** are important. Only the most common ranges are listed. Instruments are available in all practical ranges in a wide variety of case styles from 1½″ to 7″ sizes. Contact the Representatives listed in the Representative Directory or write the factory for complete data.
Prices shown are list prices subject to trade discounts.



SQUARE-FLUSH MOUNTING

Range	1½"	List	2½"	List	3½"	List	4½"	List
DC MILLIAMMETERS								
0-1	152601	$15.50	251601	$10.50	351601	$11.00	452601	$13.50
0-10	152607	15.50	251607	10.50	351607	11.00	452607	13.50
0-100	152614	15.50	251613	10.50	351614	11.00	452614	13.50
0-500	152620	15.50	251617	10.50	351620	11.00	452619	13.50
DC AMMETERS								
0-1	152501	16.50	251501	11.50	351501	12.00	452501	14.50
0-10	152507	16.50	251507	11.50	351507	12.00	452507	14.50
0-30	—	—	251510	11.50	351511	12.00	452511	14.50
DC MICROAMMETERS								
0-20	—	—	—	—	351640	29.50	452640	31.50
0-50	—	—	251641	19.00	351641	19.50	452641	22.00
0-100	—	—	251643	18.00	351643	18.50	452643	21.00
0-200	—	—	251645	14.50	351645	14.50	452645	17.00
0-500	152701	17.50	251647	12.50	351647	13.00	452647	15.50
DC VOLTMETERS 1000 ohms per volt								
0-1.5	152802	16.50	251801	12.00	351802	12.50	452802	15.00
0-10	152807	16.50	251806	12.00	351807	12.50	452807	15.00
0-150	—	—	251813	12.00	351817	13.50	452816	16.00
0-250	—	—	—	—	351819	14.50	452818	17.00
0-500	—	—	—	—	351821	17.25	452820	19.50
"VU" METERS — 20/0/+3 VU **A and B scales per JAN — I — 6**								
Scale A					351951	30.00	452951	32.50
Scale B					351952	30.00	452952	32.50
AC VOLTMETERS								
0-1.5			251201	11.50	351201	12.00	452201	14.50
0-10			251206	11.50	351206	12.00	452206	14.50
0-30			251209	11.50	351210	12.00	452210	14.50
0-150			251213	12.50	351215	13.00	452215	15.50
0-300			—	—	351218	14.00	452218	17.00
AC AMMETERS								
0-1			251001	11.50	351001	12.00	452001	14.50
0-3			251004	11.50	351005	12.00	452005	14.50
0-5			251005	11.50	351006	12.00	452006	14.50
0-10			251007	11.50	351008	12.00	452008	14.50
0-30			251010	11.50	351012	12.00	452012	14.50
RF AMMETERS **Self Contained**								
0-5 MA*			—	—	351671	50.00		
0-100 MA*			—	—	351677	50.00		
0-800 MA			251694	16.50	351694	17.00		
0-1 Amp.			251695	16.50	351695	17.00		
0-3 Amp.			251698	16.50	351698	17.00		
0-5 Amp.			251699	16.50	351699	17.00		
0-10 Amp.			251701	16.50	351701	17.00		
0-20 Amp.			251703	16 50	351703	17.00		

* Available in vacuum type couples only.
3½" available with expanded scale at $5.00 list extra.

Center zero ranges available at no extra cost.
Most types available with internal illumination.

ROLLER-SMITH, Bethlehem, Penna.

Electrical Indicating Instruments - Aircraft Instruments - Switchgear - Air and Oil Circuit Breakers
Rotary Switches - Relays - Precision Balances

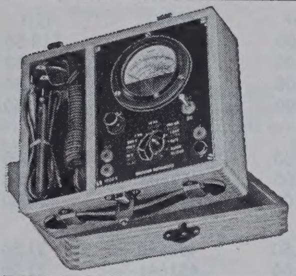
BRADSHAW INSTRUMENTS CO. TEST EQUIPMENT

"RANGE MASTER" MODEL 10

An 8-in-1 Service Instrument, covers these 25 ranges:

1. CAPACITY — .001-.1/.01-1/1-10 MFD.
2. A.C. CURRENT — 0-.15/1.5/15 AMPS.
3. A.C. VOLTAGE — 0-1/10/100/500/1000 VOLTS.
4. D.C. VOLTAGE — 0-10/100/500/1000 VOLTS.
5. D.C. CURRENT — 0-1/10/100/1000 MA.
6. RESISTANCE—0-10,000/100,000/1 MEG. OHMS megohm.
7. **Special** high range Ohmmeter to 2 megs. and 20 megs. without external battery.
8. Sensitive A.C. Microammeter to 1100 microamps.

Model 10 (Illustrated)	$23.50 net
Model 10K (Complete KIT and Instructions)	17.95 net

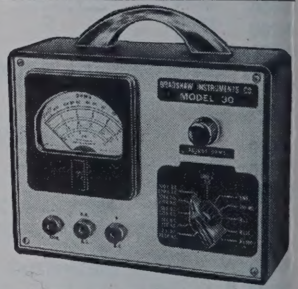


"RANGE MASTER" MODEL 10P

A Portable Model "Range Master" covering the same 25 ranges as the Model 10. Has polished oak case with handy tool compartment.

Model 10P (Illustrated)	**$26.95 net**
Model 10F (Same as Model 10P but has complete fuse protection on all ranges)	**28.15 net**

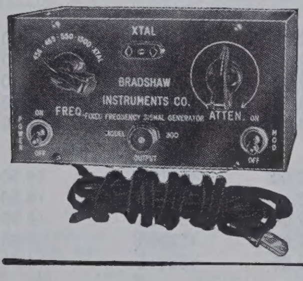
"MULTI-TESTER" MODEL 30



Covers the following ranges:

A.C. VOLTS — 0-12.5/25/125/250/1250 volts.
D.C. VOLTS—0-5/10/50/100/500/1000 volts.
D.C. CURRENT — 0-1/100 ma.
RESISTANCE—0-10,000/100,000/1 meg. ohms.
DECIBELS — From minus 10 to plus 57 Db.

Model 30 (Illustrated)	**$15.95 net**
Model 30P (Portable model. Has polished oak case)	**19.45 net**
Model 30K (Complete KIT and Instructions)	**13.95 net**



SIGNAL GENERATOR MODEL 300

The **Signal Generator Model 300** features finger-tip selection of four accurately aligned frequencies. Special crystal position accommodates any standard crystal to adapt the Model 300 to a crystal frequency standard or **TELEVISION MARKER OSCILLATOR.** Four hundred cycle audio modulation, in or out. Supplies 456 Kc, 465 Kc, 600 Kc, and 1500 Kc, to cover 90% of all receivers manufactured. Works equally well with A.C.-D.C. sets. Complete with tubes and output probe.

Model 300 (Illustrated)	**$16.95 net**

KILOVOLTER MODEL 4000

The **Kilovolter Model 4000** is designed to measure Television and X-Ray voltages **up to 50,000 volts D.C.** Sensitivity 50,000 ohms/volt, on 25 KV range. Has a 20 micro-ampere meter with an input impedance of 1250 Megohms. Has adequate safety precautions. **RANGES: 0-25/50 KV D.C.** Complete with polystyrene probe.

Model 4000 (Illustrated)	**$67.50 net**

For further information on Bradshaw Test Equipment, write to Bradshaw Instruments Co.

GUARANTEE: Every BRADSHAW instrument is FULLY GUARANTEED against defective parts or workmanship for **THREE MONTHS** after purchase.

WHEATSTONE BRIDGE

● A carefully engineered bridge made for all around use in lab., plant, or field. Both models contain own 4½-volt battery power supply and galvanometer. Provision for external batteries and galvanometer if desired. Ratio dial settings of .001, .01, .1, 1, 10, 100, and 1000 in both models. Also built-in resistance standards of 1, 10, 100, and 1000-ohm decades. Ratios are guaranteed to .05% tolerance. Resistance dial resistors to .1%. Self-cleaning, four-leaf phosphor bronze wiper switches with detent mechanism mounted below panel. Galvanometer of well-known moving-coil type. Separate binding posts for use of external galvanometer if desired, and for use of bridge as resistance decade. Hardwood case with removable cover. 9¼″ x 7½″ x 6¼″ h. Wt. 9¼ lbs. net; 12¼ lbs. shipping.

MODEL RN-1. Standard Portable Wheatstone Bridge, complete with batteries........**Net Price $110.00**

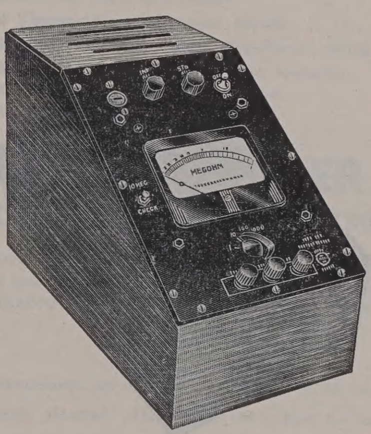
MODEL RN-2. Standard Portable Wheatstone Bridge with Murray & Varley Loops........**Net Price $125.00**

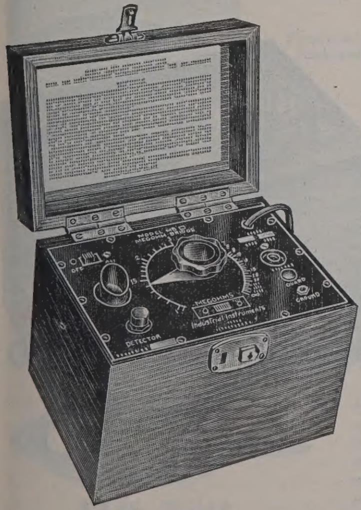
MEGOHM METER

● For high-speed testing of condenser leakage resistance, insulation resistance and insulation measurements in production and inspection of components. Terminals for charging capacitors prior to test. Self-contained power source up to 200 volts. Arranged for use of external battery voltage supply up to 1000 volts. Internal checking standard to check and adjust calibration. Broad scale meter. Accuracy within 3% of full scale. Range of 1 megohm to 100,000 megohms on four multiplier ranges of 1, 10, 100, and 1000. Highest range can be extended to 500,000 megohms using external 1000 v. supply. Hardwood case. Sloping bakelite panel designed for production use. 15″ x 8″ x 10″ h. Wt. 19 lbs. net; 23 lbs. shipping.

MODEL L-2A. Megohm Meter with tubes........**Net Price $145.00**

MODEL L-2AU. Universal Model for use on 110-220 v. AC power line, available on special order........**Net Price $160.00**





MEGOHM BRIDGE

● A fast, accurate instrument for routine inspection work. May be used by laboratory workers, or production workers. Very simple to operate. "Magic Eye" replaces costly and delicate galvanometer. Operates from AC power line. Self-contained DC source. Accuracy within 5% from 1 to 15 on scale; as close as readable on remainder of scale. Hardwood case with slip-hinge removable cover. 8″ x 5¾″ x 7″ h. Wt. 6¼ lbs. net; 8¼ lbs. shipping.

MODEL MB-4. 100 to 100,000 megohms. 500 v. DC Bridge source, **Net Price $60.00**

MODEL MB-6. 100,000 ohms to 100 megohms; 10 megohms to 10,000 megohms........**Net Price $60.00**

MODEL MB-8. 1 megohm to 1000 megohms; 100 megohms to 100,000 megohms........**Net Price $75.00**

MODEL MB-11. 1 megohm to 1000 megohms; 10 megohms to 10,000 megohms; 100 megohms to 100,000 megohms......**Net Price $120.00**

VOLTAGE BREAKDOWN TESTER

● A simple, positive, safe and quick means of testing voltage breakdown of materials and components. Step-up transformer accurately controlled by Variac. Continuously variable over entire range, 0 to 4,000 v. DC. For safety, load is limited to 5 milliamperes over full range. Also safety switch if unit is removed from case. Operates on AC line. Warning light indicates instrument is operative. Voltage breakdown indicated by red light.

MODEL P-1. Voltage Breakdown Tester with tubes. 15″ x 8″ x 10″. Wt. 29 lbs. net; 32 lbs. shipping. (Not illustrated)..**Net Price $150.00**

MODEL P-2. Voltage Breakdown Tester with tubes and additional 0 to 3,000 v. AC outlet. 15″ x 8″ x 10″. Wt. 29 lbs. net; 32 lbs. shipping. (Not illustrated)..........**Net Price $200.00**

MODEL P-3. Voltage Breakdown Tester with tubes. Upright, crackle enamel finish cabinet of metal. Range 0 to 10,000 v. DC, 0 to 8,000 v. AC..........**Net Price $350.00**

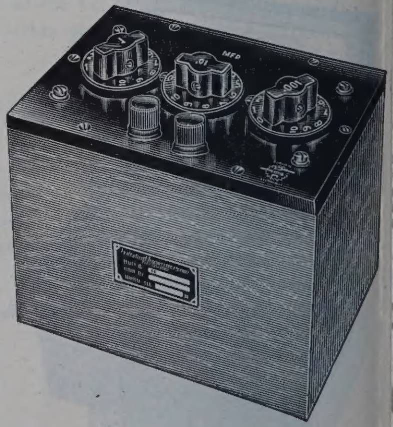
RESISTANCE DECADES

● Available in standard models with resistance ranges of .9 to 999,999 ohms total. ±1% of nominal accuracy. Self-cleaning, four-leaf phosphor bronze wiper switches with detent mechanism mounted below the panel. Hardwood case. Models DR-1 to DR-4, 5¾″ x 8″ x 4″ h.; wt. 4 lbs. net; 6 lbs. shipping. Models DR-10 to DR-14, 4⅛″ x 6″ x 4″ h.; wt. 3 lbs. net; 5 lbs. shipping. Models DR-50 to DR-52, 6⅛″ x 9″ x 4¼″ h.; wt. 5 lbs. net; 7 lbs. shipping.

Model No.	Total Resistance Ohms	Decade Steps	Accuracy	Net Price
DR-1	999,000	9x(1,000+10,000+100,000)	±1%	$ 50.00
DR-2	99,900	9x(100+1,000+10,000)	±1%	50.00
DR-3	9,990	9x(10+100+1,000)	±.1%	45.00
DR-4	999	9x(1+10+100)	±.1%	44.00
DR-10	.9	9x.1	±.1%	20.00
DR-11	9	9x1	±.1%	20.00
DR-12	90	9x10	±.1%	20.00
DR-13	900	9x100	±.1%	20.00
DR-14	9,000	9x1,000	±.1%	22 00
DR-50	9,999.9	9x(.1+1+10+100+1,000)	±.1%	65.00
DR-51	99,999	9x(1+10+100+1,000+10,000)	±.1%	70.00
DR-52	999,990	9x(10+100+1,000+10,000+100,000)	±.1%	100.00

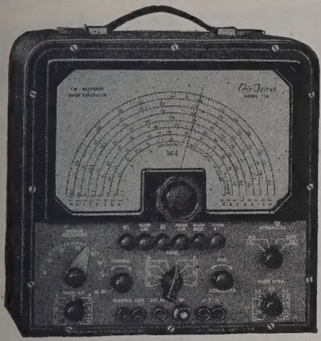
CAPACITANCE DECADES

● This instrument is calibrated directly in capacitance so that reading from left to right, the dial settings will give the exact value in microfarads. Progressive adjustment in .01, or .001 mfd. steps depending on model. .001 to 11.1 mfd. can be obtained by group assembly. All units employ paper or mica capacitors of highest quality and stability. Hardwood case with hinged cover and snap lock. DK-3, DK-4 and DK-2A, 7″ x 8″ x 5½″ h.; wt. 8 lbs. net; 12 lbs. shipping. DK-10 and DK-11, 11″ x 8¼″ x 7″ h.; wt. 10 lbs. net; 12 lbs. shipping.



Model	Capacitance Mfd. Steps	Accuracy	Dielectric	P.F.	Peak Volts	Net Price
DK-3	11.1 in .01	1%	paper	1%	150 DC	$ 50.00
DK-4	1.11 in .001	1%	paper mica	1% .2%	150 DC 400 DC	50.00
DK-2A	1.11 in .001	1%	mica throughout	.2%	700 DC 500 AC 60 cycle	125.00
DK-10	.111 in .0001	.5% or 10 mmfd.	mica	1%	700 DC 500 AC 60 cycle	100.00
DK-11	11.1 in .01	1% .5%	paper mica	.2% .2%	150 DC 700 DC 500 AC 60 cycle	125.00

FERRET Test Equipment
COASTWISE ELECTRONICS COMPANY, Inc.



$164.95 DEALER PRICE
Slightly Higher
Eastern States

F. M.-TELEVISION SWEEP GENERATOR

20 M.C. Sweep Width — FERRET Model 720

Range — 0 to 260 M.C. on Fundamentals — 50 K.C. to 20 M.C. Sweep Width Push-Button Control — All Miniature Tubes — Built-in Marker 19 to 40 M.C. Pipper or Absorption Type

A revolutionary instrument for aligning any FM or Television receiver. Combination of push-buttons permits simultaneous use of crystal oscillator, internal audio oscillator, R.F. generator (modulated or C.W.) marker oscillator or sweep FM Television generator. This combination is not possible with any other generator today. The unit is entirely independent of markers or external frequency standards since any marker frequency is possible from 19 m.c. to 40 m.c. on variable marker. Moreover, a crystal marker may be used and fully attenuated.

SPECIFICATIONS:

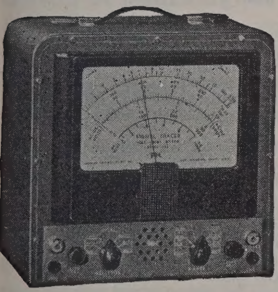
- Range: 0 to 260 m.c. (Fundamentals).
- Power: 110-120 volts, 50-60 cycles.
- Tubes: 6X4, 2-12AT7, 6C4, 3-6J6's.
- R.F.-AM. (Mod. or C.W.) Sweep 50 k.c. to 20 m.c.
- Crystal oscillator.
- Dial: 9″ Glass covered, calibrated directly on 8 bands.
- Case: Blue-gray Hammertone finished aluminum, with leather handle.
- Size: 10¼″ high, 10¼″ wide, 5½″ deep. Weight: 14½ lbs. packed.

FEATURES:

- Range: 0 to 260 m.c.—all fundamentals.
- Sweep Width: 50 k.c. to 20 m.c.
- Crystal Oscillator.
- Variable Marker Oscillator: 19 to 40 m.c. Acuracy: 1% or better.
- Push-Button Control: Any of 4 oscillators or all 4 simultaneuosly.
- Crystal standard.
- Large 9″ calibrated dial.
- Electronic Sweep.
- 5 to 1 Vernier drive.
- Accuracy: ½% on all bands.
- Temperature compensating circuits.
- Fully shielded — Low impedance output.
- Stand-by Switch for continuous operation.
- Provision for external modulation.
- Phasing Control.

SIGNAL TRACER ELECTRONIC VOLT OHM METER

with SUB-MINIATURE 6K4 DIODE PROBE — Model 730



$99.95
DEALER PRICE
Slightly Higher
Eastern States

Audio & R. F. Measurements to 300 M.C. Proximity Type Fused used in Lightweight Probe. High Gain Signal Tracer — No Hum with 5″ Speaker Enclosed. Illuminated 8″ Meter — 1 Volt R.F. Scale.

The FERRET Model 730 is the ultimate in a combined Signal Tracer and Vacuum Tube Volt Ohm Meter that incorporates features not found in competitor's lines at any price.

Accurate direct R. F. measurements up to 300 Megacycles for F. M. and television receivers are easily obtained. The same probe is used for the Signal Tracer and operates a hum-free rectifier.

In addition to the advanced type probe, the Model 730 offers improved features that make this combination instrument the most important single unit on the service bench,

Proximity Fuze Type Lightweight Probe.

SPECIFICATIONS:

- Power: 110-120 volts, 50-60 cycles.
- Range: AC-DC 0-1, 3, 30, 100, 300, 1000, 3000.
- Ohms: Mid-scale 10 x 1 x 10 x 100 x 1000 x 100,000 x 1 megohm.
- Frequency: Audio to 300 megacycles.
- Tubes: 6X4, 2-12AU7, 6AQ5, 6AQ6, 6AL5, 6K4.
- Input Impedance: DC 10 megohms, AC 10 megohms.
- Probe: 6K4 Diode connected.
- Case: Aluminum, blue-gray Hammertone finish with leather handle.
- Size: 10¼″ high, 10¼″ wide, 5½″ deep. Weight: 13½ lbs. packed.

FEATURES:

- AC-DC volt scale 0-1, 3, 30, 100, 300, 1000 and 3,000.
- Ohm scale 10, 100, 1000, 10,000, 100,000, 1 megohm and 10 megohm center scale.
- High impedance input 10 megohms DC, 10 megohms AC.
- Extremely accurate for all AC measurements to 300 megacycles.
- Four stage amplification for signal tracing. Sufficient gain for tracing signal from antenna without using receiver as amplifier with good tone and with enclosed Speaker.
- All resistors calibrated to ± 1%.
- All miniature tubes.
- 8″ illuminated meter with multi-colored, easy to read scale.
- Special 1 volt R. F. scale.

GERMANIUM CRYSTAL PROBE - Model A-100

$7.95 DEALER PRICE

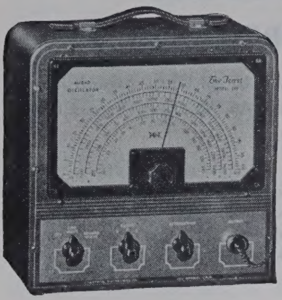
A universal replacement lightweight probe, that will not deteriorate or wear out with normal use. An ideal unit for all types of meters, for the "ham," experimenter or beginner in building and converting various test instruments. No change in electrical characteristics with use. Shield seven inches long, one-half inch diameter.

SPECIFICATIONS:

- 1N34 Crystal.
- ½″ diameter aluminum shield.
- RG/59U Coaxial cables, 36″ long.
- Frequency Response: from 20 kilocycles to 110 megacycles.
- Individually boxed in attractive counter display carton with complete instructions and diagrams for its many uses.
- Packed: 6 Boxes to shipping container, weight: 2½ lbs.; 12 Boxes to shipping container, 5 lbs.

FERRET Test Equipment
COASTWISE ELECTRONICS COMPANY, Inc.

AUDIO OSCILLATOR — Sine Wave - Square Wave — Model 710



$89.95 DEALER PRICE
Slightly Higher
Eastern States

An audio oscillator with recently developed features, that is outstanding in its field. Incorporates two units in one: a Sine Wave R.C. type oscillator with low distortion on all bands, and a Square Wave generator with the same frequency range. Provides a laboratory standard for all audio application and frequency response measurements in both designing and practical applications.

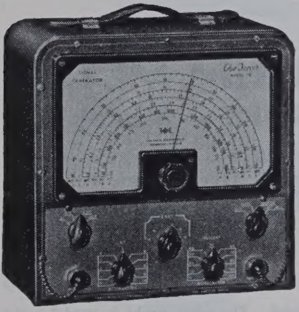
SPECIFICATIONS:

- Power: 110-120 volts, 50-60 cycles.
- Range: 20 to 24,000 cycles. 3 bands.
- Tubes: 6X4, 6AQ5, 6AU6, 12AU7.
- Output: High impedance, 15 volts sine wave or square wave.
- Dial: 3 to 1 Vernier, red and black scale on white background, hairline pointer.
- Panel: 3-color iridescent blue-gray finish.
- Test Leads: Coaxial cable, RG/59U.
- Size: 10¼" x 10¼" x 5½".
- Weight: 11 lbs. packed.

FEATURES:

- R. C. type oscillator — does not use beat frequency circuit.
- Range: 20 to 24,000 cycles — 3 bands.
- All new-type miniature tubes.
- Accuracy: within 2% on all bands.
- True sine wave throughout range, with special feed-back circuit for each band.
- Sine or square wave obtained by merely rotating panel switch.
- Transformers electrostatically shielded.
- Laboratory precision construction throughout.
- Vernier Drive — 3 to 1 ratio.

SIGNAL GENERATOR Wide Range FM-AM-Television, Model 701
All Miniature Tubes



$74.95
DEALER PRICE
Slightly Higher
Eastern States

A crystal-calibrated unit for AM, FM and Television receivers, operating on fundamental frequencies to 110 Megacycles. Output voltage of 1 volt, relatively constant from 170 K.C. to 110 M.C. Universal in scope, it serves the needs of modern radio servicing in both low and high frequency receivers. 9" calibrated dial.

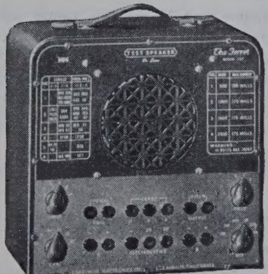
SPECIFICATIONS:

- Range: 170 k.c. to 220 m.c.
- Power: 110-120 volts, 50-60 cycles.
- Tubes: 6C4, 6AU6, 6X4.
- Dial: Large 9" three-colored scale, glass covered with molded escutcheon.
- Output: 1. volt R.F. low impedance.
  Coaxial cable, 50 volts Audio high impedance.

FEATURES:

- Range: 170 k.c. to 220 m.c. — Fundamentals to 110 m.c.
- Completely shielded for minimum radiation.
- Crystal calibrated, low loss, permeability tuned R.F. coils.
- Internal 225-cycle sine wave modulation — 0 to 100%. Calibrated directly on dial.
- 20 to 10,000 cycle external modulation for frequency response measurement.
- Turret coil construction with shortest possible leads for minimum leakage and maximum R.F. Stability. Follow-up shorting type switch — no dead spots.
- Electron coupled combination Hartley and Colpitts oscillator for high L.C. ratio, low drift and maximum stability to line voltage fluctuations.
- Low loss, low impedance, coaxial cable output.
- Ladder attenuator.
- Vernier drive: 3 to 1 ratio.
- Accuracy: 1% on all bands.

DE LUXE TEST SPEAKER and Universal Substitutor — Model 721



$29.95
DEALER PRICE
Slightly Higher
Eastern States

Designed primarily to eliminate necessity of removing set-speaker from midget radios, consoles or auto radios for servicing. Compact, portable, lightweight unit, housing a specially constructed 6" PM speaker with exceptional tone quality and sufficient current rating to test any radio.

SPECIFICATIONS:

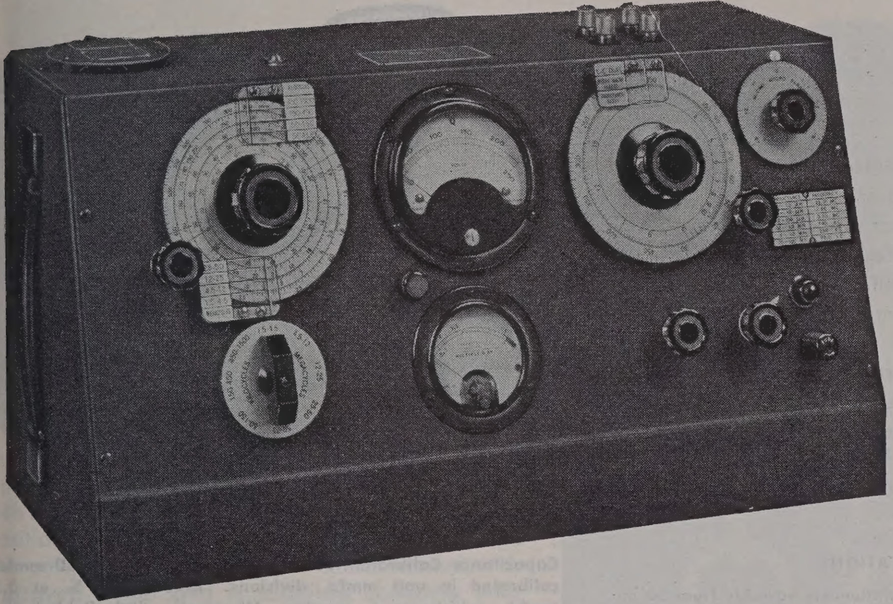
- Field Impedance: 500, 1000, 1500 and 2500 Ohms.
- Current: 175 Milliamperes Maximum.
- Input: Universal, for single ended or tubes in push-pull.
- Speaker: 6" PM, Dustproof, of special construction; low resonant point.
- Size: 10¼" high, 10¼" wide, 5½" deep.
- Weight: 8½ lbs. packed.

FEATURES:

- Provides a substitution for choke, electrolytic condensers, coupling, by-pass condensers and a wide range of resistors.
- Speeds servicing — eliminates soldering until all defective parts are located and substituted.
- Voice coil connection permits substitution of any output transformer.
- Rotating input and field switches on front panel permits matching to any single or push-pull output tubes.

Net

PRECISION INSTRUMENTS
FOR THE RADIO AND ELECTRONIC INDUSTRY



Q-METER

TYPE 160-A

Radio frequency circuit design often requires the accurate measurement of Q, inductance, and capacitance values. For this application, the 160-A Q-Meter has become the universal choice of radio and electronic engineers throughout the country.

Each component part and assembly used in the manufacture of this instrument is designed with the utmost care and exactness. Circuit tolerances are held to values attainable only in custom built instruments.

The 160-A Q-Meter is designed specifically for the accurate and rapid measurement of Q, inductance, and capacitance. The basic method of measurement consists of measuring the voltage developed across a variable air capacitor connected as an element in a series resonant circuit. Essentially the Q-Meter is comprised of an 8 range RF oscillator, a Q measuring circuit with a main and vernier section tuning condenser, a vacuum tube voltmeter of special design which reads the voltage across the tuning condenser, and a voltage injection circuit which applies an accurately known voltage to the terminals of the series resonant circuit. In operation the Q circuit is resonated by means of the variable Q tuning capacitor and the voltage developed across this capacitor is indicated by means of the vacuum tube voltmeter which is calibrated directly in terms of Q. This method of measuring Q is simple, accurate, and requires only a single operation—resonating the circuit—to measure Q. Variations of this basic method of measurement are employed to determine effective inductance and capacitance as well as the dielectric properties of insulating materials

SPECIFICATIONS

Oscillator Frequency Range: Continuously variable from 50 kc. to 75 mc. in eight self-contained ranges. (In conjunction with an external oscillator the frequency range of the Type 160-A Q-Meter may be extended from 50 kc. to 1 kc. for coil measurements).

Oscillator Frequency Accuracy: Generally better than ± 1%, except the 50-75 mc. range which is approximately ± 3%.

Range of Q Measurements: The Q voltmeter is calibrated directly in Q, 20-250. The "Multiply-Q-By" meter, which measures the oscillator voltage injected in the Q measuring circuit, is calibrated from x1 to x2 and also at x2.5. The reading of the Q voltmeter scale is multiplied by the setting of the "Multiply-Q-By" meter. Hence, the total range of circuit Q measurements is from 20 to 625. Condensers, dielectrics, etc., which are measured by placing these in parallel with the measuring circuit, may have Q's as high as 5000.

Accuracy of Q Measurements: The accuracy of the direct reading measurement of circuit Q (for Q voltmeter readings between Q=50 and Q=250) is approximately 5% for all frequencies up to the region of 30 mc. and decreases with increasing frequency. Correction may be made for the error above 30 mc. as it is principally a frequency effect. The accuracy of the measurement of condensers, dielectrics, etc. is generally better than 10% for Q's below 5,000 and up to 30 mc.

Capacitance Calibration Range: Main Tuning condenser 30-450 mmf. calibrated in 1 mmf. divisions from 30 to 100 mmf. and in 5 mmf. divisions from 100 to 450 mmf. Vernier condenser, plus 3 mmf., zero, minus 3 mmf., calibrated in 0.1 mmf. divisions.

Accuracy of Capacitance Calibration: Main tuning condenser, generally better than 1% or 1 mmf., whichever is the greater. Vernier tuning condenser, ± 0.1 mmf. The internal inductance of the tuning condenser at the binding posts is approximately .015 microhenry.

Voltmeter: The Q voltmeter is also calibrated in volts. A specially calibrated tube, Type BRC 105-A tube, is used. Replacements may be made without recalibration.

Power Supply: 105-120 volts, 50-60 cycles. Also 210-240 volts, 50-60 cycles. Power consumption 50 watts.

Dimensions: Height 12.5", length 20", depth 8.5".

Weight: 25 lbs.

Price: $625.00 F.O.B. Boonton, N. J., U.S.A.

BOONTON RADIO Corporation
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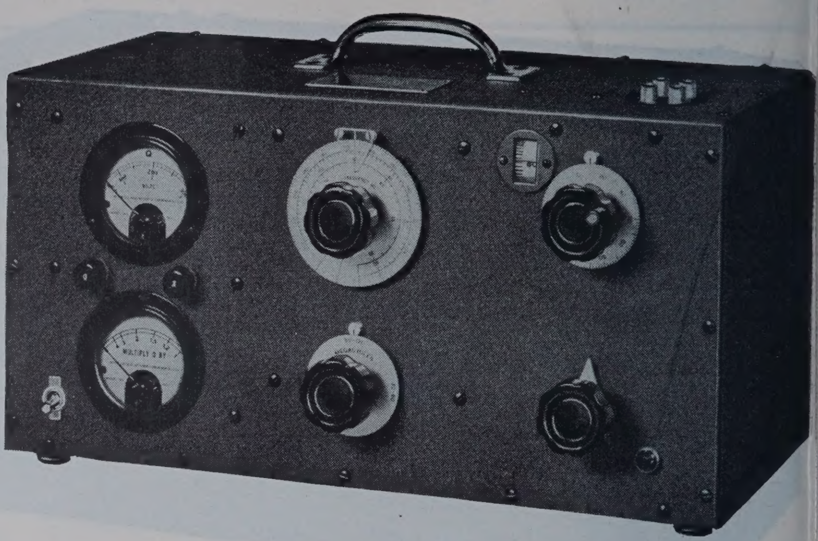
PRECISION INSTRUMENTS
FOR THE RADIO AND ELECTRONIC INDUSTRY

Q-METER

TYPE 170-A



The Type 170-A Q-Meter utilizes the same general operating principles and characteristics as the Type 160-A Q-Meter, but incorporates such structural modifications and design refinements as are required for accurate performance at the higher frequencies. This instrument is intended to supplement the low frequency Q-Meter by extending the range of measurement up to 200 mc.

SPECIFICATIONS

Oscillator Frequency Range: Continuously variable from 30 mc. to 200 mc. in three ranges—Calibration accuracy ± 1%.

Range of Q Measurements: The Q voltmeter is calibrated directly in circuit Q, from 80 to 300. The "Multiply-Q-by" meter is calibrated from x1 to x4, hence the range of circuit Q measurements is from 80 to 1200.

Accuracy of Q Measurements: The accuracy of the direct reading measurement of circuit Q is ± 10% up to 100 megacycles and decreases with increasing frequency.

Capacitance Calibration of Q Capacitor: Range 11-60 mmfd. calibrated in unit mmfd. divisions. Accuracy: 1% or 0.5 mmfd., whichever is greater. Micrometer dial divided into 100 divisions.

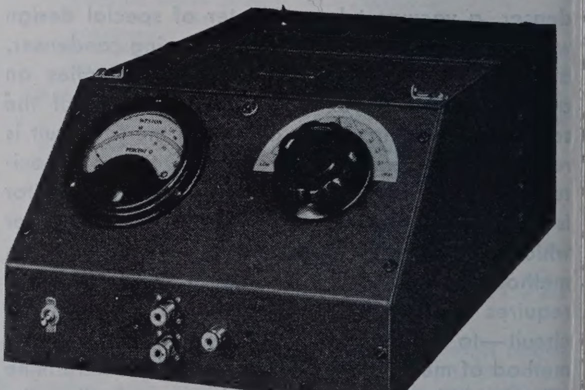
Power Supply: 110-120 volts, 50-60 cycles. Also 220-240 volts, 50-60 cycles. Power consumption 50 watts.

Dimensions: 17" x 10½" x 8¾".

Weight: 21 lbs.

Price: $550.00, F.O.B. Boonton, N. J., U.S.A.

QX CHECKER TYPE 110-A



The QX-Checker is a production type test instrument specifically designed to compare reactance and relative Q of RF components with approved standards. The two factors, reactance and relative Q, are separately indicated, one on a meter and the other on a condenser dial, so that the deviation of either from established tolerances is immediately shown. Built to laboratory standards, the QX-Checker is a sturdy, fool-proof instrument for use in production work by factory personnel.

SPECIFICATIONS

Oscillator Frequency Range: 100 kc. to 25 mc. in 6 ranges using accessory plug-in coils (two coils furnished with each instrument).

Accuracy of Coil Checks: Coils may be checked against a standard to within about 0.2% with inductance values of 10 microhenries to 10 millihenries and Q of 100 or greater.

Capacitance Range: Capacitance values ranging between approximately 2-1000 mmf. may be checked against a standard to an accuracy of a few tenths of one mmf. if the Q of the capacitor is high.

Power Supply: 110-125 volts, 50-60 cycles, also 200-250 volts, 50 cycles.

Dimensions: Width 12¼", Depth 18", Height 8".

Weight: 26 lbs.

Price: $340.00, F.O.B. Boonton, N. J., U.S.A.

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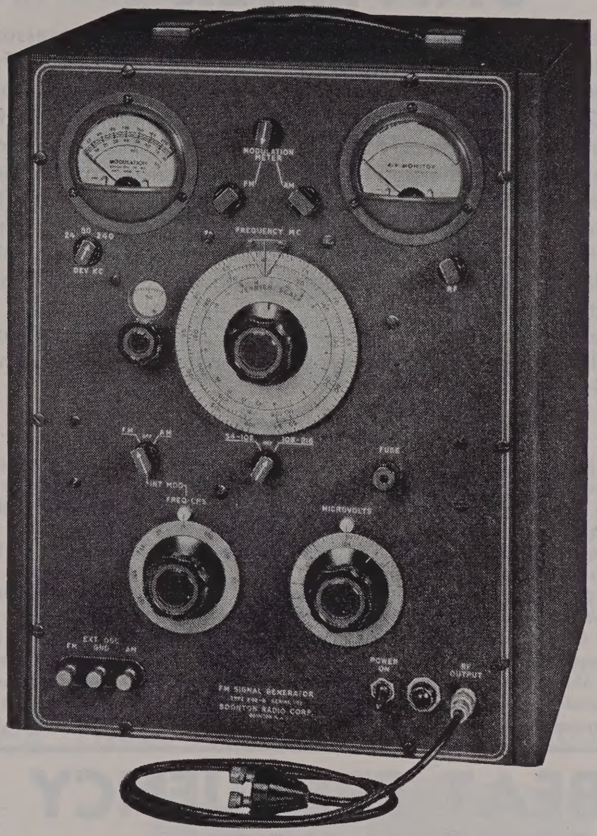
PRECISION INSTRUMENTS
FOR THE RADIO AND ELECTRONIC INDUSTRY

FM SIGNAL GENERATOR

TYPE 202-B



The type 202-B FM Signal Generator has been developed to meet the needs of engineers engaged in the design of FM and television receivers for operation within the frequency range of from 54 megacycles to 216 megacycles.

This instrument has been proportioned for maximum conservation of laboratory bench space, with frequency dial, modulation and output meters positioned at eyelevel for maximum readability. The unit is finished in grey wrinkle enamel with engraved panel and is supplied complete with tubes and standard output cable.

SPECIFICATIONS

RF Range: Frequencies from 54 mc. to 216 mc. are covered in two ranges, 54-108 mc. and 108-216 mc.

Main Frequency Dial: The two RF ranges are calibrated directly in megacycles to an accuracy of within ± 0.5%. The dial is also divided in 24 equal divisions for use with the vernier frequency dial.

Vernier Frequency Dial: The vernier frequency dial is divided in 100 divisions and is geared to the main dial through a gear train having a 24:1 ratio. The approximate frequency change per vernier division is 26 kc. on the low range and 52 kc. on the high range.

Frequency Modulation (Deviation): The FM deviation is continuously variable from zero to 240 kc. The modulation meter is calibrated in three FM ranges (1) zero to 24 kc., (2) zero to 80 kc. and (3) zero to 240 kc. deviation.

Amplitude Modulation: The modulation meter is calibrated at 30% and 50% amplitude modulation. AM is continuously variable from zero to 50%.

Modulation Controls: Separate potentiometers are provided for continuous control of FM and AM levels.

Modulating Oscillator: The internal AF oscillator may be switched to provide either frequency or amplitude modulation; it may also be switched off. External binding posts permit the use of an external AF oscillator for either FM or AM. Both internal and external AF oscillators may be used simultaneously, thus providing either FM or AM at two modulation frequencies simultaneously or simultaneous FM and AM. The internal AF oscillator provides eight fixed frequencies which may be selected by a rotary type switch—50, 100, 400 cycles and 1, 5, 7.5, 10 and 15 kilocycles, accurate to within 5%. The output voltage of the internal AF oscillator is available at the external binding posts for synchronizing or other purposes.

RF Output Voltage: The RF output voltage is continuously variable over a range from 0.1 microvolt to 0.2 volts at the terminals of the output cable. The impedance at the RF output jack, looking into the instrument, is 53 ohms resistive. The output cable has a 53 ohm resistance termination at the terminal end hence the output impedance of the unit with cable attached is 26.5 ohms.

Distortion: FM distortion at 75 kc. deviation is less than 2% when modulated with the internal AF oscillator or an external AF oscillator having 0.5% distortion or less. At 50% amplitude modulation the distortion is about 5% using the internal AF oscillator and decreases as the modulation percentage is reduced. An external AF oscillator may be employed for amplitude modulation if desired.

Spurious RF Output: All spurious RF output voltages are at least 30 db. below the desired fundamental. The RF leakage is very low.

Fidelity Characteristics: The deviation sensitivity of the FM modulation system as a function of frequency is constant from dc. to over 10 kc. At 15 kc. the deviation as indicated on the modulation meter is 0.5 db. higher than the true value. The amplitude modulation system is also dc. to 10 kc., and departs from nominal by 1.0 db. at 15 kilocycles.

Power Supply: The power supply is self-contained in the instrument for use on 60 cycles, 110 volts.

Accessories: 203-A Frequency Converter (Frequency range 0.4 mc. to 25 mc.).

Dimensions: Height: 17"; Width: 13½"; Depth: 11½".

Weight: 35 lbs.

Price: $975.00, F.O.B. Boonton, N. J., U.S.A.

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PRECISION INSTRUMENTS
FOR THE RADIO AND ELECTRONIC INDUSTRY

UNIVERTER TYPE 203-B

UNIVERTER
TYPE 203-B
SERIAL 103
BOONTON RADIO CORP
2V MAX
INPUT
PWR.ON
X1 OUTPUT

The Type 203-B Univerter, a frequency converter accessory having unity gain, is designed for use with the Type 202-B FM Signal Generator to provide additional frequency coverage of from 0.4 mc. to 25 mc. Since the 202-B FM Signal Generator covers a frequency range from 54 to 216 megacycles, the 203-B Univerter offers a simple means whereby the additional coverage of commonly used intermediate and radio frequencies may be obtained. This instrument also enables the frequency and amplitude modulation features of the 202-B instrument, as well as the attenuator calibration, to be utilized at these lower frequencies without causing any appreciable distortion.

The 203-B Univerter matches the 202-B FM Signal Generator in styling and finish, and is supplied complete with tubes and instruction book.

SPECIFICATIONS

RF Range: The Univerter, in combination with the 202-B FM Signal Generator, covers from 0.4 mc. to 25 mc. (0.1 mc. to 25 mc. with no carrier deviation). The RF voltage at the X1 OUTPUT jack is uniform within ± 1 db. over the frequency range of the instrument.

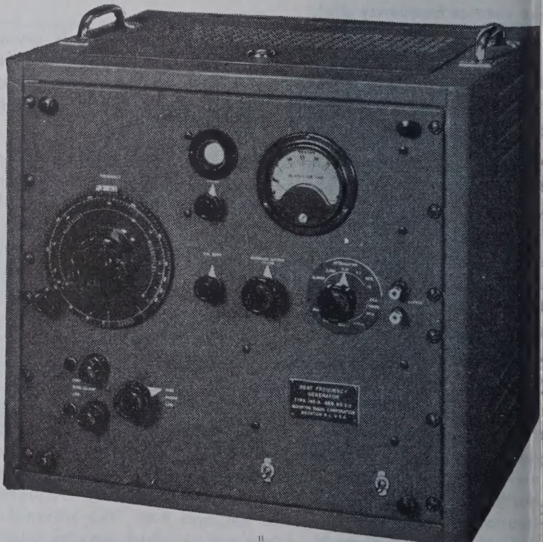
Frequency Increment Dial: This dial is calibrated in increments of 10 kc. from plus 250 kc. through zero to minus 250 kc.

RF Output: The RF output voltage at the X1 panel jack is continuously variable from 0.1 microvolt to 0.1 volt by means of the 202-B Signal Generator attenuator. For 0.2 volt input to the Univerter, the output is approximately 0.18 volt. The impedance at the RF output jack, looking into the instrument is approximately 60 ohms resistive. The RF output voltage at the 2 VOLT MAX. pin jack is uncalibrated but may be controlled from the attenuator of the 202-B FM Signal Generator. At this pin jack the internal impedance is approximately 470 ohms.

Power Supply: The 203-B Univerter is designe
for use on 50-60 cycles, 115 volts.
Dimensions: H: 11½" W: 7⅜" D: 10½".
Weight: 11 lbs.
Price: $300.00, F.O.B. Boonton, N. J., U.S.A

BEAT FREQUENCY GENERATOR TYPE 140-A

This instrument has found universal acceptance because of its wide frequency coverage from 20 cycles to 5 megacycles. A five step decade attenuator provides a means by which extremely small output voltages can be accurately set and a six position switch enables any one of a variety of output impedances to be quickly selected.



SPECIFICATIONS

Frequency Range: 20 cycles to 5 megacycles in two ranges.
Low Range: 20 to 30,000 cycles.
High Range: 30 kc. to 5 mc.
Frequency Calibration: Accuracy ± 2 cycles up to 100 cycles, ± 2% above 100 cycles.
Stability: About 5 cycles drift below 1000 cycles. On low range, drift becomes negligible percentage with increasing frequency. On high range, drift is 3% or less.
Adjustment: High and low ranges have individual zero beat adjustments. Low range may be checked against power line frequency with front panel 1 inch cathode ray tube.
Output Power and Impedances: Rated power output: One watt, available over the low frequency range from output impedances of 20, 50, 200, 500, 1000 ohms, and over both high and low frequency ranges from an output impedance of 1000 ohms.
Distortion: 5% or less at 1 watt output, 2% or less for ½
voltage output.
Voltmeter Accuracy: ± 3% of full scale reading.
Power Supply: 110-120 volts, 50-60 cycles, also 220-240
volts, 50-60 cycles.
Power Consumption: About 120 watts.
Dimensions: Width: 21½", Depth: 15", Height: 19½".
Weight: 86 lbs.
Price: $1,050.00, F.O.B. Boonton, N. J., U.S.A.

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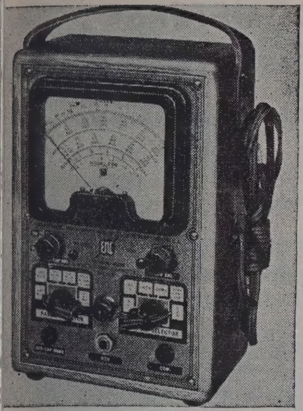


E.M.C. Gives More Measurement Value per Dollar

THE E. M. C. MODEL 300 VACUUM TUBE VOLT-OHM-CAPACITY METER

The new Model 300 Vacuum Tube Volt-Ohm-Capacity Meter is an unusually stable, extremely compact instrument, with all of the inherent quality of esign and manufacture that is always built into all .M.C. test instruments.

Its price — amazingly low — was made possible hrough the development of a new efficient circuit y E.M.C. engineers, which enabled great economies. s large, accurate meter, mounted on a clearly defined, odern panel, makes operation a pleasure rather an a chore.

Sturdily cased in oak, this instrument will withstand ugh usage, and will give complete satisfaction uner all conditions. The Model 300 is supplied as an pen-face bench model, or as a portable model comete with cover.

SPECIFICATIONS

Uses 4½" meter.

DC Volts — 6 ranges: 0-3-10-30-100-300-1000 volts.

Input resistance 1 meg per volt on 0-3 and 0-10 ranges, 30 megohms input resistance on 0-30-100-300 and 1000 volts ranges.

1 megohm isolating resistor in probe.

AC Volts — 5 ranges: 0-10-30-100-300-1000 volts.

Approximately 1000 ohms per volt. Full wave tube rectification used.

Resistance — 6 ranges from 2 ohms to 1000 megohms.

Capacity — 4 ranges, from 25 micromicrofarads to 20 microfarads (.000025 mfd to 20 mfd).

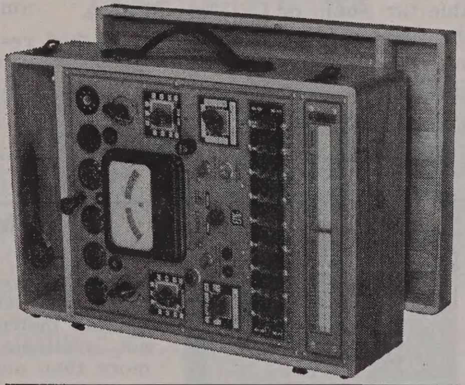
Has zero center position available for lining up the discriminator of an FM radio.

Open Face Model, complete with leads, **Dealer Price**	**$39.50**
Model 300P, above model, in portable case with cover. **Dealer Price**	**44.50**
Model HFP, High Frequency Probe, for above models	**6.50**

. M. C. MUTUAL CONDUCTANCE TUBE TESTER — MODEL 200

Check These Features

- ✓ Checks mutual conductance on a calibrated micromho scale, as well as an a "Reject-Good" scale.
- ✓ Checks 5 element tubes as pentodes.
- ✓ Checks tubes for gas content.
- ✓ Sufficient plate current to check both emission and mutual conductance.
- ✓ Detects both shorted and open elements.
- ✓ Complete switching flexibility allows all present and future tubes to be tested regardless of location of elements on tube base.
- ✓ Tests tubes for radio frequency and other noise.
- ✓ Tests all tubes from .75 volts to 117 filament volts.
- ✓ Tests all loctal, octal, and miniature tubes.
- ✓ Tests cold cathode, magic-eye, voltage regulator tubes, ballast resistors.
- ✓ Instrument is fused, and fuse is easily replaceable from front of panel.
- ✓ Individual sockets for each tube base type eliminates possible errors.
- ✓ Checks individual sections of multi-purpose tubes.
- ✓ Attractive four-color panel with plenty of eye-appeal. Hard wrinkle finish for durability.



E.M.C. Series 200 Mutual Conductance TUBE TESTERS

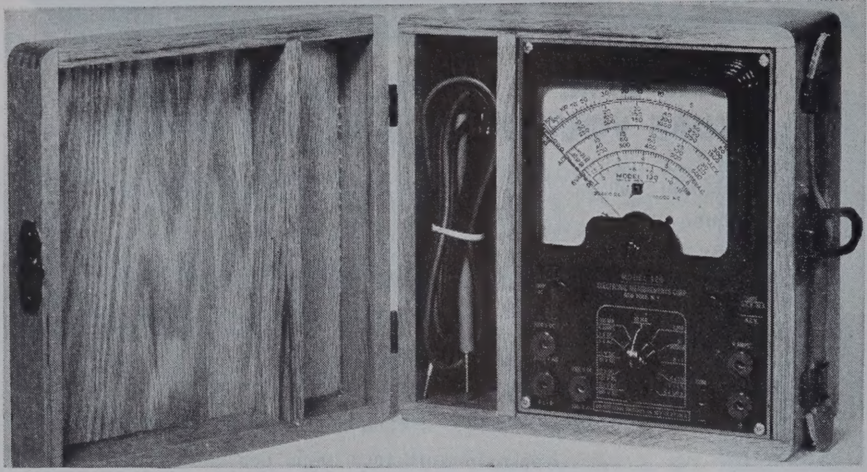
	Net Prices
Model 200 BC . . . 4½" meter in sloping counter case	$58.50
Model 200 BP . . . 4½" meter in hand-rubbed carrying case	62.50
Model R200 BC . . . Same as Model 200 BC plus built-in Roll Chart	64.50
Model R200 BP . . . Same as Model 200 BP plus built-in Roll Chart	68.50
Roll Chart unit in individual case	6.00

(For 220 v. operation add $5.00 to above prices)

ELECTRONIC MEASUREMENTS CORPORATION

E. M. C. Announces A Complete Line Of *VOLOMETERS**

**Reg. trade mark for volt-ohm-milliameter*



MODEL 120

20,000 ohms per volt

Model 120 is the ONL 20,000 ohms per volt instr ment that gives you:

1. **WIDEST** resistan range (.2 ohm to 3 megs.)
2. **HIGHEST AC** volta sensitivity (10,000 ohn per volt)
3. **LOWEST PRICE** - $29.95, open face mode $34.95 for Model 120- (portable)

Other Features Include:

1. AC voltage frequency range 30 cycles to 1 megacycle.
2. Rectifier and battery replaceable without soldering iron.
3. No external source of power needed for AC voltage measurements.
4. Special precision voltage multipliers accurate to 1%.

Specifications:

- DC volts at 20,000 ohms per volt 0-3v, 0-15v, 0-60v, 0-300 0-1500v, 0-6000v.
- AC volts at 10,000 ohms per volt: 0-6v, 0-30v, 0-120v, 0-6000 0-3000v, 0-6000v.
- DC current: 0-60 microamps, 0-6ma, 0-60ma, 0-600ma, 0-6 amp
- Resistance: 0-3000, 0-300,000, 0-3 megs, 0-300 megs.
- Decibels: —4 to +11, +10 to +25, +22 to +37, +36 to +5 +50 to +65, +62 to +77.

MODEL 105

5000 ohms per volt

The Model 105 will accurately measure AC voltages from 25 cycles to 100 KC with no temperature errors, and without the necessity of plugging into any external source of power. For this reason it is invaluable for Audio or I.F. In addition, the Model 105 can be used to measure resistances from ½ ohm to 30 megohms.

SPECIFICATIONS:

6 DC voltage ranges (approx. 5000 ohms per volt) 0 to 3-15-60-300-1500-6000 volts.

6 AC voltage ranges (approx. 2500 ohms per volt) 0 to 6-30-120-600-3000-6000 volts.

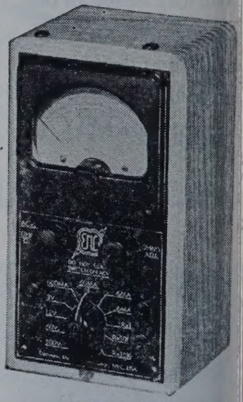
4 DC current ranges, 0 to .6-6-60-600 milliamperes.

3 resistance ranges, 0 to 3000-300,000 ohms; 0 to 30 megohms.

6 DB ranges, —10 to +77.

Open face model, Size: 6⅜" x 3½" x 3". .... Price **$22.95**

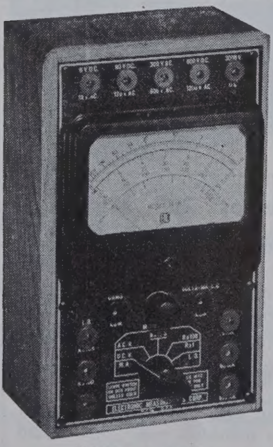
Portable Model. Complete with set of test leads. Size: 6⅜" x 4½" x 4¼". .... Price **$26.95**



MODEL 105

MODELS 101A & 101B

1000 ohms per volt



MODEL 101B
Open face as shown.
Price **$20.95**
Size: 5⅜" x 8⅝" x 2¾".
In portable case.
Price **$24.95**
Size: 7⅛" x 8⅝" x 3¾"
Complete with test leads.

Here is an unusually attractive, EXCEPTIONALLY LOW-PRICED volt-ohm-milliameter. It is a rugged, flexible instrument, combining features which are not available in competitive models selling for more than double this price.

You will be convinced when you read the "Specifications" and "Special Features" that MODEL 101 VOLOMETER is just the instrument to have around the shop or lab whenever the type of measurement does not justify the use of expensive, complicated, highly sensitive equipment.

The fact that resistances between 1/20 OHM and 20 MEGS and AC voltages between 25 CYCLES and 1 MEGACYCLE in frequency can be measured with this unit, makes it a handy and very valuable instrument. In short, when it comes to value and versatility, MODEL 101 really sets the pace.

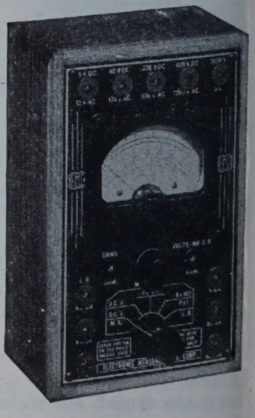
SPECIFICATIONS

5 DC VOLTAGE RANGES (approx. 1000 ohms per v.): 0 to 6-60-300-600-3000 volts.

4 AC VOLTAGE RANGES: 0 to 12-120-600-1200 volts.

3 DC CURRENT RANGES: 0 to 6-60-600 milliamperes.

4 RESISTANCE RANGES: 0 to 200-2000-200,000 20 megohms.



MODEL 101A
Open face as shown.
Price **$17.50**
Size: 4½" x 7½" x 3¼"
In portable case.
Price **$21.50**
Size: 6¼" x 7½" x 3¼"
Complete with test leads.

Net

RADIO CITY PRODUCTS CO., Inc.

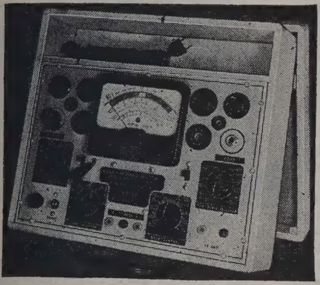
NEW YORK 1, N. Y.

TEST EQUIPMENT

COMBINATION TUBE TESTER
SET TESTER and CONDENSER TESTER MODEL 802NA

— EASY OPERATION — UP TO DATE —

— Only 5 switches for operating both Tube and Set Tester —



Tube Tester has speedy leakage-short tests between all elements. Separate noise test for tubes that otherwise test "good". Large scale 4½" meter protected against burn out by special meter fuse for both multitester and tube tester. Complete unit also protected by separate fuse. Tests new and old types of tubes as well as ballast tubes. New gold plated copper oxide rectifier used for A.C. voltage measurements. Multipliers are matched for 1% tolerance.

RANGES

DC Voltmeter: 0-10-50-500-1000 at 1000 Ohms per Volt.
AC Voltmeter: 0-10-50-500-1000.
DC Milliammeter: 0-1-10-100-1000.
DC Ammeter: 0-10 Amperes.
Ohmmeter: 0-500-5000-1 Meg.-10 Meg. Low center scale.
DB Meter: —8 to +55 decibels in four ranges.
Four range output meter: Same as AC volts.

Model 802NA—supplied in handsome hardwood case, with special compartment for small tools, test leads (Included), etc. Size: 12¾" x 12" x 5¼". Weight: 11½ lbs. Complete with self-contained batteries, ready to operate.

Dealer Net Price **$59.50**

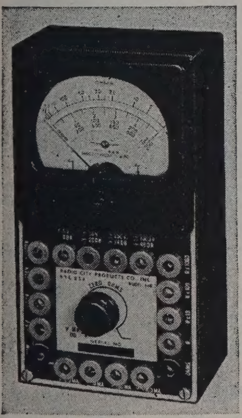
Servishop Model 8073—Combines Model 802NA with Model 730 signal generator fitted into the same case making a complete service shop containing TUBE TESTER — MULTESTER — CONDENSER TESTER — A.M. SIGNAL GENERATOR — F.M. SIGNAL GENERATOR — AUDIO OSCILLATOR.

The A.M.—RF, as well as the F.M. signal generator are accurately set for the four needed calibration frequencies—two I.F. and two ends of the band. The audio oscillator has a 400 cycle output.

Model 8073—Housed in same overall case as Model 802NA, complete with all tubes, output leads, operating instructions etc.—ready to operate.

Dealer Net Price **$84.95**

POCKET MULTITESTER MODEL 449A



Versatile multi-tester remarkably accurate. It's tops for general circuit testing and for speed in trouble-shooting. Uses a 3" square meter at 5,000 ohms per volt with a basic movement of 200 microamperes. Batteries are mounted in special spring clips readily accessible for replacement—no wires to solder. Combines 6 instruments in one small unit.

RANGES

DC Volts: 0-5-50-250-1000 Volts.
AC Volts: 0-5-50-250-1000 Volts.
DC MA: 5-10-100-1000 MA.
Ohms: 0-2000-20,000-.0-.2-2. Megohms.
Decibels: —6 to +52 DB in four ranges.
Output Meter: 0-5-50-250-1000.

Model 449A—Pocket Multitester supplied in black metal case complete with self-contained batteries. Ready to operate. Size 5⅞" x 3 1/16" x 2⅛". Weight 1¾ lbs.

Dealer Net Price **$24.50**

Model 449AP—Same as 449A but supplied in portable oak case with leads.

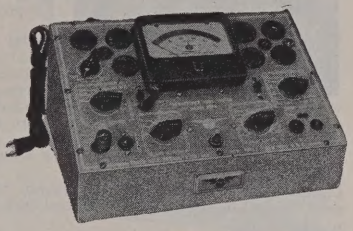
Dealer Net Price **$28.50**

DYNOPTIMUM TUBE TESTER
MODELS 322A AND 322AP

— Simple operation — only 4 switches used —

R. C. P. again demonstrates leadership in the design of this Tube Tester. Special noise test for tubes that otherwise test "good," gives a speedy leakage short test between all elements, tests new and old types of tubes, individual sections of multi-purpose tubes, and has provisions to check all miniature and sub-miniature tubes.

Complete instrument is protected against burn-out by line fuse immediately replaceable at front of panel.



Model 322P

This Model Features simplicity, speed of operation and compactness, in addition to its economical price.

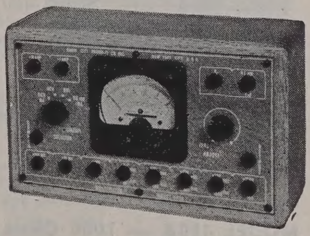
Counter Model 322A (steel case—sloping panel). Size 5¼" x 12 3/16" x 8". Weight 8¼ lbs.

Dealer Net Price **$37.95**

Portable Model 322AP. Size 4⅞" x 12⅛" x 11⅜". Weight 14¼ lbs.

Dealer Net Price **$41.95**

AC-DC MULTITESTER
MODELS 447A AND 447AP



Model 447A

The exceptional value in the 447A Model is made possible by the tremendous quantities produced. The resulting very low price is responsible for its great popularity. These units are in a class with other makes of testers that sell for considerably more.

A 3" square D'Arsonval meter is used, having an accuracy of 2%. Ring type shunt circuits are employed. Accuracy of AC voltage measurements are kept to closer tolerance by use of a new gold plated copper oxide rectifier with excellent current density characteristics.

RANGES

DC Voltmeter: 0-5-50-250-500-2500 Volts at 1000 Ohm per Volt.
AC Voltmeter: 0-10-100-500-1000 Volts.
Output Voltmeter: 0-10-100-500-1000 Volts.
DC Milliammeter: 0-1-10-100-1000 MA.
DC Ammeter: 0-1-10 Amperes.
Ohmmeter: 0-10,000 Ohms—1 Megohm—10 Megohms Ext.
Decibel Meter: —8 to +55 decibels.

Model 447A—Open face instruments supplied in hardwood case. Size 5" x 8½" x 3". Weight 21 oz. Complete with batteries, ready to operate.

Dealer Net Price **$17.95**

Model 447AP—Portable type supplied in hardwood case with carrying handle, cover and test leads. Size 6½" x 8½" x 4½". Weight 24 oz. Complete with batteries, ready to operate.

Dealer Net Price **$21.95**

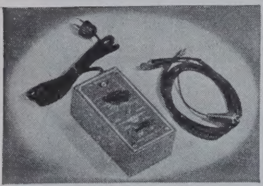
RADIO CITY PRODUCTS CO., Inc.

NEW YORK 1, N. Y.

TEST EQUIPMENT

POCKET SIGNAL GENERATORS

MODEL AM-710 — MODEL FM-720A



For "On The Job" service work both of these popular generators are a "must," and is an answer to the needs of thousands of servicemen, experimenters, and is ideal for production testing.

Model AM-710 generator provides broadcast band alignment by fixed frequencies of 550 Kc and 1500 Kc. Intermediate frequency alignment is provided for by fixed frequencies of 456 Kc and 465 Kc. Trimmers are provided for the purpose of recalibrating. Safe AC or DC operation. Isolation of case and chassis prevents any chance of shock, short circuit or burn-out.

Complete with tubes. Shielded output, cable and plug ready to operate. Housed in attractively designed case. Size 3" x 6" x 2¾".

Weight 2 lbs.

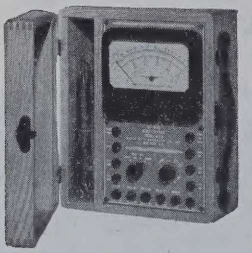
Dealer Net Price **$17.95**

Model FM-720A generator is a companion unit and is actually FREQUENCY modulated sufficient for ratio detectors and covers the entire FM band. All needed frequencies for FM servicing are instantly available at accurate calibration. Switch provides fixed frequencies of 9.1 megacycles and 10.7 megacycles for IF and 88 and 108 megacycles for the low and high ends of the band. Continuously variable attenuation is provided to prevent overloading.

Complete with tubes, shielded output, cable line cord and plug ready to operate. Housed in attractively designed metal case. Size 3" x 6" x 2¾". Weight 2 lbs.

Dealer Net Price **$19.95**

450 SERIES HI-MEGOHM MULTITESTERS



Accurate HIGH MEGOHM RANGE requires NO batteries and NO tubes. Rectangular 4⅝" meters provide excellent readability and are accurate within 2%.

Output ranges correspond to the AC voltage ranges. Hi-megohm ranges permit readings 50 megohm on type A and 1000 meg. on type C.

All bench type or open face models have dimensions 8⅞" x 5½" x 3¾". Weight 3 lbs. All portable models are designated by letter "P" and are furnished in attractive natural finish oak cases with leads. Case has hinged cover with latch and leather handle. Dimensions, 8⅞" x 7½" x 4¾". Weight 4½ lbs.

MODEL 450A — 1000 Ohms per volt meter sensitivity

Ohmmeter: 0-5000-500,000 Ohms, 0-50 Meg.
DC Volts: 0-5-50-125-500-2500.
AC Volts: 0-10-100-250-1000.
DC Milliamps: 0-2.5-10-100-1000.
Decibels: —9 to +55 DB.

Dealer Net Price **$20.95**

Model 450AP Dealer Net Price **$24.95**

MODEL 450B — 5,000 Ohms per volt meter sensitivity

AC and DC Volts: Ranges same as for 450A and 450C.
Ohmmeter: 0-5000-500,000 Ohms. 0-100 Megohms.
DC Milliamps: 0-0.5-10-100-1000.
Decibels: —9 to +55 DB.

Dealer Net Price **$28.50**

Model 450BP Dealer Net Price **$24.50**

MODEL 450C — 20,000 Ohms per volt meter sensitivity

Ohmmeter: 0-5000 Ohms 0-5-1000 Meg.
DC Volts: 0-5-50-125-500-2500.
AC Volts:: 0-10-100-250-1000.
DC Milliamps: 0-0.1-10-100-1000.
Decibels: —9 to +55 DB.

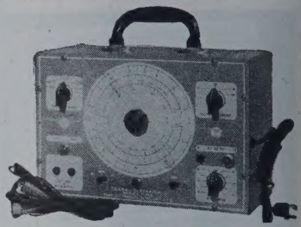
Dealer Net Price **$28.50**

Model 450CP Dealer Net Price **$32.50**

Here are fine instruments that provide immediate measurements of high resistance values without the use of expensive bridges.

SIGNAL GENERATOR MODEL 705A

BOTH 30% AND 80% MODULATION



R. C. P. Model 705A Test Oscillator brings you a feature ordinarily found only in high-priced instruments—high and low percent modulation. Low harmonic output on low frequency bands. High percentage harmonics on high frequency band only. IDEAL FOR ALIGNMENT OF FM RECEIVER IF's BY THE ZERO DISCRIMINATOR CURRENT METHOD.

Dial calibration provides fundamental frequencies from 100 Kc to 25 Mc. Band "F" has been included to provide calibrated output using third harmonic of Band "E" to give direct frequency readings from 25 to 75 Mc. Band "F" harmonic output is sufficient for alignment of all present day FM receivers. Calibration is accurate within 2% per band for broadcast bands and within 3% for high frequency and FM bands. Ideal for direct-reading calibration of receivers.

Automatic shorting of coils not in use. Individual shielding of RF circuits, coil assembly and attenuator. Overall steel case, chassis and panel. Fused line supply.

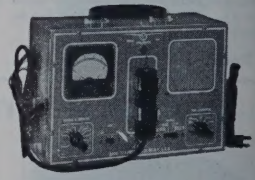
Planetary drive condenser, double-ended indicator—Output can be modulated or unmodulated. Sinesoidal modulation frequency of 400 cycles also available for external application. Five step-ladder attenuator with vernier.

Model 705A—Complete, ready to operate. Size 8" x 11¾" x 5". Weight 11 lbs.

Dealer Net Price **$49.50**

DYNATRACER MODEL 777

A new signal tracer that establishes a new high in performance records — covers all AM - FM - TELEVISION receivers



Astonishing new design at economical cost that gives high amplification available only in the expensive tuned channel types. Operation is more simple.

TESTS MICROPHONES AND PHONOGRAPH PICKUPS directly through terminals provided

Negligible outside pickup of noise or hum. Extremely high sensitivity enables this instrument to pick up broadcast signals when connected to a short lead.

Checks noise pickup at antenna—checks operation of AVC-AFC-link and filter circuits. Detailed instructions give full information for checking all types of receivers and their components.

With this revolutionary signal tracer really hear the signal and any variation directly from antenna through each stage of r.f.-if.-a.f. step by step without operating any switch or changing to different channels in the instrument. You get readings or signal strength and directly measure gain per stage. Gain measurements made by accurate meter not possible with magic eye indicators.

Negligible Disturbance to circuit under test as input capacity is only 3 mmfds.

Attenuation of 10,000 to 1 by a ladder type of step attenuator with vernier control.

Sensitivity extremely high—10,000 microvolts full scale.

Traveling Detector—Convenient, insulated probe housing detector and amplifier at end of 50" lead.

Frequency coverage up through 150 megacycles.

Model 777—Beautiful hammertone grey finish — 4" Alnico V speaker, sensitivity control, microphone-phonograph input jack — traveling detector probe, sensitive milliammeter with associated switching control — ladder type step attenuator, vernier control — automatic control switch for speaker or meter or both or standby. Includes 6AT6, 7A7, 7B5, and 6X5 tubes. Complete, ready to operate, 105-135 volts. Weight 9½" lbs. Size 6⅝" x 8⅛" x 11".

Dealer Net Price **$41.50**

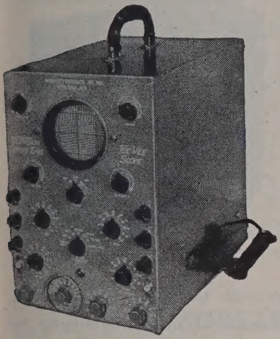
RADIO CITY PRODUCTS CO., Inc.

NEW YORK 1, N. Y.

TEST EQUIPMENT

TEEVEE 90 OSCILLOSCOPE

THE LATEST IN TELEVISION TESTING



Combines the two essential instruments needed in television testing: ALIGNMENT - SERVICE

- COMPLETE OSCILLOSCOPE (Can be used as such by itself)
- COMPLETE SWEEP GENERATOR (Can be used independently)

Oscilloscope has its own variable linear sweep circuit from 10 to 45,000 CPS and has a sensitivity of 285 millivolts RMS per inch vertical and 320 millivolts RMS per inch for horizontal deflection. Input resistance is one megohm shunted by 20 mmfd. Sine wave response uniform from 5 cycles to 200 K.C. within ±2db.

Sinusoidal sweep with phasing control of 150 degree range is provided for use in conjunction with the internal RF sweep generator when testing band pass characteristics.

Absolute locking of pattern is obtained with linear time base control (left to right) from 10 cycles to 45,000 cycles in six ranges with vernier control. Synchronization provision for either internal positive or line frequency or external.

External jack provided for trace blanking. Requires ½ volt of negative pulse to blank a normal intensity level trace.

Independent sweep generator has a center frequency range of 1.5 to 45 megacycles giving a choice of any IF frequency desired. The band width can be varied continuously from 0.5 KC to 7 MC.

Attenuation of RF is continuously variable from 0 to 500 millivolts and the output is applied through low loss coaxial cable.

Traveling detector probe is included for observing signal at any point of the R.F. circuit under test.

Supplied complete with tubes, probe, coaxial output cable and operating instructions ready to operate.

For operation on 105-130 volts 50-60 cycles—power consumption 40 watts. Weight 25 lbs. Size 14 x 18 x 12½ inches. Finished in attractive hammertone grey.

Here are two instruments combined at actually the price of only one. Light enough and compact enough to easily take right out on the job with you—almost impossible with 2 separate units.

TUBE COMPLEMENT—1-3BP1, 2-7G7, 2-6X5, 1-884, 1-6SA7GT/G, 1-7A4—Supplied complete with tubes, probe, coaxial output cable and operating instructions ready to operate **$127.50**

MULTITESTER MODEL 462

RADIO CITY PRODUCTS CO. INC.-N.Y.C.-USA

GIANT SIZE METER

20,000 Ohms per Volt D.C.
5,000 Ohms per Volt A.C.
NO FREQUENCY ERRORS

Unusual because of the many desirable features that are combined in one instrument. The size of the meter, 6½", provides a very long scale with excellent legibility so important for bench work.

Uses germanium crystal rectifier which has no frequency error for output measurements or even high radio frequencies. Uses individual unit cells for ohmmeter. Easy and economical to purchase and replace—snap into terminal clamps—no soldering.

RANGES

D.C. Voltmeter 0/2.5/10/50/250/. 1000/5000 volts.

A.C. Voltmeter 0/2.5/10/50/250/. 1000/5000 volts.

D.C. Milliammeter 0/10/100/500 milliamperes.

D.C. Microammeter 0/100 microamperes. Ohmmeter 0/200/200,000 0/20 megohms.

Decibel Meter—10 to/55 db.

Meter of 50 microampere sensitivity permits current readings of less than 1 microampere.

Shunts and multipliers are calibrated to 1% accuracy.

Model 462 Multitester is a beautiful large instrument with 6½" meter, bakelite panel and oak case. Size 4¼" x 8½" x 10⅛". Weight 5 lbs.

Dealer Net Price **$41.50**

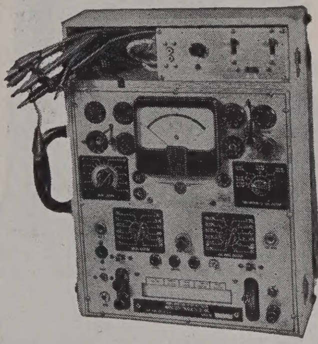
Model 462P comes in a portable hinged cover oak carrying case having a tool compartment and includes deluxe pencil prod test leads. Size 5¼" x 8½" x 11¾". Weight 6 lbs.

Dealer Net Price **$45.95**

SERVICESHOP MODEL 8573

EQUIVALENT TO A COMPLETE SERVICE SHOP

- **Tube Tester**
- **Battery Tester**
- **Condenser Tester**
- **AM Signal Generator**
- **FM Signal Generator**
- **Audio Oscillator**
- **Complete Multitester**



Never before in history has there been available an up-to-date tube tester providing for testing acorn tubes, miniature tubes —noval base tubes and sub - miniature tubes with the famous Rollindex Roll Chart—combined with a battery tester and a complete multitester measuring AC and DC volts—DC milliamperes and amperes—ohms and megohms, decibels and output volts and also having a condenser tester, an AM signal generator, an FM signal generator and an audio oscillator.

The amazing fine performance of this equipment is the result of the latest engineering design and improvement in the 805B combination tube and set tester combined with the all purpose Model 730 signal generator.

850 tube listings on roll chart. Jack provided for headphone test for noisy tubes that do not otherwise read "bad."

Latest type germanium crystal rectifier assures AC measurements free from temperature and frequency errors common to other rectifiers. Readable scale divisions on the ohmmeter start at 0.05 ohm to 25 megohms.

Battery Tester—All standard range batteries tested under rated loads

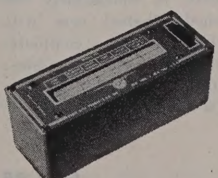
DC Volts	AC Volts	DC Milli-amps	DC Amps	Ohms	Meg.	Decibels	Output Volt-meter
0	0	0	0	0	0	—8 to +15	0
2.5	10	.5	10	250	2.5	6 to 29	10
10	50	2.5		2500	25	20 to 43	50
50	250	10		25000		32 to 55	250
250	1000	50				46 to 69	1000
1000	5000	250					5000
5000		1000					

Model 8573—Complete with tubes, batteries and test leads, output leads, etc.—housed in beautiful natural finish oak case—hammertone grey panel. Weight 18 lbs.

Overall size 16½ x 12¾ x 5¼ inches. An outstanding value of all times at.. **$99.95**

Model 805B—Same unit as above less the all purpose Model 730 Signal Generator—Complete.............. **$77.50**

ROLINDEX



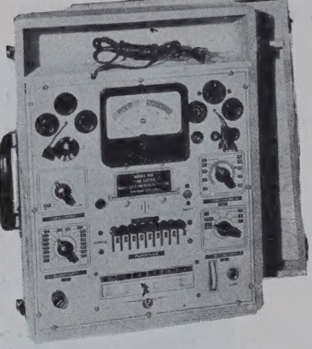
Model 105 Roll chart unit to be used in conjunction with Tube Tester Models 322, 322P, 322A, 322AP, 802N and 802NA. The unit is in a grey hammertone finish metal case with plastic window, designed to fit the test lead compartment.

Model 105—Dealer Net Price.... **$7.50**

RADIO CITY PRODUCTS CO., Inc.

NEW YORK 1, N. Y.

TEST EQUIPMENT



"Free-Point Return" Obsolescence Proof

TUBE TESTER MODEL 316

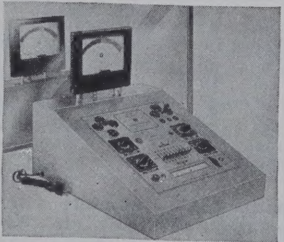
How many tube testers has obsolescence junked in your radio service career? If outmoded instruments deplete your income, you need this practically obsolescence-proof, free-point return tube tester. It enables you to test any tube type available today, or any that may be devised in the future. A noise jack permits easy detection of faulty microphonics in acorn, miniature, and standard tubes. A "must" for the service shop where every instrument dollar spent has to produce maximum value and test efficiency.

CHECK THESE FEATURES

- The free-point-return tester enables all measurements to be made with set in operation.
- The special circuit design allows testing of any tube type regardless of its filament voltage or base wiring.
- Unusual flexibility is attained by using lever-type switching for individual control of each tube element.
- A complete rollchart lists all current tube types in large, legible type.
- Tube tester has 4½" rectangular meter with easy-to-read "Poor-Good" scale.
- Operates on 100-130 volt, 50/60 cycle AC power supply.
- In beautiful portable case of natural oak, with carrying handle and self-latching, removable cover.
- Size: 16½" H. x 12¾" W. x 5¼" D. Weight: 13 lbs.

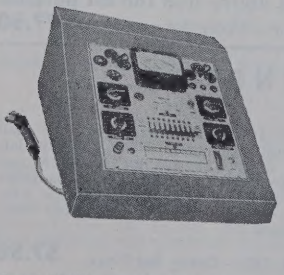
Model 316—Dealer Net Price.. $53.50

MODEL 316DL



Similar to Model 316M with exception of meter. Meter is 7½" double meter, giving the identical reading so that both the man in front of the counter as well as the person in back of the counter clearly read the condition of the tube. Size: 16" x 20" x 16". Weight: 21 lbs.

Model 316DL—Dealer Net Price.. $82.50



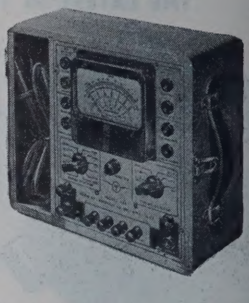
MODEL 316M

Tube merchandiser complete in handsomely finished all-steel case with 4½" meter, complete, ready to operate. Size: 16" x 20" x 8¼". Weight: 19 lbs.

Model 316M—Dealer Net Price.. $69.95

ULTRA-SENSITIVE

MULTITESTER MODEL 488-A



Check these features:

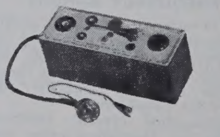
- The AC Ammeter is of the current transformer type with a voltage drop of only 0.4 volts at full scale 12-ampere range. Ideally suited for appliance and small motor tests.
- A sensitivity of 20,000 ohms per volt on DC and 1000 ohms per volt on AC measurements. Ideal for television receiver service.
- 6,000-volt AC and DC ranges can be used with safety. 15,000-volt test leads are supplied.
- The center of the low ohm scale reads 37 ohms, permitting extremely accurate readings.
- A wide-scale 4½" meter with movement of 50 microamperes is accurate to 2% of full scale.
- All multipliers and shunts are matched and accurate to 1%.
- Sensitive readings are obtainable as low as 1 microampere, 0.25 ohm and .1 volt.
- Batteries are readily accessible.
- The unit has an overall accuracy of 3% on DC and 5% on AC voltages and currents.

RANGES

DC Voltmeter: 0-3-12-60-300-600-1,200-6,000 Volts.
AC Voltmeter: 0-3-12-60-300-600-1,200-6,000 Volts.
DC Milliammeter: 0-3-20-120-600 Milliamperes.
DC Microammeter: 0-60-300 Microamperes.
DC Ammeter: 0-12 Amperes.
AC Ammeter: 0-3-6-12 Amperes.
Ohmmeter: 0-3,000-300,000 -30,000,000 Oms.
Output Voltmeter: 0-3-12-60-300-600-1,200-6,000 Volts.

Model 488A—In golden oak carrying case, compartment, self-latching and detachable cover. Supplied with self-contained battery and test leads. Size: 11⅝" H. x 9¾" W. x 6⅛" D. Weight: 10 lbs.

Dealer Net Price.. $59.50



MODERNIZATION UNITS FOR TUBE TESTERS

For the many new tubes that have appeared on the market since 1946, practically every tube tester in use, as well as every new tube tester shipped from the factories up to April, 1947, is now obsolete to some degree.

Models 120 and 125 Modernization Units have a flexible cable with a plug that is simply inserted into the loctal socket of the old tube tester. There are spare blank sockets and spaces for additional sockets should new types of tube bases appear in the future. Tube Testing charts and data are supplied.

New miniature and subminiature sockets are provided. These units fit snugly into the compartments of the case proper or in the cover of portable types, such as Models 322P, 802N, 802NS. Use the chart below for specifying the correct model.

Modernization Kit No. 129 is supplied in kit form with prewired subpanel that is mounted in place of one of the regular sockets. Instructions are given for changes in wiring and other connections to be made by the purchaser.

Modernization Kit No. 123 is similar to kit No. 129.

For Testers Model........	308 309	310-312 313	314	315	800-801 801A-802	802N	803-804 804A	805
Order Unit.	120-308	120-312*	129*	123*	120-800	125	120-803*	128*
Net Price	**$10.95**	**$10.95**	**$4.95**	**$4.95**	**$10.95**	**$9.95**	**$10.95**	**$10.95**

Hammertone gray panel — steel case. Size: 3" x 8" x 2¾". Weight: 1½ lbs.

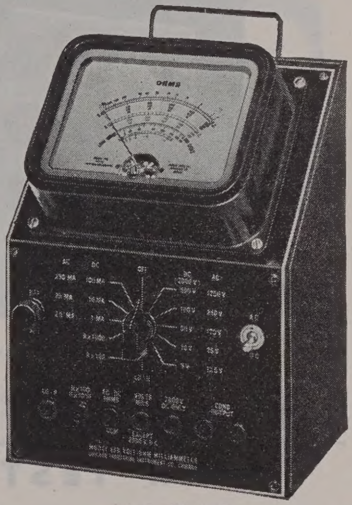
*Supplmentary tube test data is supplied in sheet form.

Net

Chicago INSTRUMENTS

DEPENDABLE — ACCURATE RADIO, ELECTRICAL AND INDUSTRIAL TEST EQUIPMENT

PORTABLE BENCH-TYPE VOLT-OHM-MILLIAMMETER


MODEL 458

Multiplex Model 458. Volt-Ohm-Milliammeter. 1000 Ohms per volt. Net $21.00

Volts DC: 0-5/10/50/100/500/2000
Volts AC: 0-12.5/25/125/250/1250
Milliamperes DC: 0-1/10/100/
Milliamperes AC: 0-2.5/25/250
Ohms Full Scale: 1000/200,000/2,000,000
Ohms Center Scale: 50/2250/22,500
Output: —5 to + 55 Decibels
Size: 10⅛" x 6¾" x 5½"

Multiplex Model 458A. Volt-Ohm-Mils-Ammeter. Net $26.00

Similar to Model 458, but designed for wider coverage

Volts AC-DC: 0-2.5/10/50/250/1000/5000
Milliamperes AC-DC: 0-1/10/100
Amperes: AC: 0-0.5/1/5/10
Amperes DC: 0-1/10
Ohms ranges same as Model 458.

PORTAPLEX PORTABLE INSTRUMENTS

Model 431A AC-DC Volt-Ohm-Mils-Ammeter. Net $16.60

Volts AC-DC: 0-15/30/150/300/1500/3000 (1000 Ohms per volt)
Milliamperes DC: 0-1.5/150
Amperes DC: 0-7.5
Ohms Full Scale: 0-10,000/100,000/1 meg.
Ohms Center Scale: 60/600/6000
Size: 6⅛ x 3¼ x 2¾"

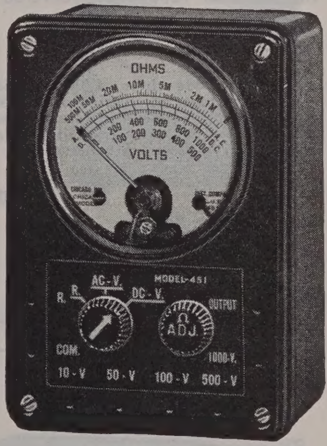
Model 421D AC-DC Volt-Ohm-Milliammeter. Net $20.00

Volts AC-DC: 0-4/10/40/100/400/1000 (5000 Ohms per volt)
Milliamperes DC: 0-4/40/100/400
Ohms Full Scale: 0-10,000/100,000/1 meg.
Ohms Center Scale: 60/600/6000
Size: 6⅛ x 3¼ x 3¼"

Model 433 Super High Sensitivity Volt-Ohmmeter. 20,000 Ohms per volt. Net $20.00

Volts DC: 0-3/30/300/600
Ohms Full Scale: 5000/50,000/500,000/5,000,000
Ohms Center Scale: 70/700/7000/70,000
Size: 5 7/16" x 3 9/16" x 3"

FEATHERWEIGHT MINIATURE MODELS
(All models 3 15/16" x 2⅞" x 2")



MODEL 451A

Model 450 Volt-Ohm-Milliammeter. 1000 Ohms per volt. Net $10.00

Volts DC: 0-5/10/50/500/1000
Milliamperes: 0-1
Ohms Full Scale: 5000/50,000/500,000
Ohms Center Scale: 30/300/3000

Model 451A AC-DC Volt-Ohmmeter with Output Ranges. Net $14.00

Volts DC: 0-10/50/100/500/1000 (1000 Ohms per volt)
Volts AC and Output: 0-10/50/100/500/1000
Ohms Full Scale: 500,000
Ohms Center Scale: 7200

Model 451B Same as Model 451A but with 2500 Ohms per volt. Net $15.00

Model 452 High Sensitivity Volt-Ohmmeter. 10,000 Ohms per volt. Net $14.00

Volts DC: 0-10/50/100/500/1000
Ohms Full Scale: 2000/20,000/200,000/2,000,000
Ohms Center Scale: 30/300/3000/30,000

Model 453 Volt-Ohm-Milliammeter. Net $12.50

Volts DC: 0-15/30/150/300/1500
Volts AC and Output: 0-15/30/150/300/1500
Milliamperes DC: 0-150
Ohms Full Scale: 5000/50,000/500,000

SIMPLEX VOLT-OHM-MILLIAMMETERS

Model 371 Volt-Ohm-Milliammeter. Iron Vane Type. Net $5.25

Volts DC: 0-3/15/30/300
Milliamperes: 0-25
Ohms Full Scale: 10,000
Size: 1⅞" x 2¾" x 3⅞"

Model 312 AC-DC Volt-Ohm-Milliammeter. Repulsion Type Movement. Net $6.75

Volts AC and DC: 0-25/50/125/250
Milliamperes AC and DC: 0-50
Ohms Full Scale: 100,000
Ohms Center Scale: 2400
MFD: .05 to 15.
Size: 1⅞" x 2¾" x 3⅞"

POLARIZED TEST LEADS FOR ALL CHICAGO INSTRUMENTS

No. 1048 Low Resistance Test Leads, 48" Long. Tenite insulated prods. Net $0.66

DRY BATTERY TESTER

BATTERY TESTER
MODEL 471

Model 471 Dry Battery Tester. Net $16.00

Tests 1½ volt — 10 volt and 10 volt — 150 volt batteries under specified load. Easy reading. 5½" rectangular meter makes battery sales easy.

CHICAGO INDUSTRIAL INSTRUMENT CO.

The "STAR" Line of QUALITY TEST EQUIPMENT

MODEL TE-1

A Precision TUBE CHECKER *at Minimum Cost*

Separate switching is provided for each pin of each socket so that any of the heater voltages or the plate voltage can be applied. With this versatile arrangement all standard receiving tubes can be checked no matter what the internal connections.

$29.95

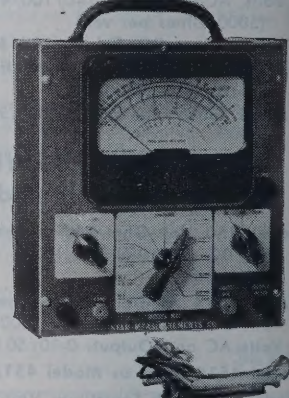
FEATURES

- Tests all receiving type tubes including the new series of seven and nine pin tubes now being released for FM and Television.
- Individual pin switching provides the maximum of flexibility in testing.
- 3" square wide vision meter.
- Tests individually all sections of multi-section tubes.
- Features a check for line voltage variations.
- Tests for shorts between all tube elements.
- Compact size — 9" x 7" x 3½".
- Weight — six pounds.
- For use on 50 to 60 cycle, 115 V., AC lines.
- All instruments shipped complete with up to date tube charts.

STAR TESTER MODEL M-11

The Model M-11 has been designed as a basic all around multi-tester for use by the radio serviceman and allied industries. All essential ranges are covered very adequately with excellent overlapping.

$22.95

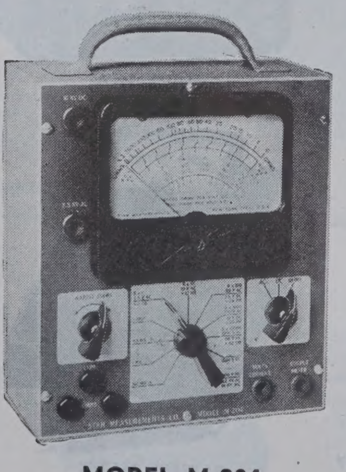


FEATURES

- A large, wide vision, 4½", 400-microampere meter for ease of reading on all ranges.
- 27 separate ranges for measurement.
- 1,000 ohm per volt sensitivity AC and DC.
- Precision resistors throughout.
- Light weight — 4 pounds.
- Compact size — 9" x 7" x 3½".
- All instruments shipped complete with batteries, test leads and instructions for use.

DESIGN DATA

5 AC Voltage Ranges:
0 to 10/50/250/500/1000 Volts.
5 DC Voltage Ranges:
0 to 10/50/250/500/1000 Volts.
5 Output Meter Ranges:
0 to 10/50/250/500/1000 Volts.
4 DC Current Ranges:
0 to 1/10/100/1000 Ma.
3 Resistance Ranges:
0 to 5,000/500,000 Ohms.
0 to 5 Megohms.
5 Decibel Ranges:
Overall Range from —10 to +54 Db.



MODEL M-204

10,000-VOLT STAR TESTER MODEL M-204

The Model M-204 is the high sensitivity, high voltage companion to the M-11. This unit has been engineered to give the maximum possible flexibility in the testing of all AM, FM and Television circuits.

$32.95

FEATURES

- A large, wide vision, 4½", 50-microampere meter for ease of reading on all ranges.
- 31 separate ranges for measurement.
- 5 resistance ranges with continuous coverage from zero to 50 megohms. Midscale on first range is 50 ohms.
- 20,000 ohms per volt sensitivity DC.
- 1,000 ohms per volt sensitivity AC.
- 10,000 volts maximum DC.
- 2,500 volts maximum AC.
- Precision resistors throughout.
- All instruments shipped complete with batteries and instructions for use. Test Leads are not included.

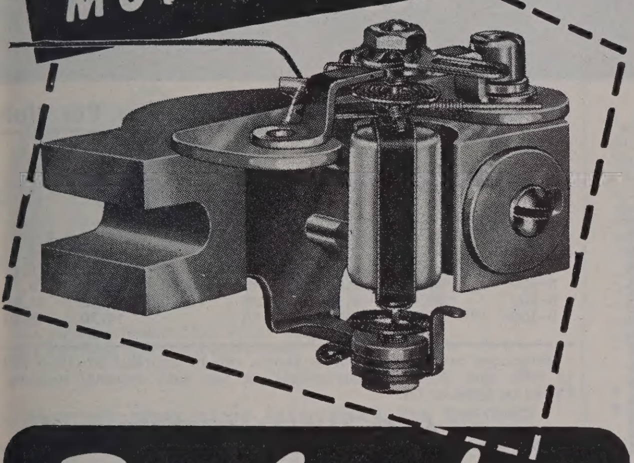
DESIGN DATA

6 AC Voltage Ranges:
0 to 2. 5/10/50/200/1000/2500 Volts.
6 DC Voltage Ranges:
0 to 2. 5/10/50/250/1000/10000 Volts.
5 Output Meter Ranges:
0 to 2. 5/10/50/200/1000 Volts.
4 DC Current Ranges:
0 to 50 Microamperes.
0 to 1/50/1000 Ma.
5 Resistance Ranges:
Continuous Overlapping from 0 to 50 Megohms.
Rx1, Rx10, Rx100, Rx1000, Rx10000.
5 Decibel Ranges:
Overall Range from —10 to +54 Db.
Test Leads:
TL-10 1,000 Volt......**$0.65 per pair, net**
TL-100 10,000 Volt......**$2.95 per pair, net**

STAR MEASUREMENTS CO. • NEW YORK 56, N. Y.

Net

PRECISION MOVEMENTS



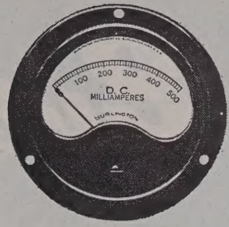
Burlington
PANEL INSTRUMENTS

AC and DC types are accurate to within 2% of full scale value at any point on the scale.

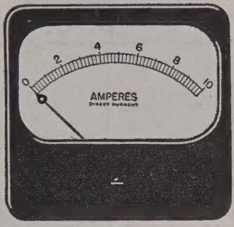
DC instruments combine extremely light weight moving elements and powerful alnico magnets to produce a torque to weight ratio which reduces frictional error to a minimum. This high torque to weight ratio permits use of pivots with ample pivot bearing surface to overcome effects of rough handling, shock, and vibration.

AC instruments are accurate over entire range of commercial power frequencies (25 to 125 cycles). These instruments are of repulsion vane type using carefully aged and impregnated field coils and multipliers which are wound with conductors of ample size so that temperature rise of the windings may be maintained at a minimum, even though instrument is subjected to continuous use in the circuit.

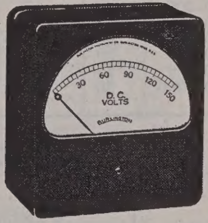
MODELS
Direct Current
421, 431, 441
Alternating Current
422, 432, 442



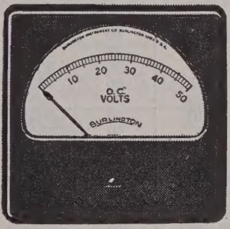
MODELS
Direct Current
731, 741
Alternating Current
732, 742



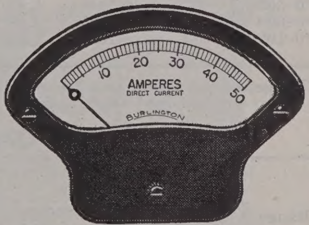
MODELS
Direct Current
141
Alternating Current
142



MODELS
Direct Current
521, 531
Alternating Current
522, 532



MODELS
Direct Current
841
Alternating Current
842



CASE DIMENSIONS

Model No.		Body	Flange	Body Depth	Stud Length		Case
DC	AC				DC	AC	
141	142	....	4″ x 4¼″	2″	¾″	1″	Rectangular, front-of-board, Bakelite
421	422	2.156″ Diam.	2.690″ Diam.	1.4062″	⅝″	25/32″	Round, flush, Bakelite
431	432	2.796″ Diam.	3½″ Diam.	1½″	¾″	¾″	Round, flush, Bakelite
441	442	3.5625″ Diam.	4⅜″ Diam.	1.4531″	¾″	¾″	Round, flush, Bakelite
521	522	2.156″ Diam.	2⅜″ x 2⅜″	1⅜″	⅝″	25/32″	Square, flush, Bakelite
531	532	2.796″ Diam.	3″ x 3″	1½″	¾″	¾″	Square, flush, Bakelite
731	732	2¼″ Diam.	3 11/16″ x 3 5/16″	1.0156″	¾″	⅝″	Rectangular, semi-flush, Bakelite
741	742	2¾″ Diam.	4″ x 4¼″	1″	¾″	¾″	Rectangular, semi-flush, Bakelite
841	842	2¾″ Diam.	....	1.2187″	¾″	¾″	Fan-shaped, semi-flush, Bakelite

See following page for prices and specifications.

Burlington PANEL INSTRUMENTS

D. C. MILLIAMMETERS

Range	Scale Div.	Approx. Res.	MODELS				
			421 521	431 531	731	441 841	141 741
0–1	50	47 ohms	$6.60	$7.05	$7.20	$7.80	$7.95
0–5	50	10 ohms	5.70	6.45	6.60	7.20	7.65
0–10	50	5 ohms	5.70	6.45	6.60	7.20	7.65
0–15	30	9.34 ohms	5.70	6.45	6.60	7.20	7.65
0–25	50	5.6 ohms	5.70	6.45	6.60	7.20	7.65
0–50	50	2.8 ohms	5.70	6.45	6.60	7.20	7.65
0–100	50	1.4 ohms	5.70	6.45	6.60	7.20	7.65
0–150	30	.94 ohms	5.70	6.45	6.60	7.20	7.65
0–200	40	.7 ohms	5.70	6.45	6.60	7.20	7.65
0–250	50	.56 ohms	5.70	6.45	6.60	7.20	7.65
0–300	30	.466 ohms	5.70	6.45	6.60	7.20	7.65
0–500	50	.28 ohms	5.70	6.45	6.60	7.20	7.65
0–750	75	.186 ohms	5.70	6.45	6.60	7.20	7.65
0–1000	50	.140 ohms	5.70	6.45	6.60	7.20	7.65

D. C. AMMETERS

Range	Scale Div.	Terminal Voltage Drop	MODELS				
			421 521	431 531	731	441 841	141 741
0–1	50	50MV	$5.85	$6.60	$6.75	$7.35	$7.80
0–3	30	50MV	5.85	6.60	6.75	7.35	7.80
0–5	50	50MV	5.85	6.60	6.75	7.35	7.80
0–10	50	50MV	5.85	6.60	6.75	7.35	7.80
0–15	30	50MV	5.85	6.60	6.75	7.35	7.80
0–25	50	50MV	5.85	6.60	6.75	7.35	7.80
0–30	30	50MV	5.85	6.60	6.75	7.35	7.80
0–50	50	50MV	5.85	6.60	6.75	7.35	7.80
0–60	30	50MV	5.85	6.60	6.75	7.35	7.80
0–75	75	50MV	5.85	6.60	6.75	7.35	7.80
*0–100	50	50MV	5.85	6.60	6.75	7.35	7.80
*0–150	30	50MV	5.85	6.60	6.75	7.35	7.80
*0–200	40	50MV	5.85	6.60	6.75	7.35	7.80
*0–300	30	50MV	5.85	6.60	6.75	7.35	7.80
*0–400	40	50MV	5.85	6.60	6.75	7.35	7.80
*0–500	50	50MV	5.85	6.60	6.75	7.35	7.80
*0–600	30	50MV	5.85	6.60	6.75	7.35	7.80
*0–1000	50	50MV	5.85	6.60	6.75	7.35	7.80

* Ranges above 60 amperes are supplied as 50MV movements to be used with external 50MV shunts.

D. C. MICROAMMETERS

Range	Scale Div.	Approx. Res.	MODELS				
			421 521	431 531	731	441 841	141 741
0–50	50	1150 ohms	$14.55	$15.00	$15.15	$15.45	$15.90
0–100	50	1150 ohms	12.00	12.45	12.60	12.90	13.35
0–200	40	330 ohms	9.75	10.20	10.35	10.65	11.10
0–500	50	225 ohms	7.95	8.85	9.00	9.75	10.65

D. C. VOLTMETERS—200 Ohms Per Volt

Range	Scale Div.	MODELS				
		421 521	431 531	731	441 841	141 741
0–3	30	$5.85	$6.60	$6.75	$7.35	$7.80
0–5	50	5.85	6.60	6.75	7.35	7.80
0–10	50	5.85	6.60	6.75	7.35	7.80
0–15	30	5.85	6.60	6.75	7.35	7.80
0–25	50	5.85	6.60	6.75	7.35	7.80
0–50	50	5.85	6.60	6.75	7.35	7.80
0–100	50	5.85	6.60	6.75	7.35	7.80
0–150	30	7.35	7.80	7.95	8.25	8.55
0–300	30	....	8.55	....	9.00	9.30

D. C. VOLTMETERS—1000 Ohms Per Volt

Range	Scale Div.	MODELS				
		421 521	431 531	731	441 841	141 741
0–50	50	$7.95	$ 8.25	$ 8.40	$ 8.55	$ 8.85
0–100	50	8.25	8.55	8.70	8.85	9.15
0–150	30	8.55	8.85	9.00	9.15	9.45
0–300	30	8.85	9.15	9.30	9.45	9.75
0–500	50	9.75	10.35	10.50	10.95	11.55
0–1000	50	....	14.10	....	14.70	15.30

Voltmeter ranges above those shown can be supplied as either 200 or 1000 ohm per volt instruments for use with external resistors. Prices on application.

A. C. MILLIAMMETERS

Range	Scale Div.	Approx. Res.	MODELS				
			422 522	432 532	732	442 842	142 742
0–10	50	2020 ohms	$5.70	$6.30	$6.45	$7.20	$7.50
0–15	30	1120 ohms	5.70	6.30	6.45	7.20	7.50
0–25	50	370 ohms	5.70	6.30	6.45	7.20	7.50
0–50	50	83 ohms	5.70	6.30	6.45	7.20	7.50
0–100	50	20 ohms	5.70	6.30	6.45	7.20	7.50
0–250	50	4 ohms	5.70	6.30	6.45	7.20	7.50
0–500	50	.8 ohms	5.70	6.30	6.45	7.20	7.50

A. C. AMMETERS

Range	Scale Div.	Approx. Res.	MODELS				
			422 522	432 532	732	442 842	142 742
0–1.5	30	.072 ohms	$5.70	$6.30	$6.45	$7.20	$7.50
0–5	50	.0108 ohms	5.70	6.30	6.45	7.20	7.50
0–10	50	.0038 ohms	5.70	6.30	6.45	7.20	7.50
0–15	30	.0018 ohms	5.70	6.30	6.45	7.20	7.50
0–25	50	.0008 ohms	5.70	6.30	6.45	7.20	7.50
0–30	30	.00079 ohms	5.70	6.30	6.45	7.20	7.50
0–50	50	.00048 ohms	5.70	6.30	6.45	7.20	7.50
*0–75	75	.00035 ohms	5.70	7.95	6.45	9.30	9.60
**0–100	50	....	5.70	6.30	6.45	7.20	7.50
**0–150	30	....	5.70	6.30	6.45	7.20	7.50
**0–200	40	....	5.70	6.30	6.45	7.20	7.50
**0–250	50	....	5.70	6.30	6.45	7.20	7.50
**0–300	30	....	5.70	6.30	6.45	7.20	7.50
**0–400	40	....	5.70	6.30	6.45	7.20	7.50

* Models 422, 522, 732 ranges above 50 AMPS are supplied as 5 AMP movements for use with current transformers.

** Models 432, 532, 442, 842, 142, 742 ranges above 75 AMPS are supplied as 5 AMP movements for use with current transformers

A. C. VOLTMETERS

Range	Scale Div.	Ohms per Volt	MODELS				
			422 522	432 532	732	442 842	142 742
0–1.5	30	3.3	$6.30	$6.75	$6.90	$7.20	$7.65
0–3	30	10	6.30	6.75	6.90	7.20	7.65
0–5	50	10	6.30	6.75	6.90	7.20	7.65
0–10	50	13	6.30	6.75	6.90	7.20	7.65
0–15	30	13	6.30	6.75	6.90	7.20	7.65
0–25	50	26	6.30	6.75	6.90	7.20	7.65
0–50	50	50	6.30	6.75	6.90	7.20	7.65
0–100	50	110	6.30	6.75	6.90	7.20	7.65
0–150	30	110	7.35	7.80	7.95	8.10	8.40
0–300	30	165	7.95	8.55	8.70	8.70	9.00
0–500	50	165	....	8.85	....	10.20	10.50
0-600	30	165	....	9.15	....	10.50	10.80

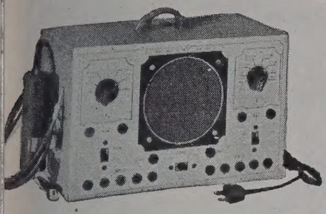
Ranges above 300 VOLTS in Models 422, 522, 732, and above 500 VOLTS in Models 432, 532, 442, 842, 142, 742 require external resistors or potential transformers. Prices on application.

BURLINGTON INSTRUMENT COMPANY

Net

TEST CRAFT INSTRUMENT CO.
106 FIFTH AVENUE • NEW YORK 11, N. Y.

The New Model TC-75 Universal
COMBINATION TEST SPEAKER AND SIGNAL TRACER



A Combination Test Speaker & Signal Tracer

- **plus signal substitution**
- **plus resistor tester**
- **plus condenser tester**
- **plus resistor substitutor**
- **plus condenser substitutor**
- **plus output indicator**
- **plus substitute 100 V. DC power supply**
- **plus field substitutor**
- **plus voice coil substitution**
- **plus signal tracer**
- **plus an experimental one-stage audio amplifier**
- **plus universal output transformer**

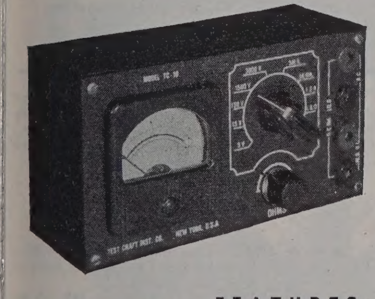
A MUST FOR EVERY RADIO SERVICEMAN AND ENGINEER

pecifications: RESISTOR CONDENSER TESTER: 110-Volt DC power ource for basic indication of either shorts or opens in both resistors nd condensers. Leakage indication for condensers only. • CAPACITY UBSTITUTION: 7 capacity values available, .001, .01, .05, .10, .25 at 00 volts and 30 mfd. and 50 mfd. at 150 volts. Provides substitution of y-pass coupling and electrolytic condensers. • RESISTOR SUBSTITU- ION: 10 resistance values available, 400, 50K, 100K, 500K, 2 meg. and meg. at ½-watt and 500, 1K, 1.5K and 2.5K at 15 watts. Provides ubstitution of grid bias and other types of resistors. • OUTPUT NDICATOR: Neon type output indicator for receiver alignment. • NIVERSAL AND SUBSTITUTION SPEAKER: Field: —500, 1K, 1.5K and .5K ohms at 175 ma. Speaker: Permanent magnet type. Voice coil: .8 ohms. Input: single or push-pull. Output: Specially designed uni- ersal output type transformer. • AUXILIARY DC POWER SUPPLY: An auxiliary 100 DC volt power source, one half on 117 L7, available or experimental and substitution purpose. • AUXILIARY AUDIO AMPLIFIER: An auxiliary one stage of audio amplification, one half n 117 L7, available for experimental and substitution purpose. • IGNAL TRACER: Provides a signal tracer of the probe type, using a IN34 crystal diode detector, the output of which is coupled into a one-stage audio amplifier.

This unit comes housed in a rugged battleship-gray, crackle-finished steel cabinet, complete with full operating instructions, ready to work on 110-125 Volts, AC 50-60 cycles. Size: 7" x 11" x 5".

Dealer's Net Price **$29.50**

The New Model TC-10
AC-DC QUALITY MULTITESTER



A New Pocket-Size Volt-Ohm-Milliammeter

with features never before available in an instrument of this size and price. Quality engineered both electrically and mechanically, this instrument will satisfy the exacting requirements of the electronics engineer, laboratory worker or service man.

FEATURES:

- **Compact, small in size: 6" x 3¼" x 2"**
- **Uses D'Arsonval type of meter, 2% accuracy**
- **Housed in black metal case**
- **Handsome, telephone black panel**
- **All markings easily read and will not wear out with use**

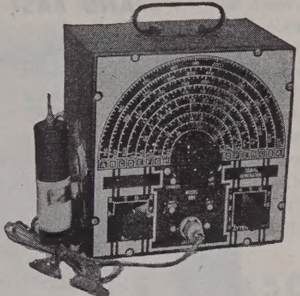
Specifications: 5 AC VOLTAGE RANGES: 0-5/15/150/1500/3000 Volts. • 5 DC VOLTAGE RANGES: 0-5/15/150/1500/3000 Volts. • 3 DC CURRENT RANGES: 0-5/50 Ma. 0-1.5 Amps. • 2 RESISTANCE RANGES: 0-100 Ohms, 0-100 K.

Complete, with self-contained batteries and all instructions.

Dealer's Net Price **$12.85**

The Model 999 — A Combination
SIGNAL GENRATOR AND SIGNAL TRACER

The Ultimate in Signal Tracing Procedure is Achieved by the Model 999



Enables you to use either the broadcast signal itself or the signal injected by the Signal Generator. This is especially useful when servicing "dead" or "intermittent" receivers. You will find the Model 999 is the greatest time-saver ever provided for, by combining a full range Signal Generator and Signal Tracer into one unit. The set up time for interconnecting, etc., is entirely eliminated.

SIGNAL GENERATOR
Specifications:

- Frequency Range: 150 Kilocycles to 50 Megacycles.
- The R.F. Signal Frequency is kept completely constant at all output levels. This is accomplished by use of a special grid-loaded circuit which provides a constant load on the oscillatory circuit. A grounded plate oscillator is used for additional frequency stability.
- Modulation is accomplished by Grid-blocking action which has proven to be equally effective for alignment of amplitude and frequency modulation as well as for television receivers.
- Positive action attenuator provides effective output control at all times.
- R.F. is obtainable separately or modulated by the Audio Frequency.

SIGNAL TRACER *Specifications:*

- Uses the new Sylvania 1N34 Germanium Crystal Diode which, combined with a resistance-capacity network, provides a frequency range of 300 cycles at 50 Megacycles.
- Simple to Operate—Clips directly on to receiver chassis, no tuning controls.
- Provision is made for insertion of phones of any impedance, a standard Volt-Ohm-Milliammeter or Oscilloscope.

The Model 999 comes complete with all test leads and operating instructions. **Only** **$28.85**

The New Model TC-50
TUBE AND SET TESTER

A Complete Laboratory, All-Purpose Test-Instrument

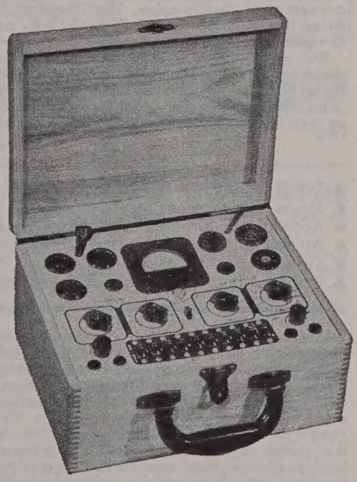
This versatile tester will accurately test all up-to-date tubes.

TUBE TESTER
Specifications:

• Tests all up-to-date tubes including 4, 5, 6, 7, 7L, octals, loctals, television, magic eye, thyrators, single-ended, floating filament, mercury vapor, new miniatures, etc. • Tests pilot lights, all voltages. • Tests by the popular emission method read directly on the scale of meter. • Tests leakage and short tests of any element against all elements in all tubes. • Tests both plates in rectifiers. • Tests both diodes in multipurpose tubes. • Tests individual sections such as diodes, triodes, pentodes, etc., in multipurpose tubes. • Individual pin switch selection. • Special compensation type of line voltage adjuster. • Tests provided for approximately 600 tubes.

MULTIMETER
Specifications:

DC VOLTAGE RANGES: 0-10/100/1000/5000 Volts. • AC VOLTAGE RANGES: 0-10/100/1000/5000 Volts. • DC CURRENT RANGES: 0-10/100/1 Amp. • LOW RESISTANCE RANGE: 0-10,000 Ohms. • MEDIUM RESISTANCE RANGE: 0-100,000 Ohms. • HIGH RESISTANCE RANGE: 0-1 Megohm. • OUTPUT VOLTS: 0-10/100/1000/-5000 Volts. • DECIBELS: 8 to +55 D.B. based on zero D.B., equals .006 Watts into a 500-Ohm line.



The New Model TC-50 combines seven instruments, DC V., AC V., DC M.A., Ohms, Output Meter, Decibel Meter and Tube Tester. Full scale accuracy to 2%. English Reading GOOD and BAD scale for testing tubes Obsolescence reduced to absolute minimum. Simple and quick reading charts for tube testing. Multimeter section affords most popular everydays measurements. Operates on 90-120 Volts, 60 cycles AC. Housed In a sturdy beautiful portable, hand-rubbed cabinet. Complete, with test leads, tube charts and all detailed, operating instructions. 8" x 10½" x 5". **$39.50**

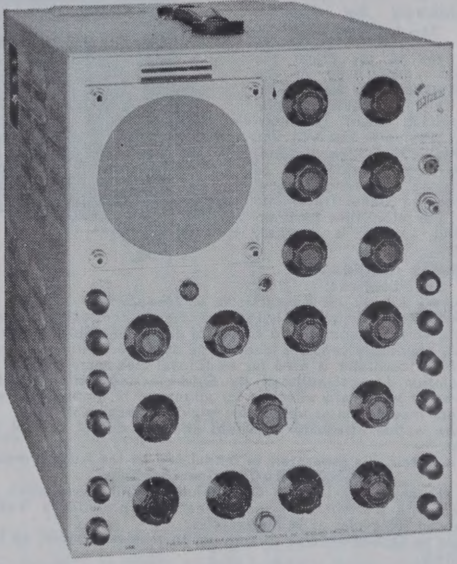
Dealer's Net Price

TEKTRONIX, INC.

CATHODE-RAY OSCILLOSCOPES & VIDEO TEST EQUIPMENT

712 SOUTH EAST HAWTHORNE BOULEVARD PORTLAND 14, OREGON
TELEPHONE: EAST 6197 *CABLES: TEKTRONIX*

NEED WIDE BAND AND FAST SWEEPS?



TEKTRONIX TYPE 511-AD OSCILLOSCOPE

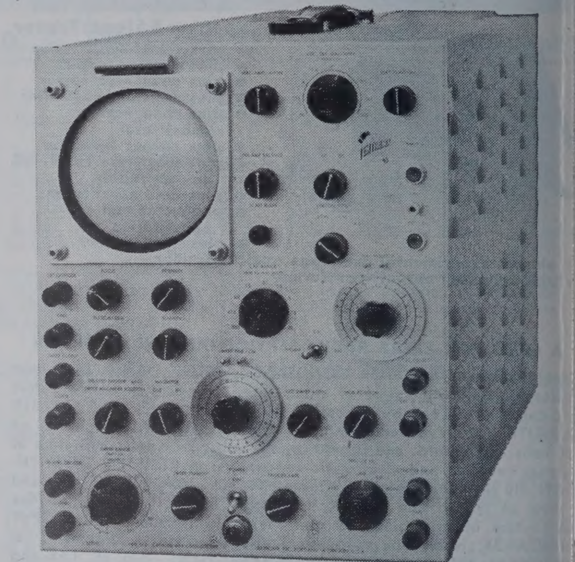
$845 *f.o.b. Portland*

VIDEO — *5 CPS — 10 MC.*
SWEEPS — *.01 SECONDS TO .1 MICROSEC./CM.*

The **Type 511-AD,** with its 10 mc. amplifier, 0.25 microsecond video delay line and sweeps as fast as .1 microsec./cm. is excellent for the observation of pulses and high speed transient phenomena. Sweeps as slow as .01 sec./cm. enable the 511-AD to perform superlatively as a conventional oscilloscope. The identical instrument without the video delay line is known as the **Type 511-A,** price **$795.00** f.o.b. Portland, Oregon.

The Types 511-A and 511-AD have broadened and further secured the position of leadership that was established by their predecessor, the Tektronix Type 511. Eminently satisfied users include leading universities, industrial organizations and independent research groups as well as the armed services and other governmental agencies.

NEED DC COUPLED AMPLIFIERS AND SLOW SWEEPS?



TEKTRONIX TYPE 512 OSCILLOSCOPE

$950 *f.o.b. Portland*

VIDEO — *DC — 2 MC.*
SWEEPS — *.3 SECONDS TO 3 MICROSEC./CM.*

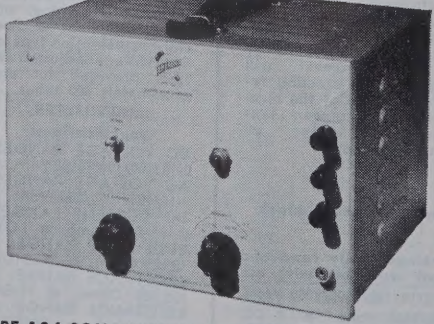
The **Type 512** with a sensitivity of 5 mv./cm. DC and sweeps as slow as .3 sec./cm. solves many problems confronting workers in the fields where comparatively slow phenomena must be observed. Vertical amplifier bandwidth of 2 mc. and sweeps as fast as 3 microsec./cm. make it an excellent general purpose oscilloscope as well. The continuously variable sensitivity range of 10,000 to 1; the differential (push-pull) input circuit with high rejection of unwanted signal components; the revolutionary carrier type blanking circuit as well as many other exclusive features have resulted in an immediate accptance of the Type 512 by prominent research personnel throughout the country.

BOTH INSTRUMENTS FEATURE:

- Direct reading sweep dials.
- Single, triggered or recurrent sweeps.
- Accurate calibration, both time and amplitude.
- All DC voltages electronically regulated.
- Sweep expansion of 5 times for any 20% of normal sweep.
- Individually adjusted for optimum transient response.
- RC probes for high impedance, low capacity input.
- Excellent image contrast in high ambient light.
- Design and fabrication integrity of highest degree.
- Choice of 5CP1A, 5CP7A or 5CP11A CRT, no added expense.
- Electrically welded all aluminum construction.
- Low weight (53 pounds — self-contained).

The **Type 104** is a low cost generator of precision square waves in the frequency ranges most commonly used for general purpose wide band oscilloscope and amplifier testing. The instrument is supplied with four fixed frequencies; two in the range of 25 cycles to 10 kc., and two in the range of 25 kc. to 1 mc. By proper choice of the four available frequencies, the Type 104, when used in conjunction with a suitable wide band oscilloscope such as the Tektronix Type 511-A, Type 511-AD or Type 512, makes possible convenient adjustment of video amplifiers and observation of their transient response.

The Type 104 is normally supplied with the following frequencies: 50 cycles, 1 kc., 100 kc. and 1 mc. The 50 cycle square wave provides a quick test for the low frequency characteristics of amplifiers. The 1 kc. square wave is a convenient signal for quickly and accurately adjusting capacity compensated attenuators. The 100 kc. and 1 mc. square waves permit convenient adjustment of video amplifiers.



TYPE 104 SQUARE WAVE GENERATOR
PRICE: **$195.00** f.o.b. Portland, Ore.

FEATURES:

- RISE TIME: Less than .015 microsec., high frequencies. Less than 2 microsec., low frequencies.
- IMPEDANCE: 0 to 93 ohms HF., 0 to 20,000 ohms, LF. depending on attenuator settings.
- AMPLITUDE: 0 to 5 volts, HF., 0 to 50 volts LF. both continuously variable.
- DIMENSIONS: 9''' high; 13½" wide; 10½" deep.
- WEIGHT: 18 pounds, self-contained.

Net

SUPERIOR TEST EQUIPMENT

The New Model TV-10 TUBE TESTER

SPECIFICATIONS: ★ Tests all tubes including 4, 5, 6, 7, Octal, Lock-in, Peanut, Bantam, Hearing-aid, Thyratron, Miniatures, Sub-Miniatures, Novals, etc. Will also test Pilot Lights. ★ Tests by the well-established emission method for tube quality, directly read on the scale of the meter. ★ Tests for "shorts" and "leakages" up to 5 Megohms. ★ Uses the new self-cleaning Lever Action Switches for individual element testing. Because all elements are numbered according to pin-number in the RMA base numbering system, the user can instantly identify which element is under test. Tubes having tapped filaments and tubes with filaments terminating in more than one pin are truly tested with the Model TV-10 as any of the pins may be placed in the neutral position when necessary. ★ The Model TV-10 does not use any combination type socket. Instead individual sockets are used for each type of tube. Thus it is impossible to damage a tube by inserting it in the wrong socket. ★ Free-moving built-in roll chart provides complete data for all tubes. ★ Newly designed Line Voltage Control compensates for variation of any line voltage between 105 Volts and 130 Volts.

The Model TV-10 operates on 105-130 Volts, 60 Cycles A.C. Comes housed in a beautiful hand-rubbed oak cabinet complete with portable cover. Size: 6" x 11½" x 12". Shipping Weight: 14 lbs.

$\$39^{50}$ NET

The New Model TV-20

A COMBINATION 20,000 OHMS PER VOLT MULTI-METER and TELEVISION KILOVOLTMETER

The Model TV-20 was designed to provide all the multi-meter measurement requirements of A.M, F.M. and Television. Unlike other recent models, which are actually standard V.O.M.'s converted to test the new Television Voltages, the Model TV-20 is a completely new unit. It provides the sensitivity, ranges and accessories which are needed to service F.M. and Television in addition to A.M. Radio.

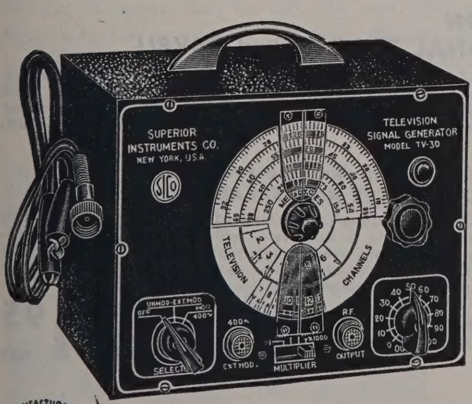
SPECIFICATIONS

- 9 D.C. VOLTAGE RANGES: (At 20,000 ohms per Volt) — 0-2.5/10/50/100/250/500/1,000/5,000/50,000 Volts.
- 8 A.C. VOLTAGE RANGES: (At 1,000 ohms per Volt) — 0-2.5/10/50/100/250/500/1,000/5,000 Volts.
- 5 D.C. CURRENT RANGES: 0-50 Microamperes; 0-5/50/500 Milliamperes; 0-5 Amperes.
- 4 RESISTANCE RANGES: 0-2,000/20,000 ohms; 0-2/20 Meg.
- 7 D.B. RANGES: (All D.B. ranges based on ODb = 1 Mv. into a 600-ohm line)
  - — 4 to + 10 db
  - + 8 to + 22 db
  - + 22 to + 36 db
  - + 28 to + 42 db
  - + 36 to + 50 db
  - + 42 to + 56 db
  - + 48 to + 62 db
- 7 OUTPUT VOLTAGE RANGES: 0 to 2.5/10/50/100/250/500/1,000 Volts.

ADDED FEATURE: The Model TV-20 includes an Ultra High Frequency Voltmeter Probe. When plugged into the Model TV-20, the V. H. Probe converts the unit into a Negative Peak-Reading H. F. Voltmeter which will measure gain and loss in all circuits including F.M. and T.V.

The Model TV-20 operates on self-contained batteries. Comes housed in beautiful hand-rubbed oak cabinet complete with portable cover, Built-in High Voltage Probe, H. F. Probe, Test Leads and all operating instructions. Size: 4½" x 10¼" x 11½". Shipping Weight: 10 lbs.

$\$39^{95}$ NET


SUPERIOR INSTRUMENTS CO. NEW YORK, U.S.A.
TELEVISION SIGNAL GENERATOR MODEL TV-30
SICO
TELEVISION
CHANNELS
UNMOD-EXT.MOD
400~
SELECTOR
EXT.MOD.
MULTIPLIER
RF
OUTPUT

The New Model TV-30 TELEVISION SIGNAL GENERATOR

Enables Alignment of Television I. F. and Front Ends Without the Use of an Oscilloscope!

FEATURES: ★ Built-in modulator may be used to modulate the R.F. Frequency also to localize the cause of trouble in the audio circuits of T.V. Receivers. ★ Double shielding of oscillatory circuit assures stability and reduces radiation to absolute minimum. ★ Provision made for external modulation by A.F. or R.F. source to provide frequency modulation. • All I.F. frequencies and 2 to 13 channel frequencies are calibrated direct in Megacycles on the Vernier dial. Markers for the Video and Audio carriers within their respective channels are also calibrated on the dial. ★ Linear calibrations throughout are achieved by the use of a Straight Line Frequency Variable Condenser together with a permeability trimmed coil. ★ Stability assured by cathode follower buffer tube and double shielding of component parts.

SPECIFICATIONS: FREQUENCY RANGE: 4 Bands—No switching. 18-32 Mc.; 35-65 Mc.; 54-98 Mc.; 150-250 Mc. AUDIO MODULATING FREQUENCY: 400 cycles (Sine Wave). ATTENUATOR: 4-position, ladder type with constant impedance control for fine adjustment. TUBES USED: 6C4 as Cathode follower and modulated buffer; 6C4 as R.F. Oscillator: 6SN7 as Audio Oscillator and power rectifier.

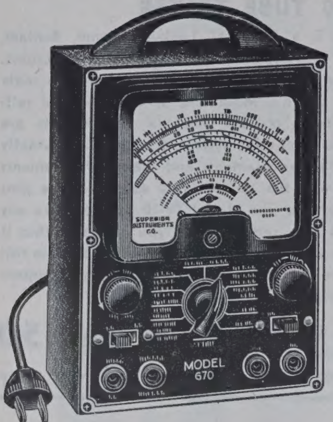
Model TV-30 comes complete with shielded co-axial lead and all operating instructions. Measures 6" x 7" x 9". Shipping Weight: 10 lbs. . . . .

$\$29^{95}$ NET

Manufactured by

SUPERIOR INSTRUMENTS CO.

SUPERIOR TEST EQUIPMENT



The New Model 670
SUPER METER

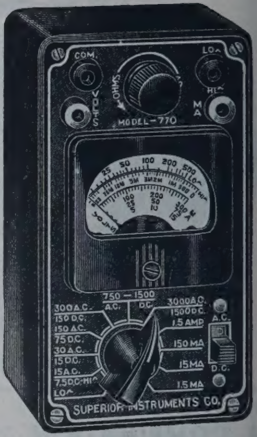
A Combination
VOLT-OHM-MILLIAMMETER
plus
CAPACITY REACTANCE,
INDUCTANCE and
DECIBEL MEASUREMENTS

D.C. VOLTS: 0 to 7.5/15/75/150/750/1,500/7,500. A.C. VOLTS: 0 to 15/30/150/300/1,500/3,000 Volts. OUTPUT VOLTS: 0 to 15/30/150/300/1,500/3,000. D.C. CURRENT: 0 to 1.5/15/50 Ma.; 0 to 1.5 Amps. RESISTANCE: 0 to 500/100,000 ohms, 0 to 10 Megohms. CAPACITY: .001 to .2 Mfd., .1 to 4 Mfd. (Quality test for electrolytics). REACTANCE: 700 to 27,000 Ohms; 13,000 Ohms to 3 Megohms. INDUCTANCE: 1.75 to 70 Henries; 35 to 8,000 Henries. DECIBELS: — 10 to + 18, + 10 to + 38, + 30 to + 58.

The Model 670 comes housed in rugged, crackle-finished steel cabinet complete with test leads and operating instructions. Size: 5½" x 7½" x 3". . . . . **$\$28^{40}$ NET**

The New Model 770 — An Accurate Pocket-Size
VOLT-OHM MILLIAMMETER

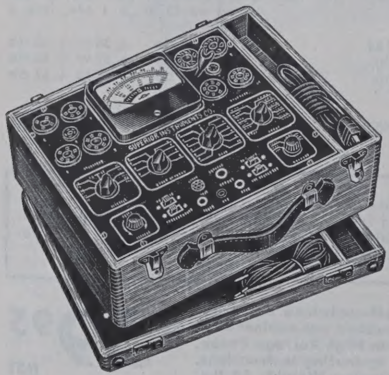
SENSITIVITY: 1000 OHMS PER VOLT



FEATURES: ★ Compact — measures 3⅛" x 5⅞" x 2¼". ★ Uses latest design 2% accurate 1 Mil. D'Arsonval type meter. ★ Same zero adjustment holds for both resistance ranges. It is not necessary to readjust when switching from one resistance range to another. This is an important time-saving feature never before included in a V.O.M. in this price range. ★ Housed in round-cornered, molded case. ★ Beautiful black etched panel. ★ Depressed letters filled with permanent white, insuring long-life even with constant use.

SPECIFICATIONS: 6 A.C. VOLTAGE RANGES: 0-15/30/150/300/1,500/3,000 Volts. 6 D.C. VOLTAGE RANGES: 0-7½/15/75/150/750/1,500 Volts. 4 D.C. CURRENT RANGES: 0-1½/15/150 Ma.; 0-1½ Amps. 2 RESISTANCE RANGES: 0-500 Ohms; 0-1 Megohm.

The Model 770 comes complete with self-contained batteries, test leads and all operating instructions. . . . . **$\$13^{90}$ NET**



The New Model 777
20,000 Ohms per Volt!!
TUBE and SET TESTER

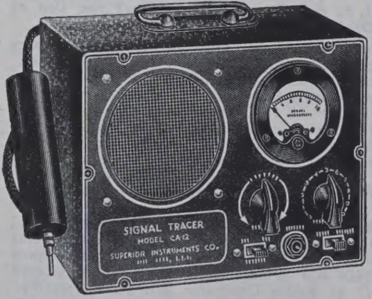
Tube Tester Specifications:

★ Tests all tubes including 4, 5, 6, 7, 7L, Octals, Loctals, Television, Magic Eye, Thyratrons, Single Ended, Floating Filament, Mercury Vapor Rectifiers, New Miniatures, etc. Also Pilot Lights. ★ Tests by the well-established emission method for tube quality, directly read on the scale of the meter. ★ Tests leakages and shorts of any one element against all elements in all tubes. ★ Tests both plates in rectifiers. ★ Tests individual sections such as diodes, triodes, pentodes, etc., in multi-purpose tubes. ★ New type line voltage adjuster.

V.O.M. Specifications:

D.C. VOLTS: (at 20,000 Ohms per Volt), 0 to 7.5/15/75/150/750/1,500 Volts. A.C. VOLTS: (at 10,000 Ohms per Volt), 0 to 15/30/150/300/1,500/3,000 Volts. D.C. CURRENT: 0 to 1.5/15/150 Ma.; 0 to 1.5 Amps. RESISTANCE: 0 to 5,000/50,000/500,000 Ohms; 0 to 50 Megohms. DECIBELS: (Based on zero decibels equals .006 Watts into a 500-Ohm line) — 10 to + 18 db., + 10 to + 38 db., + 30 to + 58 db.

Model 777 operates on 90-120 Volts, 60 cycles A.C. Housed in beautiful hand-rubbed cabinet. Complete with test leads and detailed operating instructions. Size: 13" x 12½" x 6". **$\$59^{95}$ NET**



We can supply the Model CA-12 completely wired, ready to operate: **$29.95**

FOR FM-AM-TELEVISION
BUILD YOUR OWN SIGNAL TRACER and *SAVE!!*

Increasing production of F.M. and Television Receivers means MORE COMPLEX Receivers. Now more than ever this time-saving method of quickly and easily LOCALIZING the exact cause of trouble becomes the "must" method. Since 1939 when we first introduced our CHANNEL ANALYZER we have worked continuously developing and improving the "short-cut" method of Receiver servicing.

The Only Signal Tracer in the Low Price Range Including BOTH METER AND SPEAKER!!

FEATURES: ★ Comparative intensity of the signal is read directly on the meter — quality of the signal is heard in the speaker. ★ Simple to operate — only one connecting cable — no tuning controls. ★ Highly sensitive—uses an improved vacuum-tube voltmeter circuit. ★ Tube and resistor capacity network are built into the detector probe. ★ Built-in high gain amplifier —Alnico V speaker. ★ Completely portable — weighs 8 lbs. — measures 5½" x 6½" x 9".

Model CA-12 Kit includes ALL PARTS assembled and ready for wiring, circuit diagram and detailed operating data for the completed instrument . . . . **$\$21^{95}$ NET**

Manufactured by

SUPERIOR INSTRUMENTS CO.

EICO TEST EQUIPMENT

"Build 'em in one evening — they last a lifetime!"

Now every radio serviceman, every radio amateur, can have precision test equipment at low cost. The famous EICO line of precision instruments long popular in the medium price field is now available IN KIT FORM at the sensationally low prices that save you almost half.

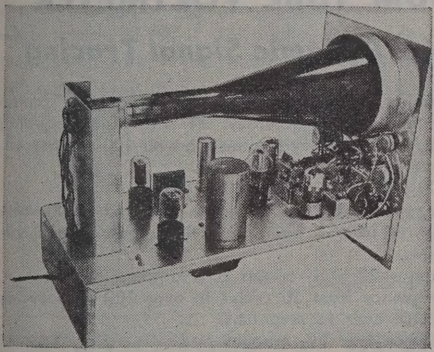
Anyone, professional and beginner alike, can assemble these high precision Vacuum Tube Voltmeters, Oscilloscopes, etc., so necessary for modern radio and television servicing. The simple, foolproof, step-by-step, schematic and pictorial diagrams accompanying each kit make assembly fast, easy and instructive.

EASY-TO-FOLLOW SCHEMATIC & PICTORIAL DIAGRAMS

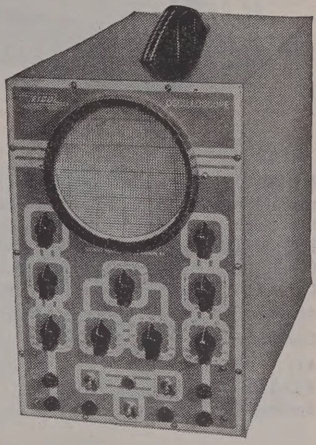
included with each kit. It's easy to assemble these precision instruments in one evening!

MODEL 400K — 5" OSCILLOSCOPE

MODEL 400K — An indispensable aid for AM, FM, and Television. Horizontal sweep circuit 15 to 30,000 cycles. All controls on front panel. Linear sweep with 884 gas triode. Graph screen for measuring peak to peak voltages. Frequency response of horizontal and vertical amplifiers from 50 cycles to 50 KC. Input impedance 1 megohm and 50 mmfd. Etched panel for long life. Tube complement: 2-6SJ7, 2-5Y3, 1-884, 1-5BP1. Provision for external synchronization, test voltage and intensity modulation. Deflection sensitivity .65 volts per inch full gain. Kit contains all components, detailed instructions and pictorial diagrams. Nothing Else To Buy! Size: 8½" w. x 13" h. x 17" d. Shipping weight: 29 lbs.



Complete Kit F.O.B. Brooklyn........ **$39.95**



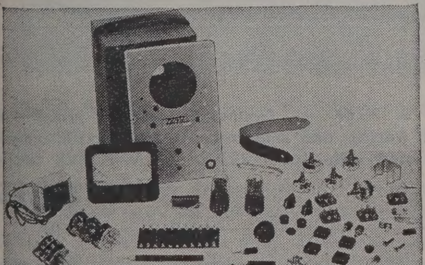
FACTORY WIRED AND TESTED

MODEL 400 — Fully wired, laboratory-quality 5" oscilloscope of the most advanced design and construction. Ready to use. Recommended for laboratories, service, production, education, etc. Excellent value! F.O.B. Brooklyn........ **$69.95**

EICO MODEL 221K VACUUM TUBE VOLTMETER

THE MOST USEFUL TOOL ON YOUR RADIO BENCH!

DC and AC ranges 0-5, 10, 100, 500, and 1000 volts. Ohmmeter ranges from .02 ohms to 1,000 megohms in steps of Rx1, Rx10, Rx1,000, Rx10,000 and Rx1 megohm. Db scale from —20 to +55 Db in 5 ranges. DC input resistance is 25 megohms. AC input impedance is over 1½ megohms. Diode AC rectifier for greater accuracy and wide frequency range to 30 KC. Large, rugged, 4½" meter with all AC and DC readings on one simple scale. All multiplier resistors matched to 1% accuracy. Complete with 6H6, 6X5, 6SN7 tubes and test prods. All numbers etched into panel; can never rub off. Heavy gauge steel cabinet. Size: 9$\frac{7}{16}$" x 6" x 5". Shipping weight: 10 lbs.



Complete Kit Nothing Else To Buy!........ **$23.95**

ASSEMBLED VTVM

MODEL 221 VTVM — Includes all the advantages of above. Completely assembled, hand calibrated and tested, and ready to use at the low price of **$49.95**

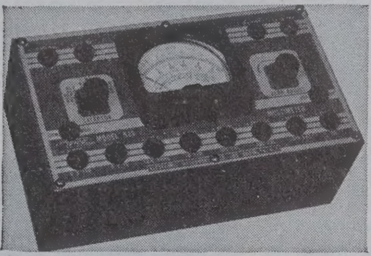
All prices higher on West Coast

ELECTRONIC INSTRUMENT COMPANY, INC. • BROOKLYN 12, N. Y.

EICO TEST EQUIPMENT

"Build 'em in one evening—they last a lifetime!"

MODEL 511K
VOLT-OHM-MILLIAMETER



A MUST FOR EVERY SERVICEMAN!

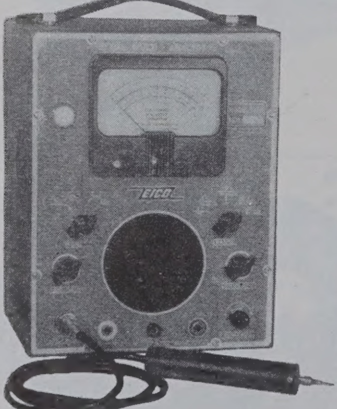
MODEL 511K — The small, handy, all around meter that every repairman uses a thousand times a day. Large 3" meter, beautiful etched panel. Simple to assemble. A PERFECT KIT FOR BEGINNERS! Ranges: DC, 0/5/50/250/500/2500 volts. AC, 0/10/100/500/1000 volts. Output, 0/10/100/500/1000 volts. DC MA., 0/1/10. DC Amps., 0/1/10. Ohmmeter, 0/500/100,000 ohms/0/1 meg. Db meter —8 to +55 Db.

Complete
KIT
F.O.B.
Brooklyn **$14.95**

ASSEMBLED — READY TO USE

MODEL 511 — Completely wired, tested and assembled at the factory. Rugged, built for heavy duty. F.O.B. Brooklyn **$17.95**

EICO Model 113A MULTI-ANALYST



•

Sensational Price Reduction!

Formerly $89.50

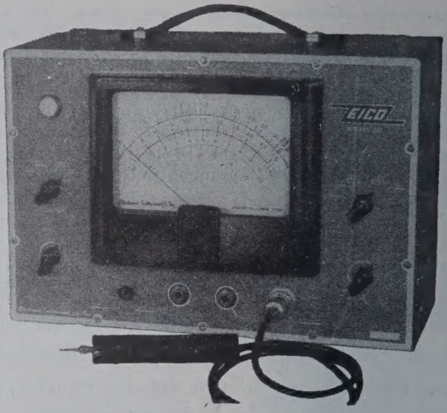
MODEL 113A—A versatile instrument of a thousand uses. Combines the two most used instruments in the radio workshop, the vacuum tube voltmeter and an audible signal tracer. Self-contained isolation transformer.

The Audible signal tracer is ultra sensitive, contains a high gain 3-tube amplifier with eceptionally broad AM and FM frequency response and minimum circuit loading. Permits service engineer to trace signals in RF, IF, FM, Television and Audio circuits without making frequency adjustments, unsoldering wires on taking out tubes. The VTVM section has the same specifications as the Model 221 VTVM. A terrific buy at the new low price of $69.95.

Tube complement: 1-6SJ7, 1-6V6, 1-6AT6, 1-6X5, 1-6H6 and 1-6SN7. Size: 8½" x 11" x 7".

FACTORY BUILT, READY TO USE

Shipping weight: 20 lbs. **$69.95**



MODEL 210
VACUUM TUBE VOLTMETER

For Visual Dynamic Signal Tracing

A laboratory quality vacuum tube voltmeter. Huge 8½" meter knife edge pointer and 2% accuracy. RF with high frequency tube rectification, flat frequency response to over 200 megacycles.

Voltage measurements to 5,000 volts DC.

DC, 0-5, 10, 100, 500, 1000 and 5,000 volts.

AC, R.F. (Diode type probe) 0-5, 10, 100, 500 and 1,000 volts.

Ohmmeter measures from .2 ohms to 1,000 megohms in 6 convenient ranges.

Db readings from —20 to +55 Db in 5 ranges.

AC and R.F. frequency from 50 cycles to over 200 megacycles.

DC input resistance over 25 megohms.

AC input impedance over 1½ megohms.

All multiplier resistors are 1% precision (matched).

Tube complement: 6 x 5, 1 - 6SN7, 1 - 6A L5.

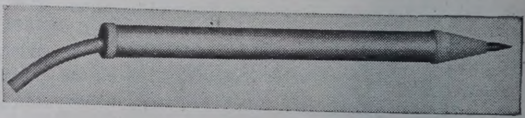
Etched panel for long life.

Size: 15" w. x 10" h. x 7" d.

Shipping weight:
20 lbs.
F.O.B. Brooklyn **$69.50**

FACTORY BUILT, READY TO USE

EICO MODEL P-75K
H.F. PROBE



MODELS P-75K & P-76K — Germanium crystal probe for visual R.F. signal tracing, and measurements to over 200 megacycles. Can be used with Model 221 or 113A (P-75K), Oscilloscope (P-76K).

KIT
Only **$3.75**

Same,
assembled
at factory **$7.50**

All prices higher on West Coast

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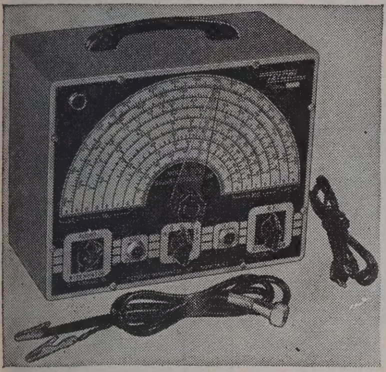
Net

EICO TEST EQUIPMENT & KITS

"Build 'em in one evening — they last a lifetime!"



MODEL 320-K — SIGNAL GENERATOR KIT

An excellent instrument for service, lab, and school use. Can be used for FM-AM alignment and to provide TV marker frequencies. Highly Stable Hartley oscillator has range of 150 kc to 102 mc with fundamentals to 34 mc. Colpitts audio oscillator supplies pure 400 cycle sine wave voltage for modulation. Audio oscillator voltage can be used for testing distortion in audio equipment, bridge measurements, etc. Complete RF section featuring turret-type coil assembly and ceramic insulated variable Condensers, can be aligned by use of any standard broadcast receiver. Size: 10" x 8" x 4¾". Handsome etched panel with easy-to-read calibrations. Easily assembled and aligned. Complete with tubes **$19.95**

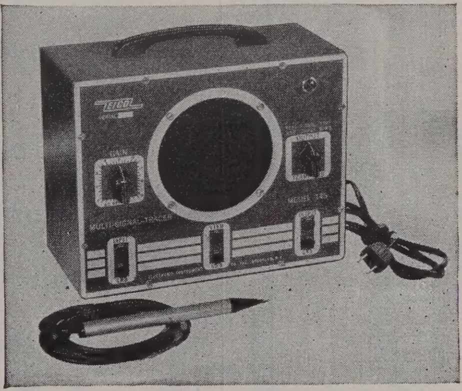
FACTORY WIRED AND ALIGNED
Model 320. Ready to use........ **$29.95**

MODEL 145-K
MULTI-SIGNAL TRACER KIT

Versatile, high gain—high frequency instrument. Self-contained test speaker permits tracing of RF, IF, FM, audio, and video circuits. Has provision for visual tracing with VTVM, enabling actual stage-by-stage gain comparison. May also be used as a small public address or intercom system. Response is well over 200 mc. 3 color hammertone panel. 110-125 V. AC. Size 10" x 8" x 4¾". Comes complete with tubes and diode probe in kit form.

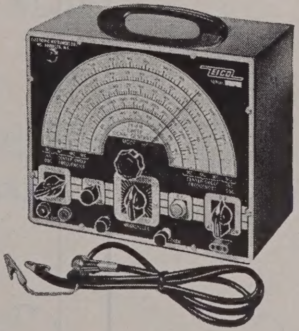
COMPLETE KIT........ **$18.95**

Model 145. Ready to operate........ **$28.95**



SENSATIONAL! . . . NEW! . . . EICO MODEL 360-K TV-FM SWEEP SIGNAL GENERATOR KIT

ALL THESE LABORATORY-QUALITY FEATURES: • Crystal marker oscillator with variable amplitude. • Covers all TV and FM alignment frequencies between 500 kc and 228 mc. • Sweep width variable from 0-30 mc. with mechanical inductive sweep. • Extremely wide sweepwidth allows gain comparison of adjacent RF TV channels. • Provides for injection of external signal generator marker. • Phasing control included. • Vernier driven, calibrated tuning dial for master oscillator. • Large, easy-to-read dial is directly calibrated in frequencies. All center frequencies of TV channels clearly marked on panel. • Extremely stable oscillator gives clear, steady pattern. • Can be used with EICO Model 400-K or any other standard oscilloscope. • All components furnished, including handsome, lifelong 3-color etched panel, and durable steel cabinet. Comes complete with all tubes (including new, high-frequency miniature types): 6X5GT, 12AU7, two 6C4's. Crystal not included. Size: 10" x 8" x 6¾".



COMPLETE KIT........ **$29.95**

Model 360. Ready to use Sweep Signal Generator........$39.95

MODEL HVP-1 — HIGH VOLTAGE PROBE

At remarkable low cost, here is a probe for every use involving high voltages. Not a kit, but a complete, top-quality High Voltage Test Probe. Measures up to 10,000 or 30,000 Volts making it useful even for projection television. Special Helical-Wound Ceramic HV Multiplier Resistor, which is removable, makes it adaptable to most VTVM's and all 20,000 ohms per volt meters with 1000 or 5000 volt scales. Lucite head has high dielectric and low leakage path. Handle is made of multi-layer, plywood bakelite for greater insulation and high safety factor. Large flashguards for additional safety. Specify your instrument to your jobber.

Complete with resistor, ready to use **$6.95**

All prices higher on West Coast

ELECTRONIC INSTRUMENT COMPANY, INC. • BROOKLYN 12, N. Y.

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

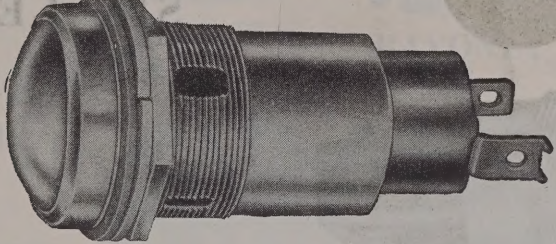
The DIAL LIGHT COMPANY of AMERICA

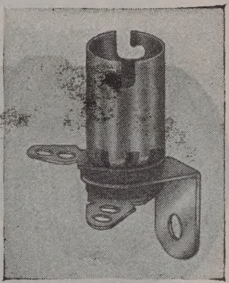
Foremost Manufacturer of Pilot Lights

DIALCO

Makes everything

FROM A SMALL SOCKET

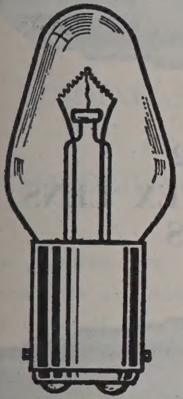




TO A LARGE ASSEMBLY

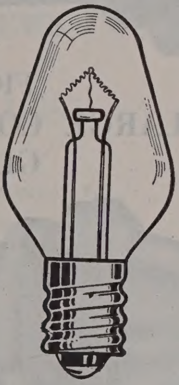
For all of these lamps

INCANDESCENTS

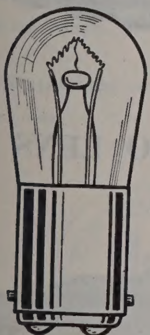


C-7

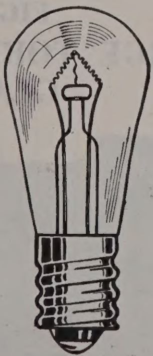
Double contact bayonet



Candelabra Screw



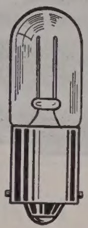
S-6



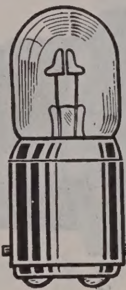
NEON GLOW

110
and
220
volts

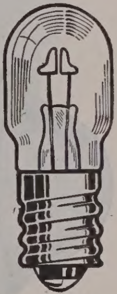
For NE-51 there are patented assemblies with built-in resistors.



NE-51

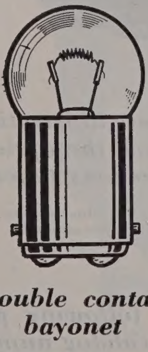


NE-48



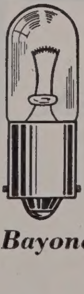
NE-45

MINIATURE
for low voltages



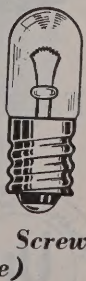
G-6

Double contact bayonet



T-3¼

Bayonet



Screw

(miniature)

The DIAL LIGHT COMPANY of AMERICA

Foremost Manufacturer of Pilot Lights

NEW YORK 3, N. Y.

TYPICAL DIALCO ASSEMBLIES

SIX LENS TYPES

Assemblies such as these mount in a 1" clearance hole.

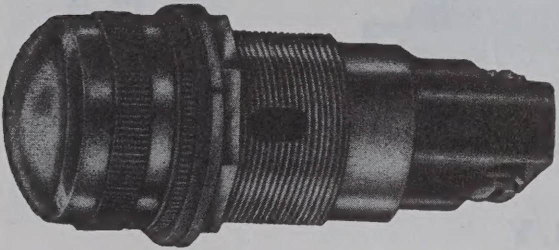


FIG. 1
CONVEX LENS
GLASS

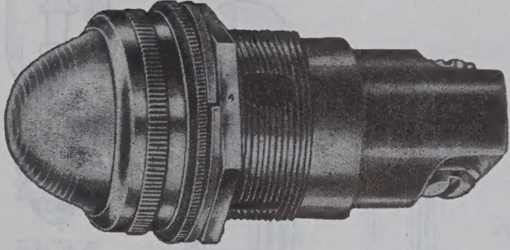


FIG. 3
TORPEDO LENS
GLASS

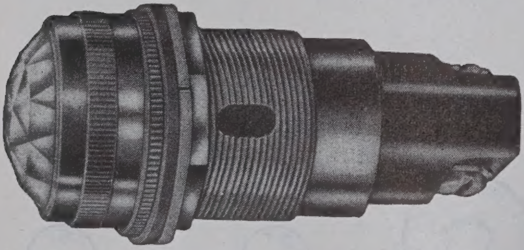


FIG. 5
FACETED LENS
GLASS

These illustrations show the options in lens types.

All illustrations approximately actual size.

See following pages for catalog numbers of assemblies for all types of lamps.

All of these assemblies are listed by Underwriters' Laboratories, Inc.

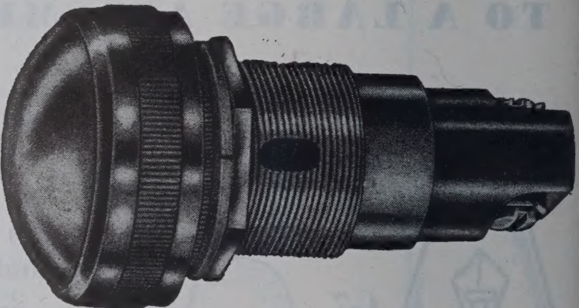


FIG. 2
LARGE CONVEX LENS
GLASS

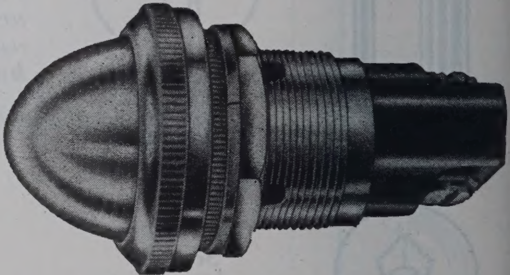


FIG. 4
LARGE TORPEDO LENS
GLASS

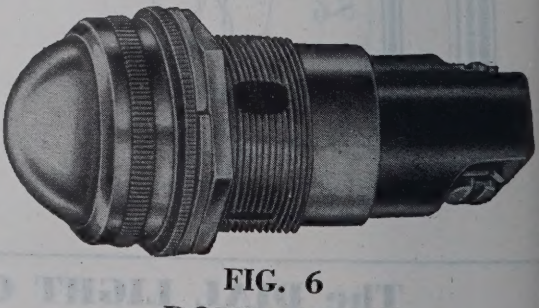


FIG. 6
DOME LENS
PLASTIC

Foremost Manufacturer of Pilot Lights

DIALCO

CAPS

SCREW, BAYONET or FRICTION

The typical assemblies shown, mount in a 1″ clearance hole.

The first three are complete with the three types of caps, all with faceted glass lenses.

TERMINALS

BINDING SCREWS or SOLDERING LUGS

Two choices are illustrated for lamps with candelabra screw base and three choices for lamps with double contact bayonet bases.

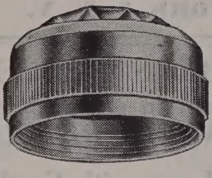
See the following pages for catalogue numbers of assemblies for all types of lamps.

All illustrations are approximately actual size.

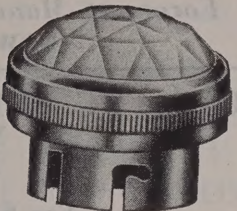
UL

All of these assemblies are listed by Underwriters' Laboratories, Inc.

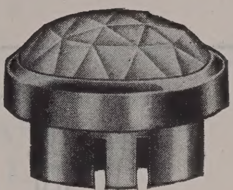
FOR SCREW BASE LAMPS



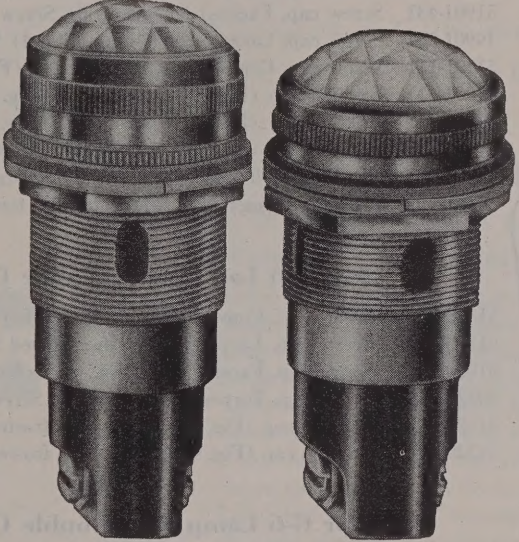
SCREW
FIG. 7



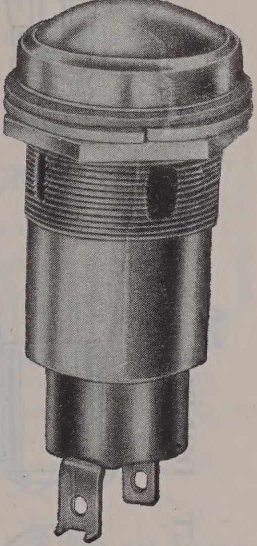
BAYONET
FIG. 8



FRICTION
FIG. 9



BINDING SCREWS



SOLDERING LUGS

FOR BAYONET BASE LAMPS

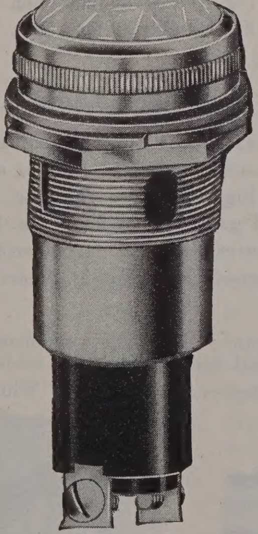


FIG. 10

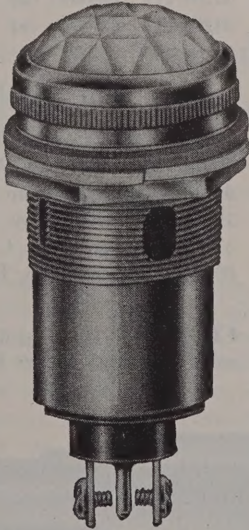


FIG. 11

BINDING SCREWS (Two types)

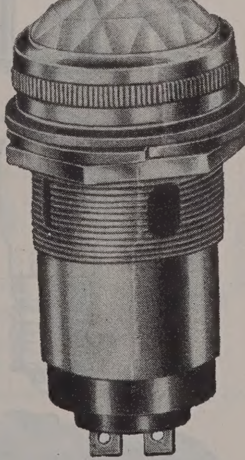


FIG. 12

SOLDERING LUGS

The DIAL LIGHT COMPANY of AMERICA

Foremost Manufacturer of Pilot Lights

NEW YORK 3, N. Y.

The DIAL LIGHT COMPANY of AMERICA

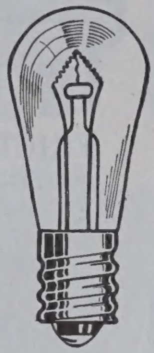
Foremost Manufacturer of Pilot Lights

NEW YORK 3, N. Y.

CATALOG NUMBERS FOR ENCLOSED ASSEMBLIES

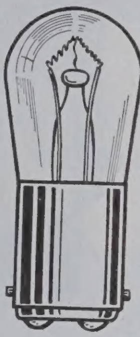
Mount in one inch clearance hole

UNDERWRITERS' LISTED



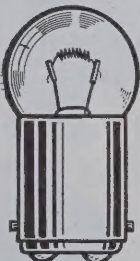
For S-6 Lamp with Candelabra Screw Base

51901-111	Screw cap, Convex lens, frosted back (Fig. 1) Screw terminals (Fig. 8)
61901-111	Screw cap, Large convex lens, frosted back (Fig. 2) Screw terminals (Fig. 8)
51901-431	Screw cap, Faceted lens (Fig. 5) Screw terminals (Fig. 8)
19901-531	Screw cap, Large torpedo lens (Fig. 4) Screw terminals (Fig. 8)
51101-111	Screw cap, Convex lens, frosted back (Fig. 1) Soldering lugs (Fig. 9)
41901-111	Bayonet cap (Fig. 8) Convex lens (Fig. 1) Screw terminals (Fig. 8)
31901-111	Friction cap (Fig. 9) Convex lens (Fig. 1) Screw terminals (Fig. 8)
47901	Light Shield cap (Fig. 13) Binding Screw terminals (Fig. 8)
71101-111	Mechanical dimmer (Fig. 14) Soldering terminals (Fig. 9)
78101-111	Polaroid dimmer (Fig. 14) Soldering terminals (Fig. 9)



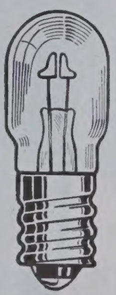
For S-6 Lamp with Double Contact Bayonet Base

513202-111	Screw cap, Convex lens, frosted back (Fig. 1) Screw terminals (Fig. 10)
613202-111	Screw cap, Large convex lens, frosted back (Fig. 2) Screw terminals (Fig. 10)
513202-111	Screw cap, Faceted lens (Fig. 5) Screw terminals (Fig. 10)
803202-531	Screw cap, Torpedo lens (Fig. 3) Screw terminals (Fig. 10)
413202-111	Bayonet cap (Fig. 8) Convex lens, frosted back (Fig. 1) Screw terminals (Fig. 10)
313202-111	Friction cap (Fig. 9) Convex lens, frosted back (Fig. 1) Screw terminals (Fig. 10)



For G-6 Lamp with Double Contact Bayonet Base

51704-111	Screw cap, Convex lens, frosted back (Fig. 1) Screw terminals (Fig. 11)
51704-431	Screw cap, Faceted lens (Fig. 5) Screw terminals (Fig. 11)
80704-531	Screw cap, Torpedo lens (Fig. 3) Screw terminals (Fig. 11)
80704-841	Screw cap, Dome plastic lens, matted back (Fig. 6) Screw terminals (Fig. 11)
51204-111	Screw cap, Convex lens, frosted back (Fig. 1) Soldering terminals (Fig. 12)
41204-111	Bayonet cap (Fig. 8) Convex lens (Fig. 1) Soldering terminals (Fig. 12)
31204-111	Friction cap (Fig. 9) Convex lens (Fig. 1) Soldering terminals (Fig. 12)



For NE-45 Neon Glow Lamp, Candelabra Screw Base

51914-131	Screw cap, Convex lens (Fig. 1) Binding screw terminals (Fig. 8)
80914-841	Screw cap, Dome lens (Fig. 6) Binding screw terminals (Fig. 8)
41914-131	Bayonet cap (Fig. 8) Convex lens (Fig. 1) Binding screw terminals (Fig. 8)
31914-131	Friction cap (Fig. 9) Convex lens (Fig. 1) Binding screw terminals (Fig. 8)
51114-131	Screw cap, Convex lens (Fig. 1) Soldering terminals (Fig. 9)
80114-531	Screw cap, Torpedo lens (Fig. 3) Soldering terminals (Fig. 9)

COLOR—The final figure 1 in the above number indicates RED LENS COLOR. If other color is desired, change final figure to one from table below.

Green-2, Amber-3, Blue-4, White-5, Yellow-6, Clear-7

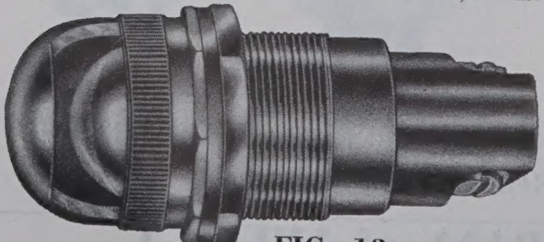


FIG. 13

Assembly with Light Shield for S-6 Lamp
See Listing above

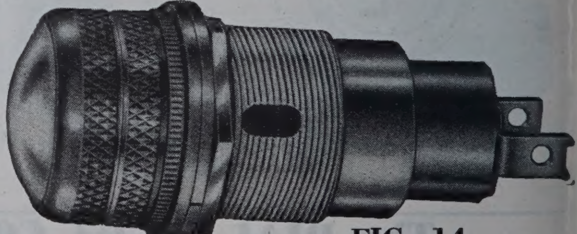


FIG. 14

Cap with Dimmer-Mechanical or Polaroid for S-6 or G-6 Lamps • See Listing above

ENCLOSED ASSEMBLIES FOR T-3¼ MINIATURE LAMPS AND NE-51 NEON GLOW LAMP

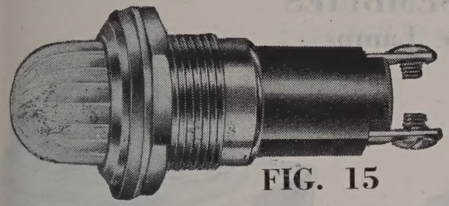


FIG. 15

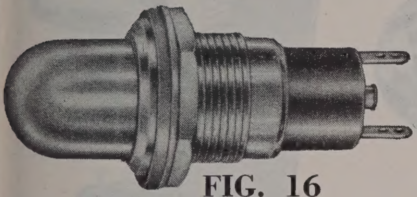


FIG. 16

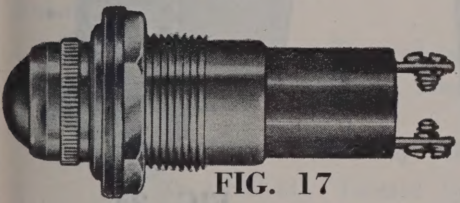


FIG. 17

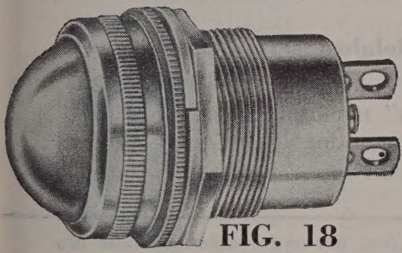


FIG. 18

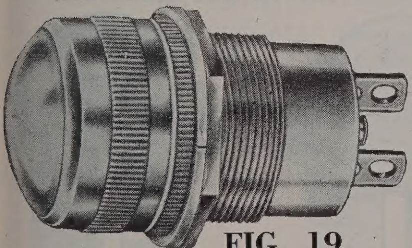


FIG. 19

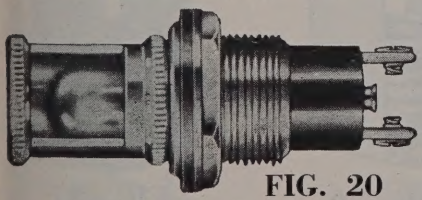


FIG. 20

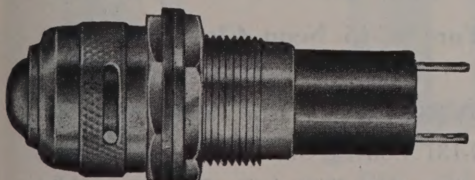


FIG. 21 (Dimmer)

Smaller assemblies as illustrated in Figs. 15, 16, 17, 20 and 21 mount in 11/16″ clearance hole. Figs. 18 and 19 require 1″ clearance hole.

CATALOGUE NUMBERS

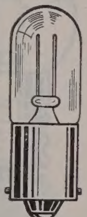
FOR T-3¼ Miniature Bayonet Base Low voltage incandescent lamps

521310-991	Multivue cap, Screw terminals (Fig. 15)
52410-991	Multivue cap, Soldering terminals
91410-931	Long clear cap, Soldering terminals (Fig. 16)
811310-111	Screw-in cap, Convex lens, Screw terminals (Fig. 17)
80410-831	Screw cap, Dome plastic lens, Soldering terminals (Fig. 18)
801310-831	Screw cap, Dome plastic lens, Screw terminals
51410-111	Screw cap, Convex lens, Soldering terminals (Fig. 19)
511310-111	Screw cap, Convex lens, Screw terminals
21410	Light shield cap Screw terminals (Fig. 20)
93410-111	Polaroid dimmer cap, Convex lens, Soldering terminals (Fig. 21)

COLOR— The final figure 1 in the listed numbers indicates RED LENS COLOR. If other color is desired, change final figure to one from table below:

Green-2, Amber-3, Blue-4, White-5, Yellow-6, Clear-7

FOR NE-51 Neon Glow Lamp

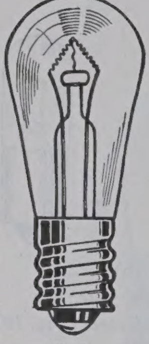


NOTE: The assemblies listed below for the NE-51 Neon Glow Lamp contain built in resistors, a patented DIALCO feature. For choice of resistor value to suit conditions, specify circuit voltage and service, continuous or intermittent.

521308-991	Multivue cap, Screw terminals (Fig. 15)
52408-991	Multivue cap, Soldering terminals
91408-931	Long clear cap, Soldering terminals (Fig. 16)
811308-111	Screw-in cap, Convex lens, Screw terminals (Fig. 17)
80408-831	Screw cap, Dome plastic lens, Soldering terminals (Fig. 18)
801308-831	Screw cap, Dome plastic lens, Screw terminals
51408-111	Screw cap, Convex lens, Soldering terminals (Fig. 19)
511308-111	Screw cap, Convex lens, Screw terminals

All of these assemblies are listed by Underwriters' Laboratories, Inc.

OPEN PILOT LIGHT ASSEMBLIES
For Candelabra Screw Base Lamps


S-6

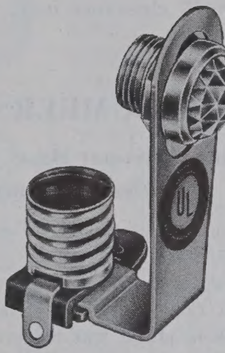


FIG. 22

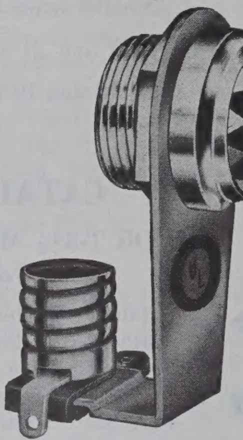


FIG. 23

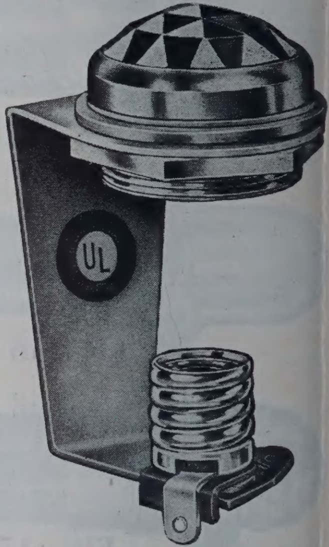


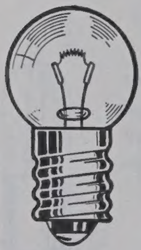
FIG. 24

For S-6 Incandescent Lamps, candelabra screw base

No. 10-18-14-431 Faceted ½" Lens (for 7/16" mounting hole) (Fig. 22)
No. 25-18-15-431 Faceted ⅝" Lens (for 11/16" mounting hole) (Fig. 23)
No. 31-18-16-431 Faceted 1" Lens (for 1" mounting hole) (Fig. 24)

All of the above assemblies are listed by Underwriters' Laboratories, Inc.

Octagon lock nut and bracket on these two units welded into one-piece construction.


G-6

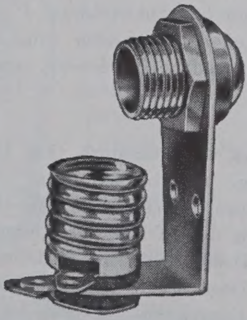
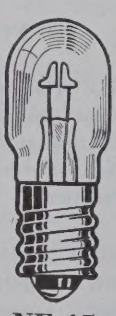


FIG. 25


NE-45

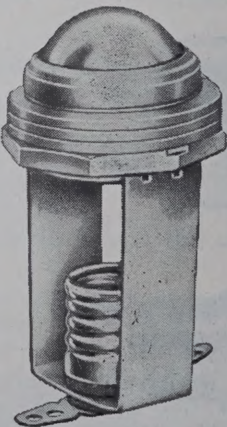


FIG. 26

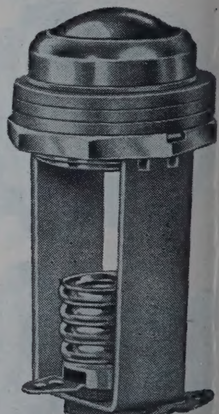


FIG. 27

For G-6 Low voltage lamps, candelabra screw base

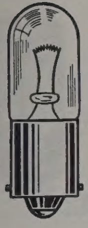
No. 610-121 Convex ½" lens
(for 7/16 mounting hole)

COLOR—The final figure 1 in the listed numbers indicates RED LENS COLOR. If other color is desired, change final figure to one from table below:
Green-2, Amber-3, Blue-4, White-5, Yellow-6, Clear-7

For NE-45 Neon Glow Lamps, candelabra screw base

No. 67BN-831 Dome Plastic Lens (¾" diam.)
No. 66N-131 Convex Glass Lens (¾" diam.)
(Both mount in 13/16" hole. Cap removable)

OPEN PILOT LIGHT ASSEMBLIES
For T-3¼ Low voltage Incandescent Lamps



T-3¼
Miniature Bayonet Base

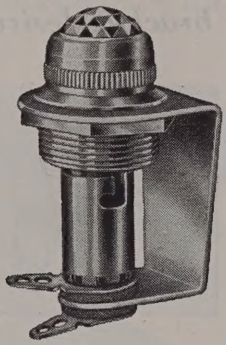
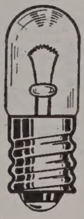


FIG. 29



T-3¼
Miniature Screw Base

**Typical assembly for bayonet base lamp.
Available also for screw type, see listing below.**

Assemblies for T-3¼ miniature bayonet base lamps

No. 810B-431	Faceted ½″ lens.	For 11/16″ mounting hole.	Fig. 29
No. 755-621	Convex 11/32″ lens.	For 9/32″ mounting hole.	Fig. 30
No. 710-121	Convex ½″ lens.	For 7/16″ mounting hole.	Fig. 31
No. 857B-431	Faceted ½″ lens.	For 11/16″ mounting hole.	Fig. 32
No. 67B-111	Convex ¾″ lens.	For 13/16″ mounting hole.	Fig. 33

Assemblies for T-3¼ miniature screw base lamps

No. 810M-431	Faceted ½″ lens.	For 11/16″ mounting hole.	Similar to Fig. 29
No. 555-621	Convex 11/32″ lens.	For 9/32″ mounting hole.	Similar to Fig. 30
No. 510-121	Convex ½″ lens.	For 7/16″ mounting hole.	Similar to Fig. 31
No. 855-431	Faceted ½″ lens.	For 11/16″ mounting hole.	Similar to Fig. 32
No. 66M-111	Convex ¾″ lens.	For 13/16″ mounting hole.	Similar to Fig. 33

COLOR—The final figure 1 in the listed numbers indi- ates RED LENS COLOR. If other color is desired, change nal figure to one from table below:

Green-2, Amber-3, Blue-4, White-5, Yellow-6, Clear-7

Octagon lock nut and bracket on these two units welded into one-piece construction.

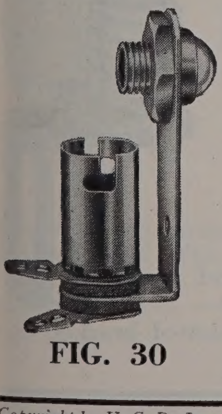


FIG. 30

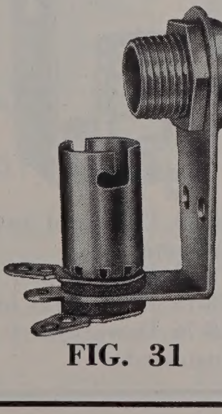


FIG. 31

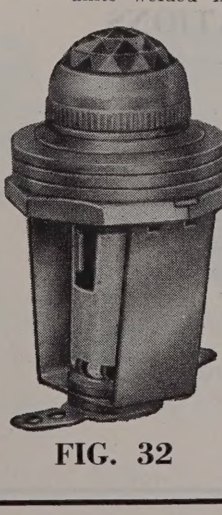


FIG. 32

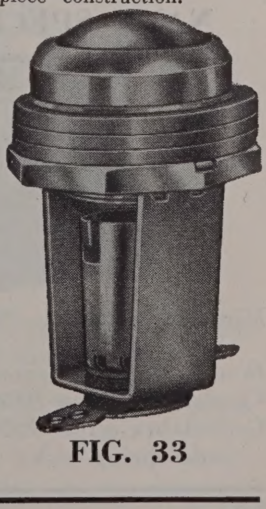


FIG. 33

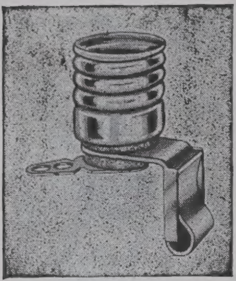
The DIAL LIGHT COMPANY of AMERICA

Foremost Manufacturer of Pilot Lights

NEW YORK 3, N. Y.

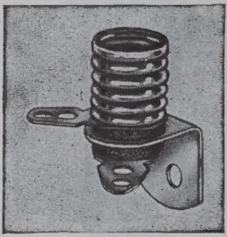
LAMP SOCKETS

Four series with choice of mounting bracket (Add suffix number for bracket desired)



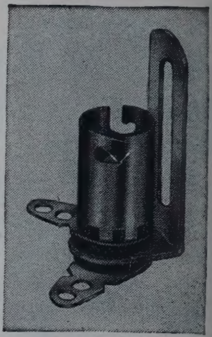
No. 604

600 SERIES
Candelabra screw



No. 508

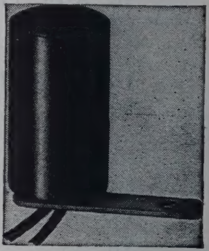
500 SERIES
Miniature screw



No. 706

700 SERIES
Miniature bayonet

Socket suffix No.	*Bracket Description*
-01	Plain clip, upturned
-02	Plain clip, downturned
-03	Clip with ears, upturned
-04	Clip with ears, downturned
-05	Right angle, upturned, slotted. Slot 7/8" x 3/16"
-06	Right angle, downturned, slotted. Slot 7/8" x 3/16"
-07	Plain socket, no bracket
-08	Right angle, downturned, short. Hole Size 5/32"
-09	Right angle, upturned, short. Hole Size 5/32"
-11	Square U-shaped. Hole Size 5/32"
-12	Horizontal (no bend), short. Hole Size 5/32"
-13	Horizontal (no bend), slotted. Slot 7/8" x 3/16"
-19	Right angle, upturned, long. Hole Size 9/64"
-20	Right angle, downturned, long. Hole Size 9/64"

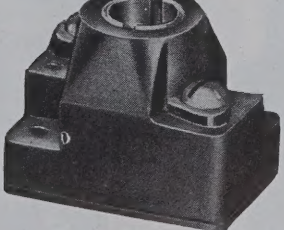


No. 312

300 SERIES
Miniature bayonet
Bakelite insulated-wire leads

Heavy Bakelite Sockets

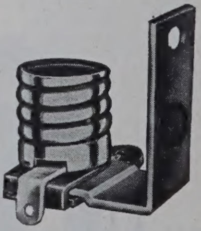
NAVY SPECIFICATIONS

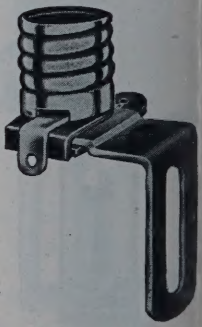


Miniature bayonet—No. 9S4931 (illustrated)
Double Contact bayonet 9S4634
Candelabra screw 9S5038
Candelabra screw 9S2036 (side spring lock)

Candelabra Screw Sockets

Underwriters' Listed
Rated 75W. 125V.





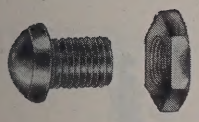
No. 18-73 Upturned bracket (illustrated)
No. 18-74 Downturned bracket
No. 18-75 Horizontal bracket
No. 18-76 Downturned and slotted bracket (illustrated)

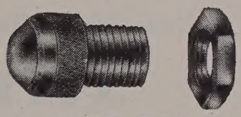
The DIAL LIGHT COMPANY of AMERICA

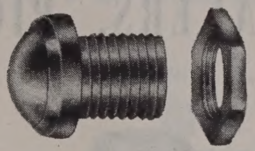
Foremost Manufacturer of Pilot Lights
NEW YORK 3, N. Y.

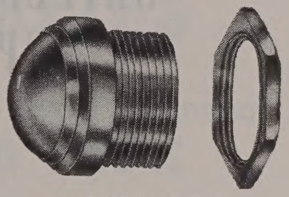
Lens Holders with Lenses for Panel Mounting

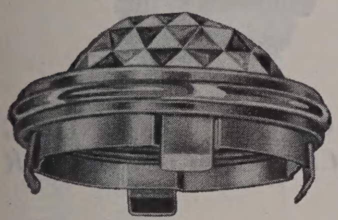
Screw Types Are Complete With Nut for Shank

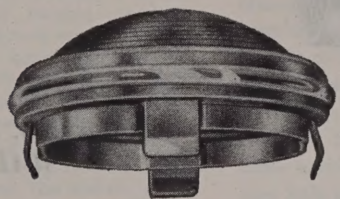

5006-111
9/32"-27 thread


7005-111
3/8"-24 thread

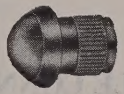

10006-111
7/16"-27 thread


25006-111
11/16"-27 thread


34-431
GLASS LENS


34-841
PLASTIC LENS

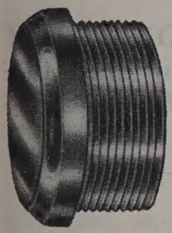
These holders snap into 1½" hole


6004-111
9/32" hole

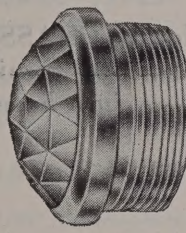
38-111
⅜" hole

PUSH-IN TYPES

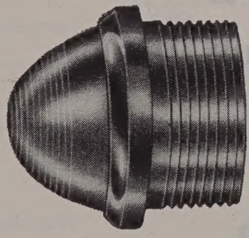
FLAT


76006-231

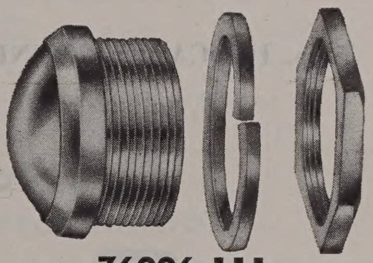
FACETED


76006-431

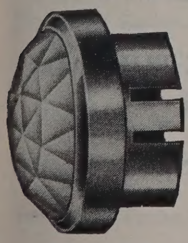
TORPEDO


76006-531

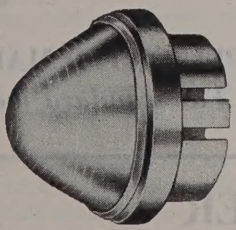
CONVEX


76006-111

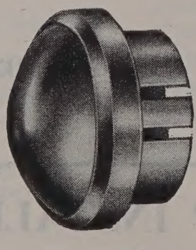
FACETED


31-431

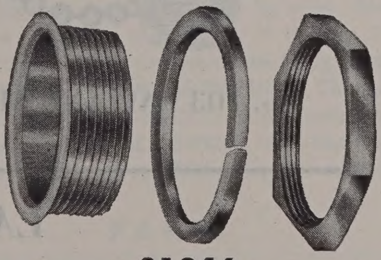
TORPEDO


31-531

CONVEX


31-111

BUSHING

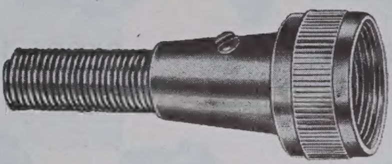

31246

The above two groups mount in 1" clearance hole. The upper series lock to the panel and are tamper proof. The lower series permit lamp replacement from the front of the panel.

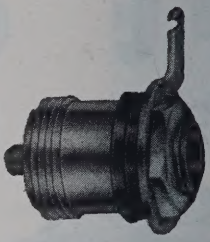
LENS COLOR—The final figure 1 in the listed numbers indicates RED LENS COLOR. If other color is desired, change final figure to one from table below:

Green-2, Amber-3, Blue-4, White-5, Yellow-6, Clear-7

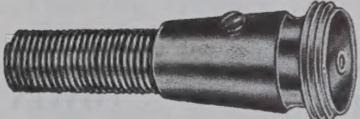
CONNECTORS FOR STANDARD SINGLE CONDUCTOR SHIELDED CABLE—FOR MICROPHONES, SPEAKERS, PICK-UPS, JACKS



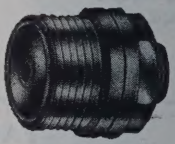
No. 100 CABLE CONNECTOR *(Female)*



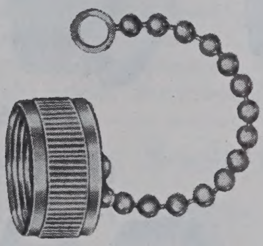
No. 51 CIRCUIT GROUNDING
MALE CHASSIS CONNECTOR



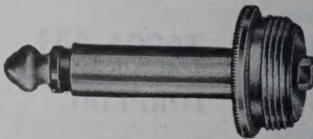
No. 101 CABLE CONNECTOR *(Male)*



No. 50 CHASSIS CONNECTOR
No. 50P Similar but drive fit
into hole in chassis.

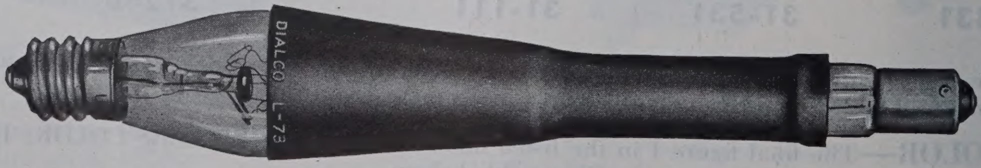


No. 103 CAP AND CHAIN



No. 102 PLUG WITH MALE THREAD
Fits standard jacks

LAMP INSTALLER

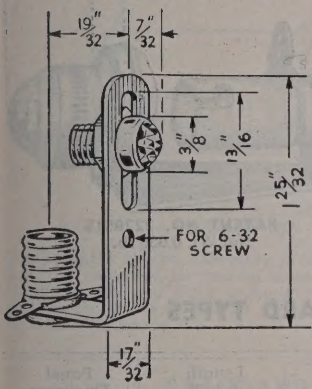


For most lamps — L-73 (illustrated) *For T4½ lamps — L-45*

JEWEL LIGHT ASSEMBLIES

11/32" Jewel . . . Vertical Mounting

No. 5 TYPE



The No. 5 type is unique in its field because it can be adapted to the focal lengths of any miniature screw or bayonet lamp. The opening in the shank of this jewel is so small, it is necessary to have the filament of the lamp directly behind the jewel. The slotted jewel mounting on the No. 5 makes this feature possible. This is an inexpensive unit, and it presents a neat appearance on small instrument panels.

STANDARD TYPES

Type Number	Style Socket
5	Miniature Screw
5B	Miniature Bayonet

SPECIFICATIONS

MOUNTING: Mounts in 9/32" diameter hole on panels up to ¼" thick.

RATING: Tested on 110 volts. Can be supplied to withstand 1000 volts AC for a period of one minute.

LAMPS: Designed to house any filament type miniature screw or miniature bayonet lamp.

COLORS: Amber, blue, colorless, green, ruby, white or yellow.

FINISHES OF GLASS: Standard unit is equipped with faceted glass. Smooth glass may be obtained upon request.

PLATING: Panel hardware is bright nickel, other parts cadmium.

SPECIAL PLATING: Panel hardware can be supplied with statuary bronze or chrome plating for small extra charge.

PACKING: Packed in bulk unassembled.

PARTS

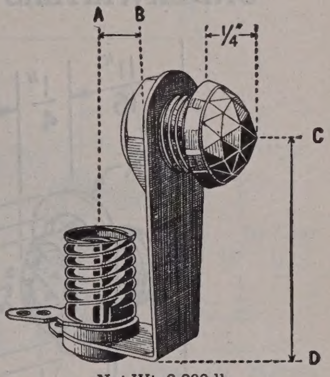
Part No.	Description
14	Jewel Assembly with Nut
15	Nut
123H	Socket Assembly for No. 5
223H	Socket Assembly for No. 5B

½" Jewel . . . Vertical Mounting

No. 10 TYPE

NOTE:

Dimension A to B is from center of socket to outside of bracket. C to D from center of jewel to bottom of bracket. The No. 10B and 10H have brackets with oblong hole permitting adjustment to obtain best position for lamp filament back of jewel.



Net Wt. 0.029 lb.

STANDARD TYPES

Type Number	Style Socket	A to B	C to D
10	Min. Screw	½"	1¼"
10B	Min. Bayonet	¾"	Adj. from 1 5/16" to 1⅝"
10H	SC Cand. Bay.	¾"	
10G	Min. Bayonet	½"	1¼"

SPECIFICATIONS

LAMPS REQUIRED: For No. 10 and 10B, miniature screw or bayonet base of any voltage (tubular preferred). For No. 10G, miniature bayonet, type G3½ bulb. For No. 10H any SC candelabra bayonet base lamp may be used. Mounts in 7/16" hole on panels up to ¼" thick. • JEWEL: Diamond cut (faceted); Amber, Blue, Crystal, Green, Ruby, White (Milk White), and Yellow. • SPECIAL FINISHES: Chrome, Black Nickel, Statuary Bronze. • PACKED in bulk with jewels and nuts in bags. • SPECIAL JEWELS: SP—Smooth, plain; SFA—Smooth, frosted all over; SFB—Smooth, frosted on back.

PARTS

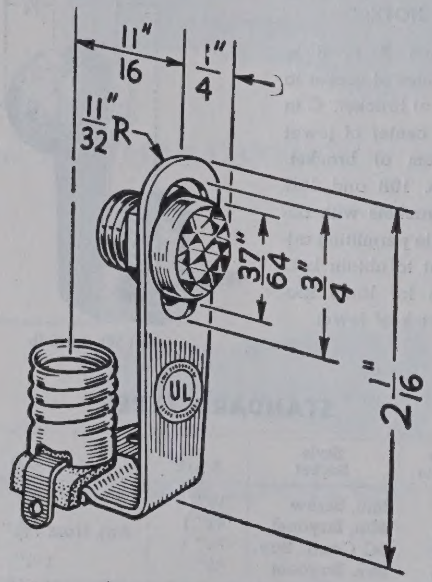
Part No.	Description
115	Socket Assembly for No. 10
215BC	Socket Assembly for No. 10B
215	Socket Assembly for No. 10G
615BC	Socket Assembly for No. 10H
16	Jewel and Nut
17	Nut

JEWEL LIGHT ASSEMBLIES

½" Jewel . . . Vertical Mounting

No. 10C TYPE

UNDERWRITERS' APPROVED



The No. 10C is an inexpensive candelabra screw base jewel light assembly that is Underwriters' Approved for 75 watt-125 volt service. It is particularly suited to applications where there is a minimum of depth behind the panel, and lamp replacement from the front of the panel is not necessary. The mounting bracket has a slotted hole to facilitate adjustment for placing the lamp filament directly behind the jewel giving maximum illumination of the jewel.

SPECIFICATIONS

MOUNTING: Mounts in 7/16" hole on panels up to ¼" thick. For panels between ¼" and ⅜" specify No. 16L jewel.

RATING: 75 watts, 125 volts.

LAMPS: Will house any candelabra screw base lamp.

COLORS: Amber, blue, colorless, green, ruby, white and yellow.

FINISHES OF GLASS	SYMBOL
Faceted (Diamond Cut)	Standard Finish
Smooth Plain (Smooth face no frosting)	SP
Smooth, Frosted All Over	SFA
Smooth, Frosted on Back Only	SFB

PLATING: Jewel assembly is burnished nickel. All other parts are cadmium. Statuary bronze, chrome, and black nickel plating can be applied to jewels for a small extra charge.

PACKED: Packed in bulk unassembled.

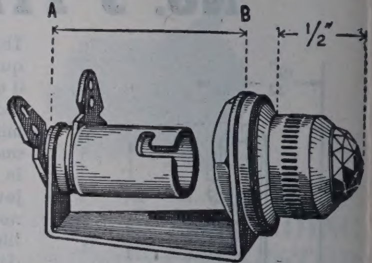
PARTS

Part No.	Description
16	Jewel Assembly and Nut
17	Nut
415BC	Socket Assembly

½" Jewel . . . Horizontal Mounting

No. 20 TYPE

The original Drake Horizontal Mounting Lamp Assembly, and still a fast seller. When ordering, please be sure to select the correct part number for the thickness of panel on which to be installed; otherwise lamp may not extend far enough forward for easy removal, or if too far, prevent bezel screwing all the way on collar.



PATENT NO. 2220515
Net Wt. 0.036 lb.

STANDARD TYPES

Type Number	Style Socket	Length A to B	Panel Thickness
20	Min. Bayonet	1-13/32"	0" to 7/64"
30	Min. Bayonet	1- 7/32"	¼"
40	Min. Bayonet	1-11/32"	⅛ to 15/64"
20S	Min. Screw	1- 1/16"	0" to 15/64"
30S	Min. Screw	15/16"	¼"

NOTE: Dimension A to B is overall length of socket assembly with lamp installed. Can be furnished with same plastic caps as No. 51 and 51N. Specify by using Nos. 31C or 31SC.

SPECIFICATIONS

LAMPS REQUIRED: Miniature T3¼ tubular, G3½ globular or other lamps of same over-all length. Lamp removable from front of panel. • Mounts in 11/16" hole. • JEWEL: Diamond cut (faceted); Amber, Blue, Crystal, Green, Ruby, White (Milk White) and Yellow. • SPECIAL FINISHES: Chrome, Black Nickel, Statuary Bronze. • PACKED in bulk with jewel, collar and nuts in bag. • SPECIAL JEWELS: SP—Smooth, plain; SFA—Smooth, frosted all over; SFB—Smooth, frosted back.

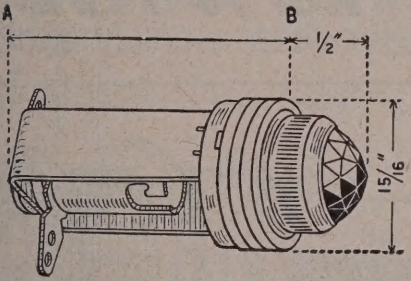
PARTS

Part No.	Description
220A	Socket Assembly for No. 20
221F	Socket Assembly for No. 30
221V	Socket Assembly for No. 40
122V	Socket Assembly for No. 20-S
122G	Socket Assembly for No. 30-S
25	Jewel
27	Nut
28	Collar for 0"-¼" panels, ⅜" long
30	Collar for ⅜" panel, ½" long

JEWEL LIGHT ASSEMBLIES

½" Jewel . . . Horizontal Mounting

No. 50 TYPE



Net Wt. 0.056 lb.
PATENT NO. 2220516

This patented Drake Assembly is ideal for various applications. Specially designed for use on more than one thickness of panel. Supplied with two fibre washers which compensate for panel thicknesses. It is of sturdy construction, easy to mount, and requires little space.

STANDARD TYPES

Type Number	Style Socket	Length A to B	Panel Thickness
50	Min. Bayonet	1-9/16"	0" to ¼"
50.5	Min. Bayonet	1½"	17/64" to ⅜"
50S	Min. Screw	1⅛"	0" to ¼"
50.5S	Min. Screw	1⅛" to 1¼"	17/64" to ⅜"

NOTE: Dimension A to B is overall length from front of panel with lamp installed.

No spacing washers are furnished with part No. 50.5S.

SPECIFICATIONS

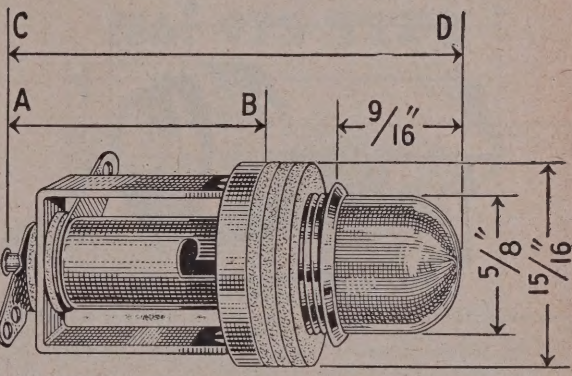
LAMPS REQUIRED: Miniature T3¼ tubular, G3½ globular or other lamps of same over-all length. • Lamp removable from front of panel. • Mounts in 11/16" hole. • JEWEL: (Diamond cut faceted); Amber, Blue, Crystal, Green, Ruby, White, (Milk White) and Yellow. • SPECIAL FINISHES: Chrome, Black Nickel, Statuary Bronze. • PACKED in individual boxes for jobbing trade; in bulk and fully assembled for manufacturing trade. • SPECIAL JEWELS: SP—Smooth, plain; SFA—Smooth, frosted all over; SFB—Smooth, frosted on back.

PARTS

Part No.	Description
25	Jewel
28	Collar ⅜" long for No. 50 & 50S
30	Collar ½" long for No. 50.5 & 50.5S
50A	Round Nut
50B	Fibre Washer, 11/16" I.D. x 15/16" O.D. x 1/16" thick
225A	Min. Bay. Socket Assembly for No. 50
225C	Min. Bay. Socket Assembly for No. 50.5
125B	Min. Screw Socket Assembly for Nos. 50S & 50.5S

Plastic Dome . . . Horizontal Mounting
Lamp Replaceable from Front of Panel

No. 51 TYPE



NET WEIGHT 0.045 lbs. **PATENT NO. 2220516**

The No. 51 is a patented Drake assembly featuring a plastic dome indicator which fosters wide angle observation. The whole dome is illuminated, therefore it can be easily seen from the side. It is a good eye-catcher because of its brilliant glow, and for this reason, it makes a wonderful warning light. The unit is supplied with three 1/16" thick fibre spacing washers, so that when the unit is mounted on a thick panel, these washers can be removed making the lamps as accessible for replacement as when mounted on a thin panel.

Part No.	Length A to B	Length C to D	Style Socket	Number of Spacing Washers Required				
51	1⅛"	1 15/16"	Min.	Panel thickness	1/16"	⅛"	3/16"	¼"
			Bay.	Washers	3	2	1	0
51.5	1"	1 15/16"	Min.	Panel thickness	¼"	5/16"	⅜"	
			Bay.	Washers	2	1	0	
51S	⅞"	1 11/16"	Min.	Panel thickness	1/16"	⅛"	3/16"	¼"
			Screw	Washers	2	1	0	0

Length A to B is overall length of socket assembly with lamp installed.

SPECIFICATIONS

MOUNTING: Mounts in 11/16" diameter hole. RATING: Tested on 110 volts. Can be supplied to withstand 1,000 volts AC for a period of one minute. LAMPS: Designed to house the miniature bayonet or miniature screw base T3¼ lamp. Will also house G3½ bulb, but lamp is not quite as accessible for replacement. COLORS: Amber, colorless, green and red. PLATING: Regularly supplied with nickel plated panel hardware, all other parts cadmium plated. SPECIAL PLATING: Panel hardware can be supplied with chromium, statuary bronze, or black nickel plating. Extra charge for these finishes. PACKING: The units are packed in bulk and fully assembled.

PARTS

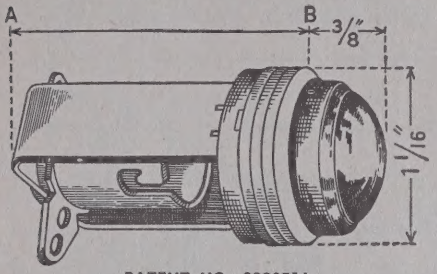
Part No.	Description
25P	Plastic Dome
28	Collar ⅜" long for 51 and 51S
30	Collar ½" long for 51.5
50A	Round Nut
50B	Fibre Spacing Washer•
125B	Socket Assembly for 51S
225C	Socket Assembly for 51
225B	Socket Assembly for 51.5

DRAKE Dial and Jewel PILOT LIGHT ASSEMBLIES

MECHANICALLY SECURE TERMINALS USED ON 110 VOLT CANDELABRA ASSEMBLIES

¾" Jewel . . . Horizontal Mounting

No. 60 TYPE



PATENT NO. 2220516
Net Wt. 0.068 lb.

This patented item is similar to the No. 50, but has a ¾" jewel in a polished chrome "slip-fit" bezel. Supplied with three fibre washers which compensate for panel thickness. Its sturdy construction, ease of mounting, and small size make it an ideal assembly.

Part Number	Style Socket	Length A to B
60	Min. Bayonet	1- 9/16"
60N	Cand. Screw for NE45 lamp	1-13/16"
60S	Min. Screw	1- 5/16"
60T	Cand. Screw for 115v, 6W, T4½ lamp	2"

NOTE: Dimension A to B is overall length from front of panel with lamp installed.

SPECIFICATIONS

MOUNTING: Mounts in 13/16" diameter hole on panels 0" to ¼" thick. For panels 17/64" to ⅝" thick use parts 60.75, 60.75N, 60.75S, or 60.75T.

RATING: Miniature bayonet and screw types are tested on 110 volts. Candelabra screw types will withstand a voltage breakdown of 1,000 volts.

COLORED DISCS: The No. 60 types are regularly supplied with colorless, smooth glass frosted on back behind which is placed a colored disc. The advantage of this method is that the glass appears white until the lamp is lighted.

COLORS: Amber, blue, colorless, green, red, white, or yellow.

OTHER FINISHES OF GLASS	SYMBOL
Faceted (Diamond Cut)	FAC
Smooth Plain (Smooth face and no frosting)	SP
Smooth, frosted on back (Smooth face frosted on back only)	SFB

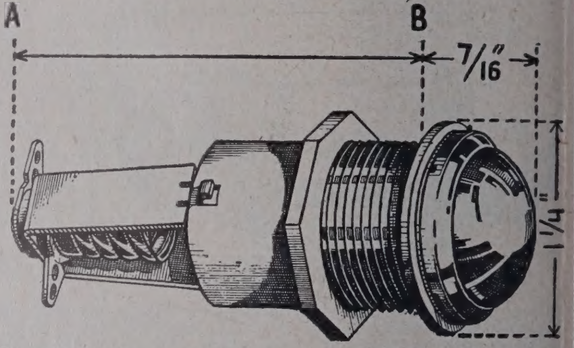
Colored glass is furnished when any of the above types are specified. We recommend smooth plain glass for use with neon glow lamps.

PARTS

Part Number	Description
60A	Jewel
60B	Collar 25/32" long for Nos. 60.75, N, S, and T
60C	Collar 13/32" long for Nos. 60, N, S, and T
60D	Round Nut
60E	Color Disc
60G	Retaining Ring for Color Disc
60I	Fibre Washers, 13/16" I.D. x 1 1/16" O.D. x 1/16" thick
128V	Min. Screw Socket Assembly for Nos. 60S & 60.75S
228U	Min. Bay. Socket Assembly for No. 60
228V	Min. Bay. Socket Assembly for No. 60.75
428U	Cand. Screw Socket Assembly for No. 60.75N
428W	Cand. Screw Socket Assembly for Nos. 60N and 60.75T
437P	Cand. Screw Socket Assembly for No. 60T

1" Jewel . . . Horizontal Mounting

No. 75 TYPE



Net Wt. 0.107 lb. **PATENT NO. 2192345**

The patented No. 75 type has a "slip-fit" bezel. It is exceedingly neat in appearance. Very substantial and easy to install. All parts are burnished cadmium plated except the bezel which has a highly polished chrome finish.

Type Number	Style Socket	Length A to B
75	Candelabra	2⅛"
175	Min. Screw	1¾"
275	Min. Bayonet	1⅞"
375	S.C. Cand. Bayonet or Bay.	2-1/32"

NOTE: Dimension A to B is over-all length. Overall diameter of mounting nut 1⅜".

SPECIFICATIONS

MOUNTING: Mounts in 1" diameter hole on panels up to ½" thick.
RATING: Nos. 175 and 275 are tested on 110 volts.
Nos. 75 and 375 will withstand a voltage breakdown of 1,000 volts.
LAMPS: The No. 75 is designed to house Mazda 115 volt 6 watt, S6 or C7 candelabra screw base lamps. Will house any other candelabra screw base lamp up to 1⅞" long and ⅞" diameter. The Nos. 175 and 275 are designed to house any miniature lamp up to 1-3/16" long and ⅞" diameter.
The No. 375 is designed to house any single contact candelabra bayonet base lamp up to 1½" long and ⅞" diameter.
COLORS: Amber, Blue, Colorless, Green, Red, White, or Yellow.
COLORED DISCS: The No. 75 types are regularly supplied with colorless, smooth glass frosted on back behind which is placed a colored disc. The advantage of this method is that the glass appears white until the lamp is lighted.

OTHER FINISHES OF GLASS	SYMBOL
Faceted (Diamond Cut)	FAC
Smooth Plain (Smooth face and no frosting)	SP
Smooth, frosted on back (Smooth face frosted on back only)	SFB

Colored glass is furnished when any of the above types are specified. We recommend smooth plain glass for use with neon glow lamps.

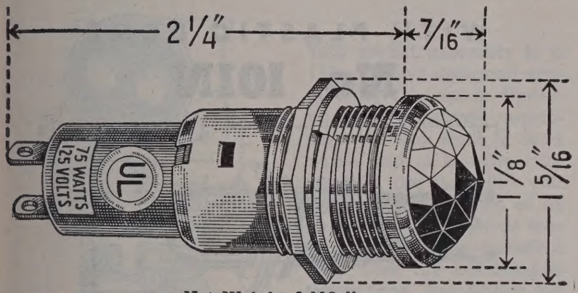
PARTS

Part Number	Description
419V	Socket Assembly for No. 75
224H	Socket Assembly for No. 275
124I	Socket Assembly for No. 175
624J	Socket Assembly for No. 375
75A	Jewel
75B	Tube
75C	Nut
75E	Color Disc
75F	Retaining ring for Color Disc
75G	Fibre washer—1¼" O.D.
75L	Lock washer
75N	Spring clip to lock socket in place

1" JEWEL LIGHT ASSEMBLIES
LAMPS REPLACEABLE FROM FRONT OF PANEL

No. 75AP TYPE

UNDERWRITERS' APPROVED



Net Weight 0.110 lbs.

The No. 75AP is a heavy duty candelabra screw base assembly designed to be used on rugged equipment. The panel hardware (jewel holder) is attractively finished with a highly polished chrome plate. All other parts are cadmium plated. The No. 75AP is Underwriters' approved for 125 volt, 75 watt service. The socket assembly and mounting tube are one piece and so constructed that they need never be replaced. Electrical connections are made to solder terminals. No danger of vibration loosening the connections as with screw terminals.

SPECIFICATIONS

MOUNTING: Mounts in 1" diameter holes on panels up to 1/2" thick.

RATING: 125 volts, 75 watts. Can be operated on 220 volt circuits if connected in series with a 2000 ohm, 10 watt wire wound resistor. In this case a 115 volt, 6 watt lamp must be used.

LAMPS: Designed to house the Mazda 115 volt, 6 watt, S6, candelabra screw base lamp.

Will house any other candelabra screw base lamp which has an overall length of less than 1 7/8" and a diameter of less than 7/8".

NOTE: Will not house a C7 bulb.

COLORS: Amber, blue, colorless, green, ruby, white or yellow.

FINISHES OF GLASS	SYMBOL
Faceted (Diamond Cut)	FAC
Smooth Plain (Smooth face and no frosting)	SP
Smooth, frosted on back (Smooth face frosted on back only)	SFB

For Mazda lamps we recommend faceted or smooth glass frosted on back. For neon glow lamps, we recommend smooth plain glass.

NOTE: If no other finish is specified, faceted glass will be furnished.

PACKING: The units are packed in individual boxes for the jobbing trade; in bulk, and fully assembled for the manufacturing trade.

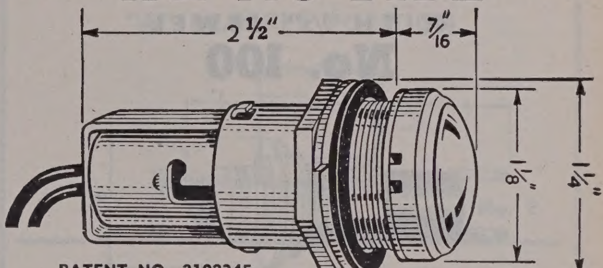
PARTS

Part No.	Description
475M	Socket Assembly
75A	Jewel & Jewel Holder
75C	Nut
75L	Lock Washer

Double Contact Candelabra Bayonet

UNDERWRITERS' APPROVED

No. 975 TYPE



PATENT NO. 2192345

The No. 975 is a heavy duty double contact, candelabra, bayonet base assembly designed to be used in rugged equipment. The panel hardware (jewel holder) is attractively finished with a highly polished chrome plate. All other parts are cadmium plated. The No. 975 is Underwriters' approved for 125 volt, 75 watt service. The mounting tube and socket are detachable; therefore the wire leads of the socket assembly can be connected to the terminal block before the socket assembly is clipped into the mounting tube which is already installed in the panel. This feature facilitates quicker assembly of panels. The built in lead wires can be attached directly to screw or solder terminal blocks; thereby eliminating two soldering operations. Units are carried in stock with both 10 inch and 20 inch leads. On orders of 500 or more units the wires can be cut to your specifications. See wire table.

Part Numbers	Length of Leads
975-10	10 inches
975-20	20 inches

SPECIFICATIONS

MOUNTING: Mounts in 1" diameter holes on panels up to 1/2" thick.

RATING: 125 volts, 75 watts.

LAMPS: Designed to house the double contact, candelabra, bayonet base, C7, S6 or T6 1/2, 110 volt lamp. Will house any other D C, candelabra based lamp which is no larger than 7/8" in diameter and no longer than 2 1/8". Lamps can be purchased from Drake Manufacturing Co.

LEADS: No. 18 gauge (16 strands No. 30) with 1/32" of black Synthinol plastic insulation.

COLORS: Amber, blue, colorless, green, red, white or yellow.

COLORED DISCS: The No. 975 is regularly supplied with colorless, smooth glass frosted on back behind which is placed a colored disc. The advantage of this method is that the glass appears white until the lamp is lighted.

OTHER FINISHES OF GLASS	SYMBOL
Faceted (Diamond Cut)	FAC
Smooth Plain (Smooth face and no frosting)	SP
Smooth, frosted on back (Smooth face frosted on back only)	SFB

Colored glass is furnished when any of the above types is specified. We recommend smooth plain glass for use with neon glow lamps.

PACKING: Packed in bulk fully assembled.

PARTS

Part Numbers	Description
75A	Jewel
75B	Tube
75C	Nut
75E	Color Disc
75F	Retaining ring for Color Disc
75G	Fiber washer 1/16" thick
75L	Lock Washer
950E-10	Socket Assembly for No. 975-10
950E-20	Socket Assembly for No. 975-20

Dial and Jewel PILOT LIGHT ASSEMBLIES

TOTALLY ENCLOSED, MINIATURE BAYONET

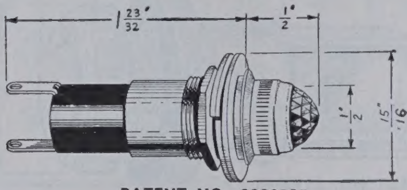
PILOT LIGHT ASSEMBLIES

BUILT-IN RESISTORS FOR NEON GLOW-LAMPS OPTIONAL

These totally enclosed pilot lights meet Underwriters' Specifications. They are very rugged and particularly adapted to use in equipment subjected to extreme vibration and atmospheric conditions. The 100N and 101N assemblies are designed specifically for use with the NE51 neon glow lamp. With proper current limiting resistors (built into the socket of either the 100N or 101N), the neon glow lamps can be operated on any voltage over 65 volts AC and 90 volts DC. You merely specify the operation voltage and we furnish the correct unit. Stock units have 100,000 ohm resistors for 115 volt operation. The primary advantages of the glow lamp are its long life (3000 hrs.), resistance to vibration (unaffected), low initial cost, low operating cost (1/25 watt), and small size.

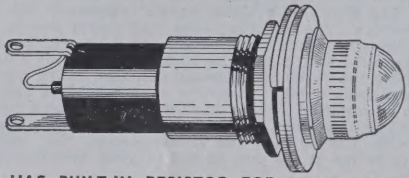
WITH ½" JEWEL

No. 100



PATENT NO. 2220515

No. 100N



HAS BUILT-IN RESISTOR FOR NEON LAMP

The jewel or bull's-eye indicators are recommended for use with incandescent lamps of over one watt; in temperature ambients of over 200° F; or, in the case of neon, where a concentration of light is required directly in front of the observer.

SPECIFICATIONS

MOUNTING: Mounts in 11/16" dia. hole on panels up to ⅜" thick.

RATING: Breakdown voltage 2000 volts AC.

LAMPS: No. 100 is designed to house any miniature bayonet, T3¼ lamp.

COLORS: Amber, Blue, Colorless, Green, Ruby, White, and Yellow.
NOTE: Blue, Green, and White not recommended for use with neon lamp.

FINISHES OF GLASS	SYMBOL
Faceted (Diamond Cut)	FAC Standard Finish on No. 100
Smooth Plain (Smooth face, no frosting)	SP Standard Finish on No. 100N
Smooth, Frosted All Over	SFA
Smooth, Frosted on Back Only	SFB

NOTE: SFA and SFB finishes not recommended for neon lamps.

PLATING: Regularly supplied with burnished nickel plated panel hardware.

SPECIAL PLATING: Extra charge for chromium, statuary bronze, etc.

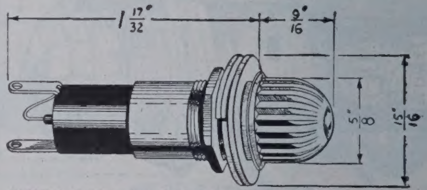
PACKING: To jobbers: individually packed in boxes, 25 boxes to a unit package. To manufacturers: packed in bulk, fully assembled. Net wt. 0.057 lbs.

PARTS

Part No.	Description
25	Jewel
27	Nut
36L	Lock Washer
50B	Fibre Washer
2100A	Socket Assembly for No. 100
2100AN	Socket Assembly for No. 100N

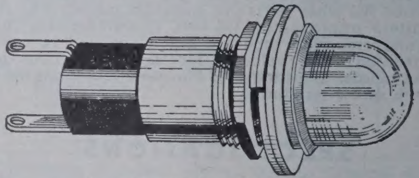
WITH PLASTIC DOME

No. 101N



WITH BUILT-IN RESISTOR FOR NEON LAMP

No. 101



PATENT NO. 2220515

The transparent plastic cap is fluted on the inside to multiply the images of the glowing electrodes of the neon lamp. It actually has three times the visibility of the ordinary plain cap. Because of the small amount of illumination emitted by the neon lamp, it is advisable to use the dome with 180° visibility to utilize the greatest amount of available light.

Unless otherwise specified, No. 101 (designed for incandescent lamps) is equipped with a translucent cap that affords a beautiful even glow over the whole area of the dome.

SPECIFICATIONS

MOUNTING: Mounts in 11/16" dia. hole on panels up to ⅜" thick.

RATING: Breakdown voltage 2000 volts AC.

LAMPS: No. 101 is designed to house No. 47 incandescent lamp or any other miniature bayonet T3¼ lamp of less than 1 watt power consumption.

TRANSPARENT COLORS: Amber, Colorless, Red, and Milky White.
NOTE: Since the neon glow does not effectively penetrate the transparent Green and Blue caps, they are not carried in stock.

TRANSLUCENT COLORS: Blue, Green, Red, Milky White, and Yellow.

PLATING: Regularly supplied with burnished nickel plated panel hardware.

SPECIAL PLATING: Extra charge for chromium, statuary bronze, etc.

PACKING: To jobbers: individually packed in boxes, 25 boxes to a unit package. To manufacturers: packed in bulk, fully assembled. Net wt. 0.047 lbs.

PARTS

Part No.	Description
25P	Plastic Cap
27	Nut
36L	Lock Washer
50B	Fibre Washer
2101A	Socket Assembly for No. 101
2101AN	Socket Assembly for No. 101N

Dial and Jewel PILOT LIGHT ASSEMBLIES

DOUBLE CONTACT CANDELABRA BAYONET

Underwriters' Approved for General Purpose

No. A900 SERIES

UL File No. E17786

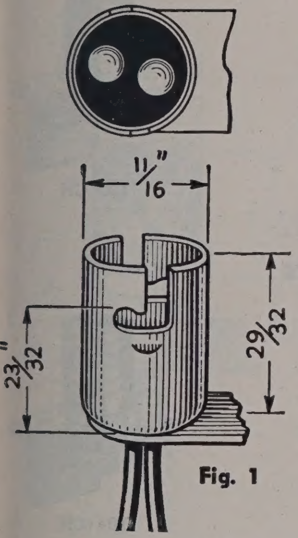


Fig. 1

This socket assembly is a 110 volt unit designed specifically for use in Underwriters' approved equipment. It has built in lead wires and is sturdily constructed befitting 110 volt application. In spite of its ruggedness it requires less space with lamp installed than does the candelabra screw type. In addition the bayonet type lamps will not loosen from vibration.

This socket can be supplied mounted to any one of the brackets shown on this page and the next. If they do not meet your requirements, we have the facilities to build them to your specifications.

The A900 type assembly is equipped with No. 18 (16 strands No. 30) tinned copper wire insulated with 1/32" of plastic insulation. See wire table. Units can be wired in series.

The Underwriter's Laboratories have approved the use of this socket with No. 22 gauge wire leads for application in radio only. With the lighter gauge wire the assembly is designated as the No. 900 Series. It can be wired in series or parallel. See wire table.

NOTE: On orders for less than 500 assemblies, no choice of leads is given. Assemblies will be supplied with 10" of black wire stripped ½".

LAMPS: 110 volt, 10 watt can be purchased from Drake Manufacturing Co.

FORMULATION OF PART NUMBERS

The part number is composed of three parts, the series number, the bracket number, and the bracket position. The series number is expressed in hundreds plus the letter prefix if there is one. For example: The part number of an A900 Series Socket (fig. 1) with a No. 50H bracket (fig. 4) in the "A" position (fig. 2) would be No. A950H-A. Similarly a unit with No. 22 wire (900 series) and a No. 50J bracket (fig. 5) in the "C" position (fig. 3) would be 950J-C. Part numbers of sockets without brackets are designated as 917, A917, and 1017 respectively.

NOTE: Please do not fail to specify length of lead wire and stripping when ordering more than 500 units.

MOUNTING BRACKETS FOR 900, A900, 1000 SERIES ASSEMBLIES

"A" BRACKET POSITION

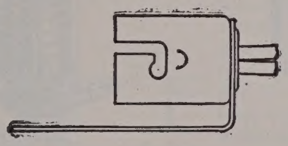


Fig. 2

"C" BRACKET POSITION

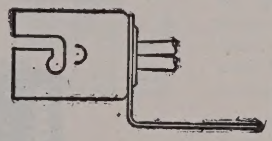
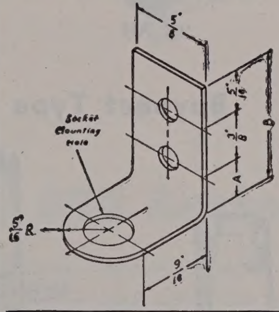


Fig. 3



No. 50G { "A" dim. 5/16"<br>"B" dim. 1"

No. 50H { "A" dim. 1-1/16"<br>"B" dim. 1¾"

No. 50H is recommended for "A" bracket position.

Fig. 4

No. 50J

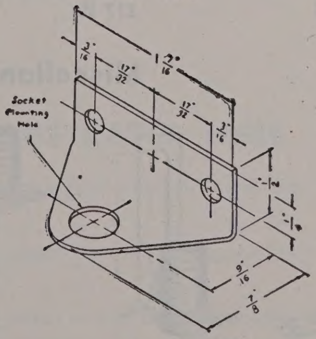
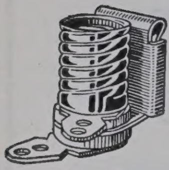


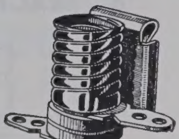
Fig. 5

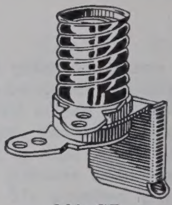
SOCKET ASSEMBLIES

FOR ALL STANDARD OR SPECIAL NEEDS

Clip Bracket Types With FLANGE Brackets


103 AE


103 AH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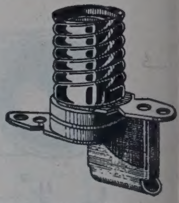
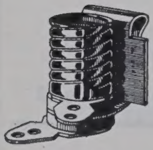

103 CH

Clip Bracket Types With FLAT Brackets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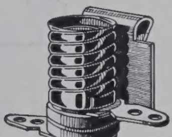
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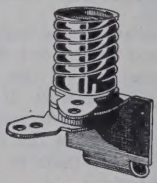
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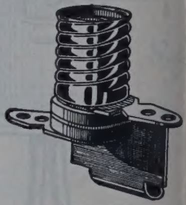
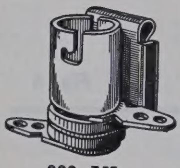

104 CH

Bayonet Type Socket Assemblies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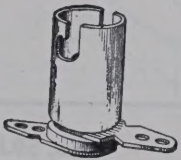
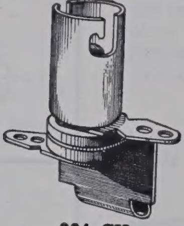
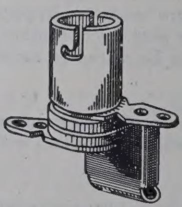
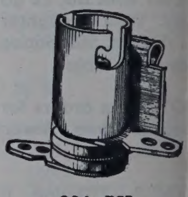
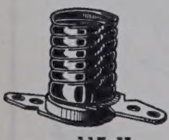

217 H

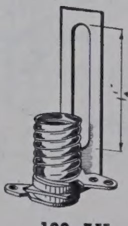

204 CH


203 CH


204 AH

Miscellaneous Types . . . Special Sizes


117 H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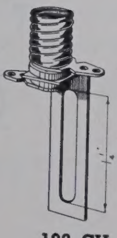
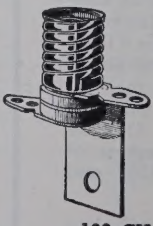
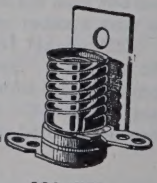

108 CH


109 CH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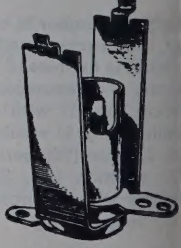
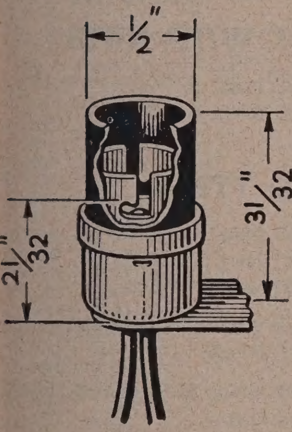

219

Dial and Jewel PILOT LIGHT ASSEMBLIES

MINIATURE BAYONET LIGHT SOCKET ASSEMBLIES

No. 500 SERIES

For Underwriters' Approved AC-DC Radio Receivers



In this socket assembly the bayonet shell is protected from outside contact by a sturdy fishpaper insulating shield. The lead wires are an integral part of the unit and both are secured within the socket so that they will withstand a tension over 25 pounds.

Rounded edges on the opening at the base prevent cut and frayed lead wire insulation.

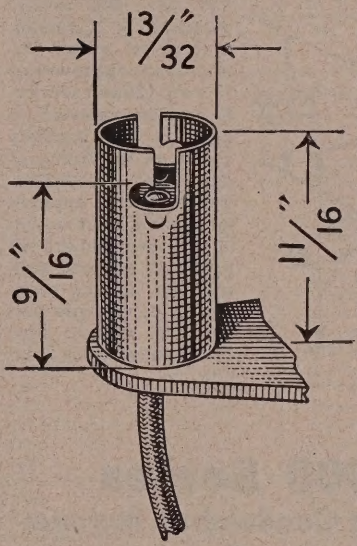
The assembly will withstand a minimum breakdown voltage of 1000 volts between contacts and to ground.

All parts are fitted so that there can be no rotation of one part with respect to another. This means that there is absolute ridgidity from the mounting bracket to the bayonet shell which supports the lamp. The center contact cannot protrude from the socket when the lamp is removed.

The standard assembly is equipped with No. 22 gauge wire, however No. 20 wire can be used.

No. 700 SERIES

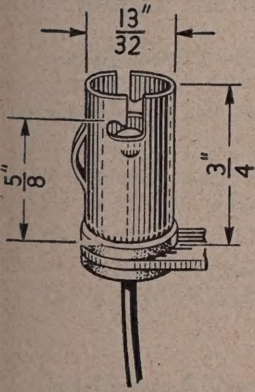
For Underwriters' Approved AC Radio Receivers



In this socket assembly the bayonet shell is electrically connected to the mounting bracket. It is secured in such a way that it cannot rotate. The lead wire is an integral part of the unit and is secured tightly enough to withstand a tension of over 25 pounds. The center contact cannot protrude when the lamp is removed.

The assembly will withstand a minimum breakdown voltage of 1,000 volts between the center contact and ground.

The assembly is customarily built with No. 22 gauge wire; however any other gauge up to and including No. 16 wire can be used.



No. 800 Series

In this socket assembly the bayonet shell is insulated from the bracket. The shell is bridged to provide a good solder connection for one lead wire. The center lead wire is built-in, and the center contact cannot protrude when the lamp is removed. Upon request the assembly can be furnished with two lead wires or no lead wires.

COMMENTS ON ALL ASSEMBLIES ILLUSTRATED HERE

The 500 and 700 types can be wired in series or parallel, but the 800 type can only be wired in series. See wire table for various lengths, color and insulation of lead wires.

NOTE: On orders for less than 500 assemblies, no choice of leads is given. All assemblies will be supplied with 10" of No. 22 plastic insulated wire stripped ½" long.

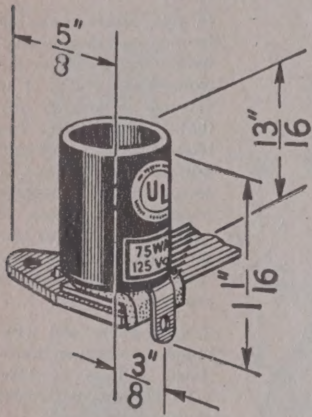
The assemblies can be attached to any of the mounting brackets shown in the listing of dial light assemblies. We also have approximately 900 other mounting brackets that are not listed. If you will submit your lighting problem to us, we are certain that we can offer you a satisfactory solution.

SOCKET ASSEMBLIES AND JEWELS

No. 300 SERIES

Candelabra Screw Base

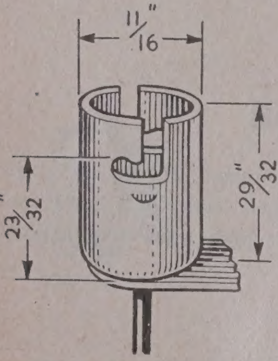
Underwriters' Approved for General Use



The No. 300 socket assembly is a candelabra screw socket, Underwriters' approved for 75 watt, 125 volt service. It can be attached to any of the brackets shown in the listing of dial light assemblies. We also have approximately 900 other mounting brackets that are not listed. If you will submit your lighting problem to us, we are certain that we can offer you a satisfactory solution.

No. 1000 Series

Single Contact Candelabra Bayonet Automotive Type



This unit is an inexpensive assembly suitably adapted for use in 6 to 115 volt circuits. It has a built in center lead wire and the socket and bracket form the ground connection. The unit is sturdily constructed and designed so that the center contact cannot protrude when the lamp is removed.

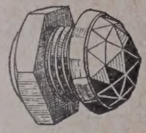
This socket can be supplied mounted to any one of the brackets illustrated with the 900 and A900 socket assemblies. If they do not meet your requirements, we have the facilities to build them to your specifications.

The standard Number 1000 type Assembly is equipped with 10 inches of No. 18 (16 strands No. 30) tinned copper wire insulated with 1/32" of plastic insulation. See wire table. Assemblies can be wired in parallel.

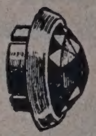
On orders of more than 500 units No. 22 to No. 16 gauge wire is available.

NOTE: Can be sold knocked down into extruded shell, spring, and pigtail with center contact and washer attached.

½" Jewels



THREADED TYPE



SLOTTED TYPE

THREAD TYPE WITH NUTS

16CSP	Shank ⅜" long, 7/16" O.D.
16½CSP	Shank ½" long, 7/16" O.D.

SLOTTED TYPES

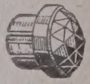
22CSP	Shank ⅛" long, ⅜" O.D.
23CSP	Shank 3/16" long, ⅜" O.D.
31CSP	Shank .085" long, ⅜" O.D.

JEWELS: Diamond cut (faceted), Amber, Blue, Crystal, Green, Ruby, White (Milk White) and Yellow.

SPECIAL JEWELS: SP—Smooth, plain; SFA—Smooth, frosted all over; SFB—Smooth, frosted back

SPECIAL FINISHES: Chrome, Black Nickel, Statuary Bronze.

11/32" Jewels . . . Slotted Types Only



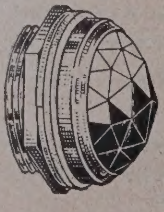
JEWELS: Diamond cut (faceted), Amber, Crystal, Green, Ruby, White (Milk White). Also supplied with smooth plain glass (specify "SP") at same price.

FINISHES: Regular finish Statuary Bronze. Also supplied in nickel finish if so ordered, at same price.

21CSP, slotted type, Shank 3/16" long, 9/32" O.D.
24CSP, slotted type, Shank ¼" long, 9/32" O.D.

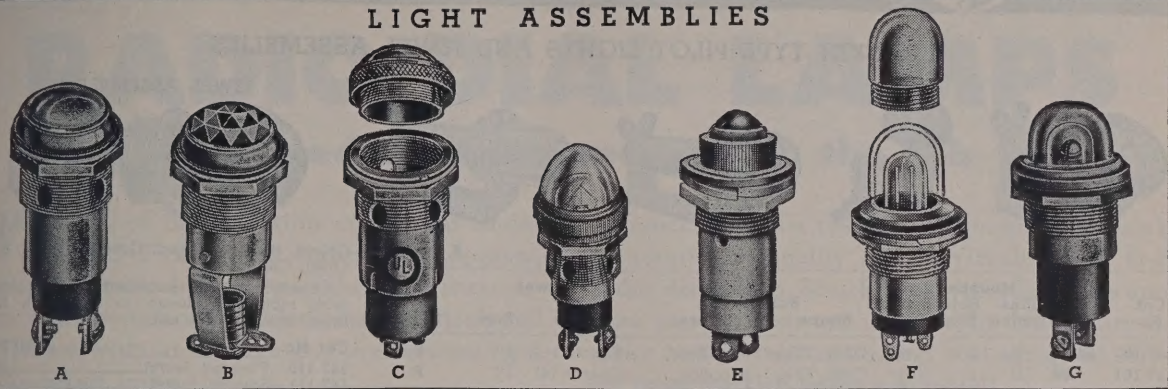
1" Threaded Jewel Assembly

No. 75A3



Mounts in 1" diameter hole on panels up to ¼" thick by removing washers. The assembly is supplied complete with fibre washer, lock washer, and hex nut. The unit is water tight when mounted to the panel with a rubber gasket.

LIGHT ASSEMBLIES



JOHNSON Indicator Light Assemblies are oustanding examples of sound engineering design, excellent material and careful workmanship. Their use is your assurance of complete satisfaction.

The listings on these two pages include only those standard units in greatest demand but many other types are readily available. Special assemblies can be furnished in production quantities.

Cat. No.	List Price	Illus.	Mounting Hole Size	Length Behind Panel[7]	Bulb Shape	Lamp Base	Jewels			Terminals		Insulation	Under-writer Approved	Color
							Type	Size	Holder	No.	Type			
147-800	$1.05	B	1″	2⅜″	G3½, T3¼	Min. Screw	Faceted	1″	Friction	2	Solder	Fiber	------------	SPECIFY COLOR: RED, GREEN, AMBER, BLUE, OPAL, CLEAR. FOR NEON DO NOT USE BLUE, GREEN, OPAL
147-801	1.05	B	1″	2⅜″	G3½, T3¼	Min. Screw	Smooth	1″	Friction	2	Solder	Fiber	------------	
147-802	1.10	B	1″	2⅜″	S6	Cand. Screw	Faceted	1″	Friction	2	Solder	Fiber	------------	
147-803	1.10	B	1″	2⅜″	S6	Cand. Screw	Smooth	1″	Friction	2	Solder	Fiber	------------	
147-804	1.10	B	1″	2⅜″	G3½, T3¼	Min. Bay.	Faceted	1″	Friction	2	Solder	Fiber	------------	
147-805	1.10	B	1″	2⅜″	G3½, T3¼	Min. Bay.	Smooth	1″	Friction	2	Solder	Fiber	------------	
147-1000	1.40	A	1″	2 9/16″	S6	Cand. Screw	Faceted	1″	Friction	2	Solder	Porcelain	Yes	
147-1001	1.40	A	1″	2 9/16″	S6	Cand. Screw	Smooth	1″	Friction	2	Solder	Porcelain	Yes	
147-1002	1.50	A	1″	2 9/16″	S6	Cand. Screw	Colored Disc[6]	1″	Friction	2	Solder	Porcelain	Yes	
147-1003	1.40	A	1″	2 9/16″	T4½, NE45	Cand. Screw	Faceted	1″	Friction	2	Solder	Porcelain	Yes	
147-1004	1.40	A	1″	2 9/16″	T4½, NE45	Cand. Screw	Smooth	1″	Friction	2	Solder	Porcelain	Yes	
147-1005	1.50	A	1″	2 9/16″	T4½, NE45	Cand. Screw	Colored Disc[6]	1″	Friction	2	Solder	Porcelain	Yes	
147-1032	1.65	A	1″	2¾″	S6	Cand. Screw	Faceted	1″	Friction	2	Screw	Phenolic	Yes	
147-1033	1.65	A	1″	2¾″	S6	Cand. Screw	Smooth	1″	Friction	2	Screw	Phenolic	Yes	
147-1034	1.75	A	1″	2¾″	S6	Cand. Screw	Colored Disc[6]	1″	Friction	2	Screw	Phenolic	Yes	
147-1035	1.65	A	1″	2 7/16″	T4½, NE45	Cand. Screw	Faceted	1″	Friction	2	Screw	Phenolic	Yes	
147-1036	1.65	A	1″	2 7/16″	T4½, NE45	Cand. Screw	Smooth	1″	Friction	2	Screw	Phenolic	Yes	
147-1037	1.75	A	1″	2 7/16″	T4½, NE45	Cand. Screw	Colored Disc[6]	1″	Friction	2	Screw	Phenolic	Yes	
147-1050	1.75	A	1″	2½″	G6	S. C. Cand. Bay.	Faceted	1″	Friction	1	Screw	H. Rubber	------------	
147-1051	1.75	A	1″	2½″	G6	S. C. Cand. Bay.	Smooth	1″	Friction	1	Screw	H. Rubber	------------	
147-1052	1.85	A	1″	2½″	G6	S. C. Cand. Bay.	Colored Disc[6]	1″	Friction	1	Screw	H. Rubber	------------	
147-1053	1.75	A	1″	2½″	G6	D. C. Cand. Bay.	Faceted	1″	Friction	2	Screw	H. Rubber	Yes	
147-1054	1.75	A	1″	2½″	G6	D. C. Cand. Bay.	Smooth	1″	Friction	2	Screw	H. Rubber	Yes	
147-1055	1.85	A	1″	2½″	G6	D. C. Cand. Bay.	Colored Disc[6]	1″	Friction	2	Screw	H. Rubber	Yes	
147-1056	1.75	A	1″	2⅝″	G6, NE48	D. C. Cand. Bay.[1]	Faceted	1″	Friction	2	Screw	H. Rubber	Yes	
147-1057	1.75	A	1″	2⅝″	G6, NE48	D. C. Cand. Bay[1].	Smooth	1″	Friction	2	Screw	H. Rubber	Yes	
147-1058	1.85	A	1″	2⅝″	G6, NE48	D. C. Cand. Bay.[1]	Colored Disc[6]	1″	Friction	2	Screw	H. Rubber	Yes	
147-1076	2.00	A	1″	2⅝″	G6, NE48	D. C. Cand. Bay.[2]	Faceted	1″	Friction	2	Screw	H. Rubber	Yes	
147-1077	2.00	A	1″	2⅝″	G6, NE48	D. C. Cand. Bay.[2]	Smooth	1″	Friction	2	Screw	H. Rubber	Yes	
147-1078	2.10	A	1″	2⅝″	G6, NE48	D. C. Cand. Bay.[2]	Colored Disc[6]	1″	Friction	2	Screw	H. Rubber	Yes	
147-1110	1.15	E	11/16″	1⅝″	T3¼	Min. Bay.	Faceted	½″	Threaded	2	Solder	Phenolic	------------	
147-1111	1.15	E	11/16″	1⅝″	T3¼	Min. Bay.	Smooth	½″	Threaded	2	Solder	Phenolic	------------	
147-1112	1.15	E	11/16″	1 7/16″	G3½	Min. Bay.	Faceted	½″	Threaded	2	Solder	Phenolic	------------	
147-1113	1.15	E	11/16″	1 7/16″	G3½	Min. Bay.	Smooth	½″	Threaded	2	Solder	Phenolic	------------	
147-1142	1.10	F	11/16″	1 7/16″	T3¼	Min. Bay.	Lucite	⅝″	Threaded	2	Solder	Phenolic	Yes	
147-1143	1.25	F	11/16″	1 7/16″	T3¼, NE51	Min. Bay.[3]	Lucite	⅝″	Threaded	2	Solder	Phenolic	Yes	
147-1144	1.25	F	11/16″	1 7/16″	T3¼, NE51	Min. Bay.[4]	Lucite	⅝″	Threaded	2	Solder	Phenolic	Yes	
147-1200	1.65	C	1″	2 9/16″	S6	Cand. Screw	Faceted	1″	Threaded	2	Solder	Porcelain	Yes	
147-1201	1.65	C	1″	2 9/16″	S6	Cand. Screw	Smooth	1″	Threaded	2	Solder	Porcelain	Yes	
147-1202	1.75	C	1″	2 9/16″	S6	Cand. Screw	Colored Disc[6]	1″	Threaded	2	Solder	Porcelain	Yes	
147-1209	1.90	C	1″	2¾″	S6	Cand. Screw	Faceted	1″	Threaded	2	Screw	Phenolic	Yes	
147-1210	1.90	C	1″	2¾″	S6	Cand. Screw	Smooth	1″	Threaded	2	Screw	Phenolic	Yes	
147-1211	2.00	C	1″	2¾″	S6	Cand. Screw	Colored Disc[6]	1″	Threaded	2	Screw	Phenolic	Yes	
147-1212	1.90	C	1″	2 7/16″	T4½, NE45	Cand. Screw	Faceted	1″	Threaded	2	Screw	Phenolic	Yes	
147-1213	1.90	C	1″	2 7/16″	T4½, NE45	Cand. Screw	Smooth	1″	Threaded	2	Screw	Phenolic	Yes	
147-1214	2.00	C	1″	2 7/16″	T4½, NE45	Cand. Screw	Colored Disc[6]	1″	Threaded	2	Screw	Phenolic	Yes	
147-1217	1.90	G	1″	1 15/16″	T4½, NE45	Cand. Screw	Lucite	1″	Threaded	2	Screw	Phenolic	Yes	
147-1218	1.60	G	1″	1½″	T3¼, NE51	Min. Bay.[5]	Lucite	1″	Threaded	2	Solder	Phenolic	Yes	
147-1219	2.10	G	1″	2 1/16″	T4½ G6, NE48	D. C. Cand. Bay.[1]	Lucite	1″	Threaded	2	Screw	H. Rubber	Yes	
147-1220	2.25	G	1″	2 1/16″	T4½ G6, NE48	D. C. Cand. Bay.[2]	Lucite	1″	Threaded	2	Screw	H. Rubber	Yes	
147-1600	2.00	D	1″	2⅛″	S6	Cand. Screw	Glass	1⅛″	Threaded	2	Screw	Phenolic	Yes	
147-1604	2.00	D	1″	1 13/16″	G6	S. C. Cand. Bay.	Glass	1⅛″	Threaded	1	Screw	H. Rubber	------------	
147-1605	2.00	D	1″	1 13/16″	G6	D. C. Cand. Bay.	Glass	1⅛″	Threaded	2	Screw	H. Rubber	Yes	

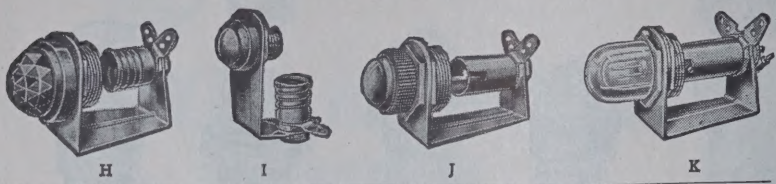
(1) Requires 30,000 ohm external resistor with NE48.
(2) Has built in 30,000 ohm resistor for NE48.
(3) Has built in 200,000 ohm resistor for NE51.
(4) Has built in 100,000 ohm resistor for NE51, brighter glow but decreased life.
(5) Requires 200,000 ohm external resistor for NE51.
(6) See Colored Disc explanation at right.
(7) Max. length from front of panel.

* **COLORED DISCS**—Where this designation (*) appears, a colored plastic disc is placed behind a clear sandblasted (frosted) smooth jewel, to conceal color until lighted. Also prevents external light from giving appearance of bulb being lighted.

In addition, lettering, numerals, or insignia may be printed on a plastic disc back of the jewel, and arranged to be visible either continuously or only after lamp is lighted.

E. F. JOHNSON Company WASECA, MINNESOTA

BRACKET TYPE PILOT LIGHTS AND JEWEL ASSEMBLIES



Cat. No.	List Price	Illustration	Mounting Hole Size	Lgth. Behind Panel	Bulb (1) Shape	Bulb (1) Base	Jewel Type	Jewel Size	Color
147-100	$0.80	H	1"	1½"	G3½, T3¼	Min. Scr.	Faceted (4)	1"	S
147-101	.80	H	1"	1½"	G3½, T3¼	Min. Scr.	Smooth (4)	1"	P
147-103	.85	H	1"	2 1/16"	S6	Cand. Scr.	Faceted (4)	1"	E
147-104	.85	H	1"	2 1/16"	S6	Cand. Scr.	Smooth (4)	1"	C
147-106	.85	H	1"	1½"	G3½, T3¼	Min. Bay	Faceted (4)	1"	I
147-107	.85	H	1"	1½"	G3½, T3¼	Min. Bay	Smooth (4)	1"	F
147-200	.60	I	11/16"	1¼"	G3½	Min. Scr.	Faceted	⅝"	Y
147-201	.60	I	11/16"	1¼"	G3½	Min. Scr.	Smooth	⅝"	
147-203	.65	I	11/16"	1¼"	S6	Cand. Scr.	Faceted	⅝"	C
147-204	.65	I	11/16"	1¼"	S6	Cand. Scr.	Smooth	⅝"	O
147-206	.65	I	11/16"	1"	G3½	Min. Bay.	Faceted	⅝"	L
147-207	.65	I	11/16"	1"	G3½	Min. Bay.	Smooth	⅝"	O
147-300	.40	I	7/16"	1¼"	G3½	Min. Scr.	Faceted	½"	R
147-301	.40	I	7/16"	1¼"	G3½	Min. Scr.	Smooth	½"	
147-303	.45	I	7/16"	1¼"	S6	Cand. Scr.	Faceted	½"	Clear
147-304	.45	I	7/16"	1¼"	S6	Cand. Scr.	Smooth	½"	Red
147-306	.45	I	7/16"	1"	G3½	Min. Bay.	Faceted	½"	Green
147-307	.45	I	7/16"	1"	G3½	Min. Bay.	Smooth	½"	Amber
147-400	.55	J	11/16"	1¼"	G3½, T3¼	Min. Scr.	Faceted (4)	½"	Blue
147-401	.55	J	11/16"	1¼"	G3½, T3¼	Min. Scr.	Smooth (4)	½"	Opal
147-403	.60	J	11/16"	1½"	G3½, T3¼	Min. Bay.	Faceted (4)	½"	——
147-404	.60	J	11/16"	1½"	G3½, T3¼	Min. Bay.	Smooth (4)	½"	
147-406	.55	K	11/16"	1¼"	T3¼	Min. Bay.	Lucite (4)	⅝"	For
147-407	.70	K	11/16"	1¼"	T3¼, NE51	Min. Bay. (2)	Lucite (4)	⅝"	Neon
147-408	.70	K	11/16"	1¼"	T3¼, NE51	Min. Bay. (3)	Lucite (4)	⅝"	DO NOT
147-700	.60	H	11/16"	1¼"	G-3½	Min. Scr.	Faceted	⅝"	Use:
147-701	.60	H	11/16"	1¼"	G-3½	Min. Scr.	Smooth	⅝"	Blue
147-703	.65	H	11/16"	1½"	G-3½	Min. Bay.	Faceted	⅝"	Green
147-704	.65	H	11/16"	1½"	G-3½	Min. Bay.	Smooth	⅝"	Opal

(1) See bulb and base illustrations below.

(2) With 200,000-ohm built-in resistor for NE51.

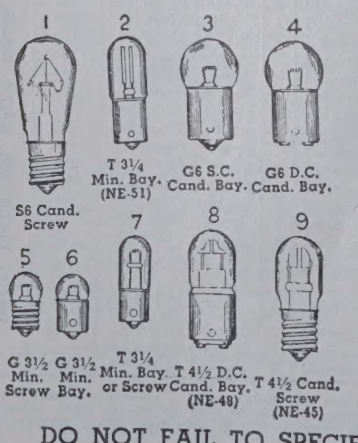
(3) With 100,000-ohm resistor. Brighter glow reduced lamp life.

(4) Bulb removable from front of panel.

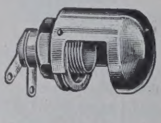
*** See page G-21 for explanation.**

BULB SPECIFICATIONS

Bulbs used on all pilot lights may be identified from these illustrations, but are not included in prices.



PANEL LIGHT



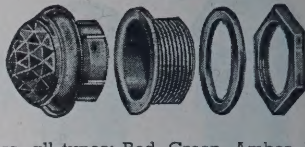
For front panel illumination. Has polished nickel hood, easily removable for lamp replacement; can be rotated to any position. Fits ½" mounting hole. Made for miniature bayonet or screw base, T 3¼ or G 3½, bulbs.

Cat. No.	List Price
147-330—Miniature Screw Base	$0.80
147-329—Miniature Bayonet Base	.90

VARIABLE LIGHT INTENSITY

Pilot lights similar to 147-400, -800, -1110, -1200 can be furnished with either polarized or shutter type variable light intensity jewel holders. Information on request.

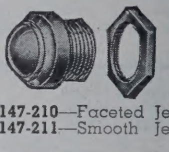
JEWEL ASSEMBLIES



Colors, all types: Red, Green, Amber, Blue, Opal, Clear.

One-inch jewel, polished chrome bezel, with mounting sleeve to fit 1-inch hole, fiber washer and nut.

Cat. No.	List Price
147-110—Faceted Jewel	$0.70
147-111—Smooth Jewel	.70
147-112—Colored Disc*	.80



⅝-inch jewel in polished chrome holder, fits 11/16-inch mounting hole.

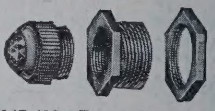
147-210—Faceted Jewel	$0.40
147-211—Smooth Jewel	.40

½-inch jewel, nickel-plated holder and nut, fits 7/16-inch mounting hole.

147-310—Faceted Jewel	$0.25
147-311—Smooth Jewel	.25

⅜-inch jewel, nickel-plated holder and nut, fits 9/32-inch mounting hole.

147-510—Faceted Jewel	$0.20
147-511—Smooth Jewel	.20



½-inch jewel, nickel-plated, threaded holder and mounting sleeve to fit 11/16-inch hole.

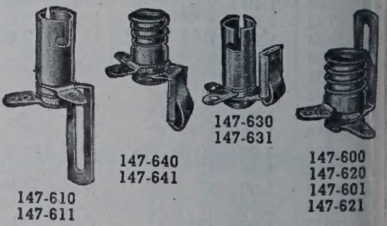
147-410—Faceted Jewel	$0.40
147-411—Smooth Jewel	.40

SPECIAL TYPES

JOHNSON manufactures a complete line of bracket-type pilot lights and jewel assemblies. Illustrated are only a few of the more popular types. JOHNSON can readily fill your requirements for any type, regardless of specifications.

DIAL LIGHT BRACKETS

Brackets insulated on all types. Many other styles and combinations can be furnished from available tools, also with wire leads.



Cat. No.	Socket	List Price
147-600	Min. Screw (Bracket Down)	$0.13
147-601	Min. Screw (Bracket Up)	.13
147-610	Min. Bay. (Bracket Down)	.16
147-611	Min. Bay. (Bracket Up)	.16
147-620	Cand. Screw (Bracket Down)	.15
147-621	Cand. Screw (Bracket Up)	.15
147-630	Min. Bay. (Bracket Down)	.17
147-631	Min. Bay. (Bracket Up)	.17
147-640	Min. Screw (Bracket Down)	.14
147-641	Min. Screw (Bracket Up)	.14

DO NOT FAIL TO SPECIFY COLOR OF JEWELS. PRICES DO NOT INCLUDE BULBS.

GENERAL ELECTRIC

RADIO DIAL LAMPS

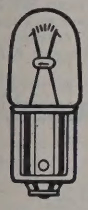
Designed and engineered for the job

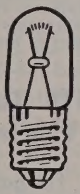
BECAUSE of the vibration conditions under which G-E radio dial lights must operate, General Electric devotes special care to their design and manufacture. Filaments are designed to vibrate without damage and are secured by a shake-proof joint.

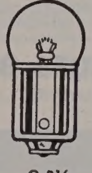
General Electric research is constantly at work to assure the quality and serviceability of G-E radio dial lamps. Shock tests, vibration tests and base torsion tests are used in the laboratory to make certain your customers will get good service from the G-E bulbs you install.

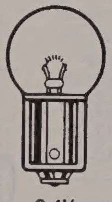
Features like these make it worthwhile for you to sell and install G-E miniature lamps:

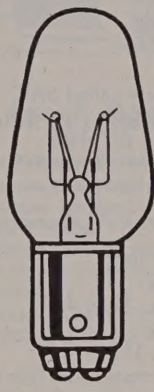
1. *Dependable, trouble-free performance.*
2. *High level of maintained light output.*
3. *Low current consumption.*
4. *Long life.*
5. *Profitable to handle.*
6. *Preferred by both dealers and customers.*

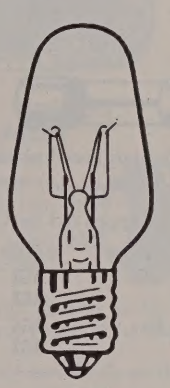

T-3¼
Miniature
Bayonet


T-3¼
Miniature
Screw


G-3½
Miniature
Bayonet


G-4½
Miniature
Bayonet


C-7
Double-Contact
Bayonet


C-7
Candelabra
Screw

SPECIFICATIONS AND PRICES

Lamp Number	40	41	42	43	*44	45	*46	*47	48	49	51	55	*1490	10C7	10C7DC
Volts	6-8	2.5	3.2	2.5	6-8	3.2	6-8	6-8	2	2	7.5	7.0	3.2	115-25	115-25
Amps	0.15	0.50	0.35	0.50	0.25	0.35	0.25	0.15	0.06	0.06	Max.0.25	Max.0.45	0.16	10 watts	10 watts
#Bulb	T-3¼	T-3¼	T-3¼	T-3¼	T-3¼	T-3¼	T-3¼	T-3¼	T-3¼	T-3¼	G-3½	G-4½	T-3¼	C-7	C-7
Base	Min. Screw	Min. Screw	Min. Screw	Min. Bay.	Min. Bay.	Min. Bay.	Min. Screw	Min. Bay.	Min. Screw	Min. Bay.	Min. Bay.	Min. Bay.	Min. Bay.	Cand. Screw	D.C. Bay.
Bead Color	Brown	White		White	Blue		Blue	Brown	Pink					—	—
Price	$0.10T	$0.10T	$0.12T	$0.10T	$0.10T	$0.12T	$0.10T	$0.10T	$0.15T	$0.15T	$0.09V	$0.09V	$0.11T	$0.15T	$0.22T

Bulbs are designated by a letter to indicate shape and a figure to indicate the approximate diameter in eighths of an inch.

* Most popular types.

T After price indicates Federal Excise Tax will be billed as a separate item at 6.3% of list price.

V After price indicates Federal Excise Tax will be billed as a separate item at 1.6% of list price.

GENERAL ELECTRIC

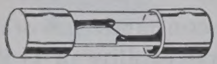
LAMP DEPARTMENT DISTRICT OFFICES

Atlanta 3, Ga.	187 Spring St., N. W.	WAlnut 9767
Boston 10, Mass.	50 High St.	HANcock 1680
Buffalo 2, N. Y.	1 West Genesee St.	Cleveland 3400
Charlotte 2, N. C.	516 Johnston Bldg.	4-8614
Chicago 4, Illinois	230 So. Clark St.	DEArborn 2-4712
Cincinnati 2, Ohio	738-9 Union Trust Bldg.	DUnbar 2460
Cleveland 14, Ohio	1320 Williamson Bldg.	CHerry 1010
Dallas 2, Texas	1801 N. Lamar St.	CEntral 7711
Denver 2, Colorado	1863 Wazee St.	MAin 6141
Detroit 26, Michigan	1400 Book Tower	WOodward 3-6910
N. Kansas City 16, Mo.	200-210 E. 16th Ave.	NOrclay 3568
Los Angeles 13, Cal.	601 W. Fifth St.	MIchigan 8851
Minneapolis 13, Minn.	500 Stinson Blvd.	GRanville 7286
New York 22, N. Y.	570 Lexington Ave.	WIckersham 2-6300
Oakland 7, Cal.	1614 Campbell St.	HIghgate 7340
Philadelphia 2, Pa.	1405 Locust Street	KIngsley 5-3336
Pittsburgh 22, Pa.	535 Smithfield St.	GRant 3272
Portland 9, Oregon	1238 N.W. Gilsan St.	BEacon 2101
St. Louis 1, Mo.	710 N. Twelfth Blvd.	CHestnut 8920

General Office: Nela Park, Cleveland 12, Ohio. GLenville 6600

BUSS Fuses
FUSETRON DUAL-ELEMENT Fuses and Fuse Holders
for Protection of Radios, Instruments and Electronic Equipment

FAST ACTING FUSES for PROTECTION OF INSTRUMENTS, Etc.



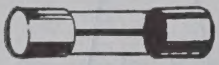
Formerly called 8AG.
Dimension 1/4 x 1 inch, Glass tube.

Provide high speed action necessary to protect sensitive instruments.

Test specification—carry 100%, open at 200% in 5 seconds.

Listed as approved by Underwriters' Laboratories.

Voltage	Symbol	Amperes	List Price
250 or less	**MJB**	1/500	$0.70
"	**MJB**	1/200	.30
"	**MJB**	1/100 or 1/32	.20
"	**MJB**	1/16	.15



Formerly called 8AG
Dimension 1/4 x 1 inch, Glass tube.

Provide high speed action necessary to protect instruments.

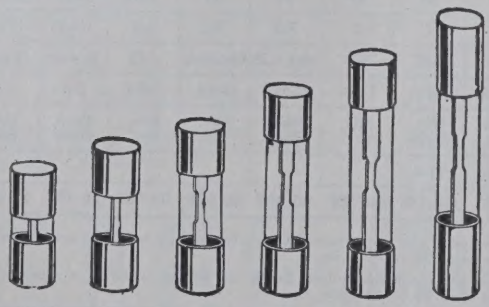
Test specification—carry 100%, open at 200% in 5 seconds.

Listed as approved by Underwriters' Laboratories.

Voltage	Symbol	Amperes	List Price
250 or less	**AGX**	1/8	$0.15
"	**AGX**	1/4, 3/8 or 1/2	.12
125 or less	**AGX**	3/4	.12
"	**AGX**	1, 1½ or 2	.10

BUSS FUSES — SFE STANDARD

All cuts actual size. Fuses of different amperages are of different lengths — to make it impossible to insert too large a size — thereby preventing over-fuseing.



Glass tube — diameter 1/4 inch. Length as per table below.

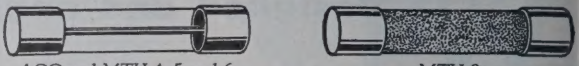
Test specification—carry 100%, open at 125% in 1/2 hour.

Listed as approved by Underwriters' Laboratories.

Made according to specifications of Society of Automotive Engineers.

Voltage	Symbol & Amperes	Length Inches	Pounds per 100	List Price
32 or less	**SFE4**	5/8	.70	$0.05
"	**SFE6**	3/4	.71	.05
"	**SFE9**	7/8	.72	.04
"	**SFE14**	1 1/16	.77	.04
"	**SFE20**	1¼	.83	.035
"	**SFE30**	1 7/16	1.05	.06

BUSS GLASS TUBE FUSES, 1/4 x 1 1/4 inch



AGC and MTH 4, 5 and 6 MTH 8

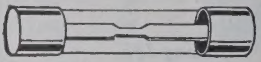
Formerly called 3AG

Test specification—carry 110%, open at 135% in 1 hour.

Listed as approved by Underwriters' Laboratories.

Shipping weight 0.8 lbs. per 100.

Voltage	Symbol	Amperes	List Price
250 or less	**AGC**	1/8, 1/4, 3/8, 1/2 or 3/4	$0.15
"	**AGC**	1, 1½, 2 or 3	.07
"	**MTH**	4, 5 or 6	.10
"	**MTH**	8	.15



Formerly called 3AG

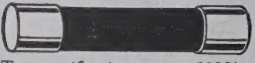
Test specification—carry 110%, open at 135% in 1 hour.
Shipping weight 0.8 lbs. per 100.

Voltage	Symbol	Amperes	List Price
32 or less	**AGC**	5, 6 or 7½,	$0.05
"	**AGC**	10 or 15,	.04
"	**AGC**	25 or 30	.05

20 ampere size is an SFE 20 fuse.

Sizes larger than 30 ampere are not recommended as clips or fuse holders would not permit fuse to carry such high currents. If surges or starting currents make heavier fuse necessary, use MDL Fusetron dual-element fuses.

BUSS BAKELITE TUBE FUSES, 1/4 x 1 1/4 inch



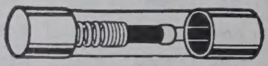
Formerly called 3AB

Test specification—carry 110%, open at 135% in 1 hour.
Shipping weight 1 lb. per 100.

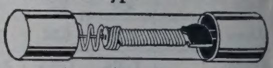
Voltage	Symbol	Amperes	List Price
250 or less	**ABC**	10, 12 or 15	$0.15

FUSETRON FUSES, 1/4 x 1 1/4 inch

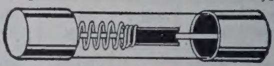
Glass tube — Dual-Element type



1/100 and 1/32 amp.



1/16 to 2 amp.



2 1/2 to 30 amp.

A FUSE WITH A LONG TIME-LAG

These fuses avoid needless blows from starting currents or surges. They have a fuse link which operates only on very high overloads or short-circuits — they have a thermal cutout which functions on low overloads — the thermal cutout cannot operate quickly at any load, hence long time-lag is obtained. Yet protection is afforded against short-circuits or continued overloads.

Test specification—carry 110%, open at 135% in 1 hour.

Approximate blowing time: at 200% load 25 seconds
at 300% " 8 "
at 500% " 3 "

125 and 250 volt sizes listed as approved by Underwriters' Laboratories.

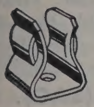
Shipping weight 0.9 lbs. per 100.

Voltage	Symbol	Amperes	List Price
250 or less	**MDL**	1/100, 1/32, 1/16, 1/10, 15/100, 2/10, 3/10, 4/10, 1/2, 6/10, 8/10 or 1	$0.25
125 or less	**MDL**	1¼, 1 6/10, 2, 2½	.20
32 or less	**MDL**	3 2/10, 4, 5, 6¼, 8, 10, 15, 20, 25 or 30	.20

BUSS Fuses
FUSETRON DUAL-ELEMENT Fuses and Fuse Holders
for Protection of Radios, Instruments and Electronic Equipment

BUSS FUSE CLIPS for ¼ inch Fuses

(SFE4, 6, 9, 14, 20, AGX, AGC, ABC, MDL, MJB, MTH fuses)



Spring bronze clips are made of Herculoy — a bronze of distinctly superior quality for spring clips. This metal gives clips great gripping strength and ability to retain spring under adverse conditions.

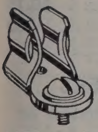
Beryllium copper clips combine low electrical resistance with great gripping strength. This means maximum electrical conductivity and results in cooler operation of clips and fuse.

Size of mounting hole; .130 to .135 inch.
Center of hole to back-stop; .125 to .135 inch.
Min. length of contact surface; 9/32 inch
Maximum height; 14/32 inch
Maximum width; 11/32 inch
Shipping weight; 3 lbs. per 100

		List Price
4548	Spring bronze clip, Nickel plated.	$0.02
4592	Beryllium copper clip, Silver plated.	.05

BUSS CLIP ASSEMBLIES for ¼ inch Fuses

(SFE4, 6, 9, 14, 20, AGX, AGC, ABC, MDL, MJB, MTH fuses)

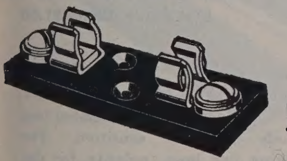


Clips as described above. Brass terminal. 3/16 inch 6-32 washer head terminal screw. ¼ inch 4-40 flat head iron mounting screw.
Shipping weight; 1 lb. per 100

4431 includes No. 4548 spring bronze clip, terminal screw, terminal and mounting screw. List Price $0.40
4432 includes No. 4592 beryllium copper clip, terminal screw, terminal and mounting screw. List Price $0.40

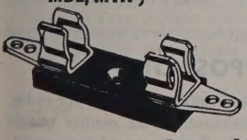
BUSS FUSE BLOCKS

Bakelite base blocks 3/16 inch thick. Countersunk mounting holes for No. 6 flat head screws. Brass No. 6 terminal screws. No. 4548 spring bronze clips.



Full base, Screw terminal Blocks

For Fuses	One Pole	List Price	Two Pole	List Price	Three Pole	List Price
SFE4	4511	$0.35	4521	$0.70	4531	$1.00
SFE6	4516	.35	4526	.70	4536	1.00
SFE9	4517	.35	4527	.70	4537	1.00
SFE14, AGX, MJB	4514	.35	4524	.70	4534	1.00
SFE20, ABC, AGC, MDL, MTH	4512	.35	4522	.70	4532	1.00



Small base, Solder Terminal Blocks

For Fuses	One Pole	List Price	Two Pole	List Price	Three Pole	List Price
SFE14, AGX, MJB	4520	$0.15	4485	$0.30	4403	$0.45
SFE20, ABC, AGC, MDL, MTH	4405	.15	4408	.30	4411	.45

Other standard fuse blocks and special fuse blocks

If blocks shown do not fit your requirements ask for information on other standard types and sizes.

If special fuse block is required, send description or sketch, showing type of fuse to be used, number of circuits, type of terminals, etc. We welcome such inquiries.

BUSS FUSE HOLDERS

Make it convenient to mount fuse on any equipment.

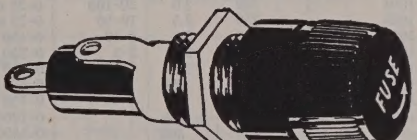
Changing or inspection of fuse is easy and quick.

Holder has removable knob. Fuse projects beyond body of holder and is not held tight on other end when knob is removed.

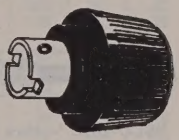
Fuse and contacts are protected from dirt and fumes.

Good contact on fuse is made certain by strong coil spring pressure. Poor contact heating that often causes fuse to blow needlessly is eliminated.

Holder bodies are made of black bakelite. All current carrying parts are of brass or copper. Terminals and all contact parts are bright alloy plated.



Panel Mounted Holders for ¼ inch Fuses



Holders are inserted through hole in panel and are locked in place by nut on holder. They can be used on panels up up to 5/16 inch thick.

Bayonet type knob requires only quarter turn to remove fuse. No screw driver is needed.

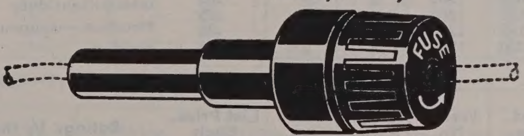
Side terminal is held mechanically as well as by solder. Heat of soldering wire to it will not cause it to loosen or come off.

Vibration will not cause failure of terminals as they are designed to stand severe service.

Neoprene washer and steel locking nut (zinc plated, chromate dipped) furnished with each holder.

Wire hole in terminals; .115 inch.
Normal current carrying capacity; 15 amperes.
Listed as Approved by Underwriters' Laboratories.
Shipping weight; 4 lbs. per 100

		List Price
HJM	for ¼ x 1 inch fuses (AGX, MJB, SFE 14)	$0.40
HKP	for ¼ x 1¼ inch fuses (ABC, AGC, SFE20, MDL, MTH)	.40



IN-THE-LINE HOLDERS for ¼ inch fuses

These holders are for mounting fuse in wire. Holders consist of body and bayonet type knob — two terminal contacts ready to be crimped on ends of wire — a pressure spring that is used under contact in base of holder.

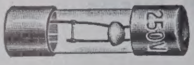
Holders can also be mounted in panel up to 5/16 inch thick by means of a No. C-1437-018-27 Tinnerman nut (Nut not furnished). Flat spot on holder permits it to be locked against rotation.

Normal current carrying capacity: 15 amperes.
Shipping weight, holders: 4 lbs. per 100.

Type		List Price
HDI	for ¼ x 1 inch fuses (AGX, MJB, SFE 14) Takes No. 18 or smaller wires.	$0.20
HDJ-A	for ¼ x 1¼ inch fuses (ABC, AGC, MDL, MTH, SFE 20) Takes No. 18 or smaller wires.	.20
HDJ-B	for ¼ x 1¼ inch fuses (as above) Takes No. 14 or 16 wires.	.20

LITTELFUSE *"Quicker than a Short Circuit"*

8AG INSTRUMENT *high speed* LITTELFUSES

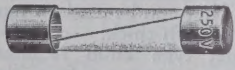


Locked Cap Assembly and other exclusive Littelfuse features for protection of delicate test equipment, galvanometers, microammeters, milliammeters, voltmeters, etc. Glass-enclosed: 1 x ¼" dia., accurately rated, high speed action, short time lag. Voltage ratings up to 250 V., AC or DC. For higher voltages use fuses in series.

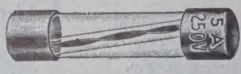
Catalog No.	Former No.	Amp. Rating	Max. Volt.	Ohms Res. @ 5 m.a.	APPLICATIONS			List Price Ea.
					Volt-meters Ohms P.V.	All Magnetic Movement Milliammeters	Thermo-couples	
361.005	1000	1/200	250	480.	Over 1000	Galvanometers	Up to 0–5	$0.30
361.010	1001	1/100	250	160.0	1000	Up to 0–1	0–5 to 0–10	.20
361.031	1002	1/32	250	40.0	500–100	0–1 to 0–10	0–10 to 0–25	.20
361.062	1003	1/16	250	5.0	100–500	0–10 to 0–25	0–25 to 0–60	.15
361.125	1004	⅛	250	2.0	20–100	0–25 to 0–75	0–75 to 0–150	.15
361.250	1005	¼	250	3.5	10–20	0–75 to 0–150	0–115 to 0–200	.15
361.375	1006	⅜	250	3.0	5–10	0–150 to 0–250	0–200 to 0–300	.15
361.500	1007	½	250	2.0	3–5	0–250 to 0–350	0–300 to 0–400	.15
361.750	1007-A	¾	250	2.0		0–350 to 0–500	0–400 to 0–600	.15
361001.	1008	1	250	.24		0–500 to 0–750	0–600 to 0–1000	.10
36101.5	1008-A	1½	250	.13		0–750 to 0–1000	0–1000 to 0–1500	.10
361002.	1009	2	250	.10		0–1000 to 0–1500	0–1500 to 0–2000	.10
361003.		3	32	.043		0–1500 to 0–2000	0–2000 to 0–3000	.10
361005.		5	32	.030		0–2000 to 0–4000	0–3000 to 0–5000	.10

UNDERWRITERS' APPROVED 3 AG "LITTELFUSES"— 250 Volts

"SLO-BLO"—thru ¼ Amp.



STANDARD—½ to 3 Amp.



SLEEVE TYPE—4 to 8 Amp.

Littelfuse is the first manufacturer to receive Underwriters' approval of 3 AG fuses (1¼" x ¼" dia.) in current ratings over 3 amps. at 250 volts. Following list gives standard approved ratings carried in stock. **However, the Underwriters' approval to Littlefuse is a blanket approval from ⅛ to 6 amps. Intermediate ratings can be furnished without separate approval,** at a small extra charge. Littelfuse name, the amperage and voltage rating must appear on the fuse caps of approved-fuses. Many new fields are opened up by the extension of approval from 3 to 6 amps., where formerly bulky cartridges or plug fuses and their mountings were used. **This applies specially to electrical appliances, heavy duty power supplies, amplifiers, radios, communication equipment, electronic devices, motors, etc.**

Cat. No.	Former No.	Amp. Rating	Ohms Res.	List Price, Each
313.010*	1259	1/100	33.50	$0.25
313.032*	1261	1/32	3.90	.25
313.062	1262	1/16	90	.25
313.125	1263	⅛	29	.25
313.187	1263-A	3/16	20	.25
313.250	1264	¼	9.6	.25

Ratings thru ¼ Ampere—250 Volts

"Slo-Blo" fuses with high time lag—for circuits with equipment having high inductive or capacitative surges, heavy starting currents and intermittent-duty circuits. Anti-fatigue construction—compound element with spring and resistor.

Cat. No.	Former No.	Amp. Rating	Ohms Res.	List Price, Each
312.500	1046	½	3.1	$0.15
312.750	1047	¾	1.9	.15
312001.	1040	1	.24	.07
31201.5	1041	1½	.15	.07
312002.	1042	2	.10	.07
312003.	1043	3	.06	.07

Ratings ½ thru 3 Amp.—250 Volts

Quick-acting Standard Littelfuses with low time lag. Protective-coated elements prevent oxidation, promote clean fusion break. Diagonal element for accurate alignment, calibration.

Cat. No.	Former No.	Amp. Rating	Ohms Res.	List Price, Each
312004.	1357	4	.046	$0.10
312005.	1358	5	.034	.10
312006.	1359	6	.030	.10

Std. Pkg. 100, wt., 1½ lbs.

Ratings 4 thru 6 Amp.—250 Volts

Standard, quick-acting Littelfuses with diagonal elements. Low time lag—quick-acting.

Std. Pkg. 100—wt., 1½ lbs.

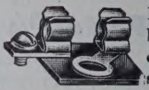
*Not Und. Approved.

3 AB "LITTELFUSES"—250 Volts

Smallest, highest rated Underwriters' Laboratory approved fuses made. Bakelite-enclosed, arc-quenching, powder-filled fuses. Medium time lag.

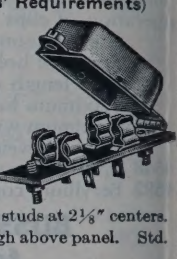
Catalog No.	Former No.	Amp. Rating	List Price, Each
314008		8	$0.15
314010	32155	10	.15
314012	32156	12	.15
314015	32159	15	.15
314020	32160	20	.15

METER BACK MOUNTING



Cat. No. 383002 (1059)—Mounts directly on meter binding post. Will not touch other posts on smallest standard meter. Linen bakelite base, 1" x 1⅛". Length over screw terminal, 1½". Std. Pkg. 20. Wgt. ½ lb. **List Price Each..........$0.20**

FUSE MOUNTINGS (3AG)
Hinged Cover Type
(Meets Underwriters' Requirements)



Cover fibre-lined. Metal shielded cover hinged to bakelite base. Terminal mounting extends through insulated base. Nut lightly staked to cover to prevent loss. Requires 1⅝" x 1⅛" knockout hole in panel. Two 6-32" x 5/16" mounting studs at 2⅛" centers. Base 2½" x 1¼". ¾" high above panel. Std. Pkg. 20.

Cat. No.	List Price Each
351009 (1237A)—Double Pole	$0.75
351005 (1379)—Single Pole	.50

NEON TESTERS

Low Voltage tester (illustrated) for 5 to 50 V AC or DC. For automotive, heating and vent., telephone, aircraft, battery service, radio service (low volt. filament circuits, "A" batteries), for testing polarity. Ten-inch leads with alligator clips. Full directions.

No. 202002 Low Volt. Tattelite tester (5420).

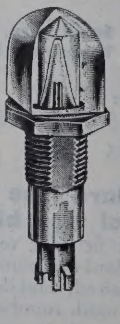
List Price, Each $1.50

High Voltage "Tattelite" tester (not shown) 60–500V AC, 90–500V DC. Molded casings, insulated test prods—unusually sensitive. For testing live lines, polarity, for detecting blown fuses, open circuits, grounded wires, approximate voltage (110, 220, 440, etc.). Detailed instructions.

No. 201002 High Volt. Tattelite tester (5076)

List Price, Each $1.00

"POST-LITE"



Neon indicating light for radio, television, radar control panels and other electrical equipment. For 65–130V AC, 90–130V DC. For 230V, 100,000 Ohm resistor may be added. Molded, clear plastic—head, ⅝" square, overall length 2¼". Under panel length 1½" — ½" clearance hole. Wt. 11 gms. Std. pkg.—100.

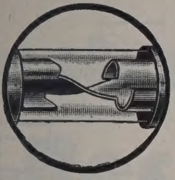
No. 201005 Post-Lite—

List Price, Each $0.80

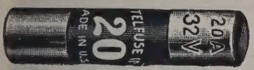
LITTELFUSE "Quicker than a Short Circuit"

AIRCRAFT LITTELFUSES—ANTI-VIBRATION TYPE

Especially designed for Aircraft Service. Characteristics: High Mechanical Strength—Resistance to Fatigue—Long Vibration Life



4 AG Aircraft Fuse showing reinforced twisted element



Bakelite-enclosed 4 AB Fuse

CONSTRUCTION: Glass-enclosed. Littelfuse Locked Cap Assembly (no cements) prevents loosening of caps. High visibility transparent label for amperage. Elements mechanically depolarized by twisting at 90° (see illustrations) are braced against extreme vibration. "Gooseneck" non-crystallizing fuse element takes up expansion and contraction. Ratings 5 amps. or less use Spring and Link. Service life six times simple wire. The 4 AG and 5 AG sizes are supplied for Aircraft Services for their strength and greater carrying capacity than 3 AG fuses.

BAKELITE-ENCLOSED: 4 AB and 5 AB fuses recommended where severe overloads might shatter glass.

CURRENT RATING: Rated to NEC specifications to carry 10% overload indefinitely, to blow on 35% overload within 1 hr., and 100% overload within 2 min.

VOLTAGE RATING: Voltage at which fuses will break without arcing over, or bursting under short circuit conditions.

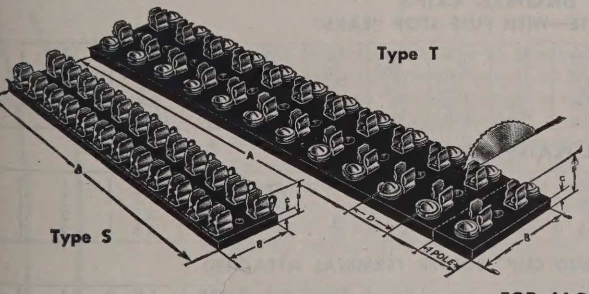
VIBRATION FACTOR: Minimum hours these fuses endure our Magnetic Vibrator operating 120 cycles a second, while carrying the rated current. Acceleration is 10 times the worst field conditions.

ibra-tion Factor	4AG "LITTELFUSES" 1¼" x 9/32" Dia. Unit Wt.—3.5 Gms.					
	Cat. No.	Former No.	Amp. Rating	Max. Volt.	Ohms Res.	**Price, Each**
100+	**'Slo-Blo"**					
100+	413001.	1091C	1	250	.71	$0.25
100+	413002.	1092C	2	250	.094	.25
500+	413003.	1093C	3	250	.059	.25
500+	413005.	1094C	5	32	.023	.25
500+	**Aircraft**					
500+	411010.	1095	10	32	.016	.13
500+	411015.	1096	15	32	.010	.13
500+	411020.	1097	20	32	.008	.13
500+	411025.	1098	25	32	.007	.13
500+	411030.	1099	30	32	.007	.13
500+	411035.	—	35	32	.006	.18
500+	411040.	1100	40	32	.004	.20

4AB "LITTELFUSES" 1¼" x 9/32" Dia. Unit Wt.—3.75 Gms.					
Cat. No.	Former No.	Amp. Rating	Max. Volt.	Ohms Res.	**Price, Each**
414001.	1091B	1	250	.39	$0.25
414002.	1092B	2	250	.16	.25
414003.	1093B	3	250	.055	.25
414005.	1094B	5	115*	.041	.25
414010.	1095B	10	115*	.016	.25
414015.	1096B	15	115*	.012	.25
414020.	1097B	20	32	.008	.25
414025.	1098B	25	32	.007	.25
414030.	1099B	30	32	.007	.25
414035.	1100B	35	32	.006	.25
414040.	—	40	32	.003	.25

* Good for power supplies up to 25 KVA at 115V—400 cycles.

5AG "LITTELFUSES" 1½" x 13/32" Dia. Unit Wt.—8.5 Gms.					
Cat. No.	Former No.	Amp. Rating	Max. Volt.	Ohms Res.	**Price, Each**
"Slo-Blo"					
513001.	1160C	1	250	.88	$0.25
513002.	1161C	2	250	.24	.25
513003.	1162C	3	250	.18	.25
513005.	1163C	5	32	.05	.25
Aircraft					
511010.	1164	10	32	.039	.15
511015.	1165	15	32	.013	.15
511020.	1166	20	32	.013	.15
511025.	1442	25	32	.030	.15
511030.	1167	30	32	.013	.15
511035.	1472	35	32	.008	.15
511040.	1168	40	32	.010	.15
511050.	1169	50	32	.009	.18
511060.	1222	60	32	.010	.18



NEW FUSE MOUNTING PANELS

Open type fuse panels, stocked in 12-pole units as shown—we cut them to 1, 2, 3, 4 or more poles as ordered, or you may cut them in your plant (⅛" allowance for saw cut).

Fuse Type	Mtg. Type	Dim. "B"	Dim. "C"	Dim. "D"	Dim. "E"
8AG	S	1⅜	3/16	⅝	21/32
3AG	S	1⅝	3/16	⅝	21/32
3AG	T	2⅜	7/32	29/32	11/16
4AG	T	2⅜	7/32	29/32	13/16
5AG	T	2¾	9/32	9/32	35/32

Mountings with Solder Terminals—Type "S". Phosphor-Bronze, bright-dipped finish "Lug-Clips" are firmly anchored to black Bakelite base—have non-turning anchors. For 8AG and 3AG size fuses.

Mountings with Screw Terminals—Type "T". Spaced to U/L requirements for equipment circuit protection. Nickel plated brass screw terminals, nickel plated fuse clips. Type 356 (3AG) and type 556 (5AG or Midget) have cupped wire-retaining washers under terminal screws as required by U/L. Type 456 (4AG) has lock washers or terminals.

FOR 3AG FUSES—TYPE "T"

Catalog No.	No. Poles	Dim. "A"	List Price, Each
356001	1	25/32	$0.35
356002	2	1 11/16	0.70
356003	3	2 19/32	1.05
356004	4	3½	1.40
356005	5	4 13/32	1.75
356006	6	5 5/16	2.10
356007	7	6 7/32	2.45
356008	8	7⅛	2.80
356009	9	8 1/32	3.15
356010	10	8 15/16	3.50
356011	11	9 27/32	3.85
356012	12	10¾	4.20

FOR 4AG FUSES—TYPE "T"

Catalog No.	No. Poles	Dim. "A"	List Price, Each
456001	1	25/32	$0.40
456002	2	1 11/16	.75
456003	3	2 19/32	1.10
456004	4	3½	1.45
456005	5	4 13/32	1.80
456006	6	5 5/16	2.15
456007	7	6 7/32	2.50
456008	8	7⅛	2.85
456009	9	8 1/32	3.20
456010	10	8 15/32	3.55
456011	11	9 27/32	3.90
456012	12	10¾	4.25

FOR 5AG FUSES—TYPE "T"

556001	1	27/32	$0.50
556002	2	1 13/16	.95
556003	3	2 25/32	1.40
556004	4	3¾	1.85
556005	5	4 23/32	2.30
556006	6	5 11/16	2.75
556007	7	6 21/32	3.20
556008	8	7⅝	3.65
556009	9	8 19/32	4.10
556010	10	9 9/16	4.55
556011	11	10 17/32	5.00
556012	12	11½	5.45

FOR 3AG FUSES—TYPE "S"

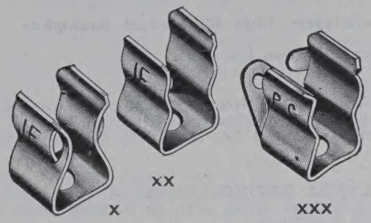
Catalog No.	No. Poles	Dim. "A"	List Price, Each
357001	1	½	$0.15
357002	2	1⅛	.30
357003	3	1¾	.45
357004	4	2⅜	.60
357005	5	3	.75
357006	6	3⅝	.90
357007	7	4¼	1.05
357008	8	4⅞	1.20
357009	9	5½	1.35
357010	10	6⅛	1.50
357011	11	6¾	1.65
357012	12	7⅜	1.80

FOR 8AG FUSES—TYPE "S"

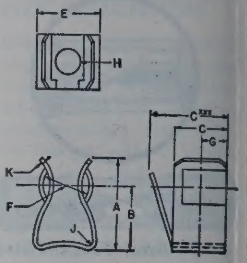
387001	1	½	$0.15
387002	2	1⅛	.30
387003	3	1¾	.45
387004	4	2⅜	.60
387005	5	3	.75
387006	6	3⅝	.90
387007	7	4¼	1.05
387008	8	4⅞	1.20
387009	9	5½	1.35
387010	10	6⅛	1.50
387011	11	6¾	1.65
387012	12	7⅜	1.80

LITTELFUSE *"Quicker than a Short Circuit"*

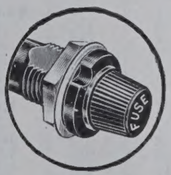
LITTELFUSE BERYLLIUM COPPER AND PHOSPHOR BRONZE FUSE CLIPS



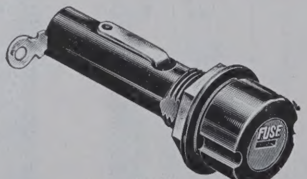
Littelfuse fuse clips are available in three standard styles: "X," with "ears" or fuse stops; "XX," earless; and "XXX," "Lug-Clips," a new **Littelfuse** clip having a lug or solder terminal made as an integral part of the clip. All styles are furnished in either Phosphor-Bronze or Beryllium Copper.



Catalog Number	Former Number	Fuse Adaptation	Type	DIMENSIONS A	B	C	E	F	G	H	Unit Wt. grams	Std. Pkg. 100 Wt.—lbs.	List Price Each
		BERYLLIUM COPPER CLIPS											
		SILVER PLATED—WITH FUSE STOP "EARS"											
121001	1216B	SFE, 3AG & 8AG Fuses	X	29/64	1/4	5/16	11/32	1/4	5/32	.131	1	1	$0.05
123001	1217B	4AG & 4AB Fuses	X	9/16	3/8	13/32	.385	9/32	3/16	.171	1.6	1	.08
125001	1218B	5AG, Hi-Voltage-Midget	X	3/4	1/2	7/16	15/32	13/32	7/32	.196	3	2	.15
127001	1219	N.E.C.-30 Fuses	X	13/16	9/16	19/32	5/8	9/16	1/4	.203	5.5	2	.18
129001	1221	Standard Hi-Voltage	X	1 7/32	13/16	.750	7/8	13/16	5/16	.265	14.5	4	.40
		SILVER PLATED—EARLESS TYPE											
121002	1417	SFE, 3AG & AB, & 8AG	XX	29/64	1/4	5/16	11/32	1/4	5/32	.131	1	1	.05
123002	1437	4AG & 4AB	XX	9/16	3/8	13/32	.385	9/32	3/16	.171	1.6	1	.08
125002		5AG, Hi-Voltage-Midget	XX	3/4	1/2	7/16	15/32	13/32	7/32	.196	3	2	.15
127002	1475	N.E.C.-30 Fuses	XX	13/16	9/16	19/32	5/8	9/16	1/4	.203	5.5	2	.18
129002	1476	Standard Hi-Voltage	XX	1 7/32	13/16	.750	7/8	13/16	5/16	.265	14.5	4	.40
		SILVER PLATED—"LUG-CLIP"—SOLDER TERMINAL ATTACHED											
121004	New	SFE, 3AG, AB, & 8AG	XXX	29/64	1/4	37/64	11/32	1/4	5/32	.131	1.2	1	.08
123004	New	4AG Fuses	XXX	9/16	3/8	19/32	.385	9/32	3/16	.171	1.7	1	.12
125004	New	5AG & Midget Fuse	XXX	3/4	1/2	5/8	15/32	13/32	7/32	.196	3.5	2	.20
		PHOSPHOR BRONZE CLIPS											
		BURNISHED NICKEL PLATE—WITH FUSE STOP "EARS"											
101001	1011B	SFE, 3AG & AB, & 8AG	X	29/64	1/4	5/16	11/32	1/4	5/32	.131	1	1	.02
103001	1319	4AG & 4AB	X	9/16	3/8	13/32	.385	9/32	3/16	.173	1.7	1	.04
105001	2048	5AG, Hi-Voltage-Midget	X	3/4	1/2	7/16	15/32	13/32	7/32	.196	3.2	2	.05
107001	5048	N.E.C.-30 Fuses	X	13/16	9/16	19/32	5/8	9/16	1/4	.203	5.8	2	.06
109001	1463	Standard Hi-Voltage	X	1 7/32	13/16	.750	7/8	13/16	5/16	.265	15.6	4	.16
		BURNISHED NICKEL PLATE—EARLESS TYPE											
101002	125-2	1AG, 3AG & AB, 7AG & 8 AG	XX	29/64	1/4	5/16	11/32	1/4	5/32	.131	1	1	.02
104002		4AG & 4AB	XX	9/16	3/8	13/32	.385	9/32	3/16	.173	1.7	1	.04
105002	2049B	5AG, Hi-Voltage-Midget	XX	3/4	1/2	7/16	15/32	13/32	7/32	.196	3.2	2	.05
107002	SP-178	N.E.C. Bantam Fuses	XX	13/16	9/16	19/32	5/8	9/16	1/4	.203	5.8	2	.06
		BRIGHT-DIP PHOSPHOR BRONZE—"LUG CLIP" SOLDER TERMINAL ATTACHED											
101003		1AG, 3AG & AB, 7AG & 8AG	XXX	29/64	1/4	37/64	11/32	1/4	5/32	.131	1.2	1	.03
103003		4AG & 4AB	XXX	9/16	3/8	19/32	.385	9/32	3/16	.171	1.7	1	.05
105003		5AG, Hi-Voltage-Midget	XXX	3/4	1/2	5/8	15/32	13/32	7/32	.196	3.5	2	.08



Finger Operated Knob



341001

"LITTELFUSE"
FUSE EXTRACTOR POSTS

Quicker, safer method for mounting and changing fuses. Held in end of removable knob, fuse is easily replaced by unscrewing knob. Available with finger-operated knob, screw driver slot knob, and finger operated with keep chain.

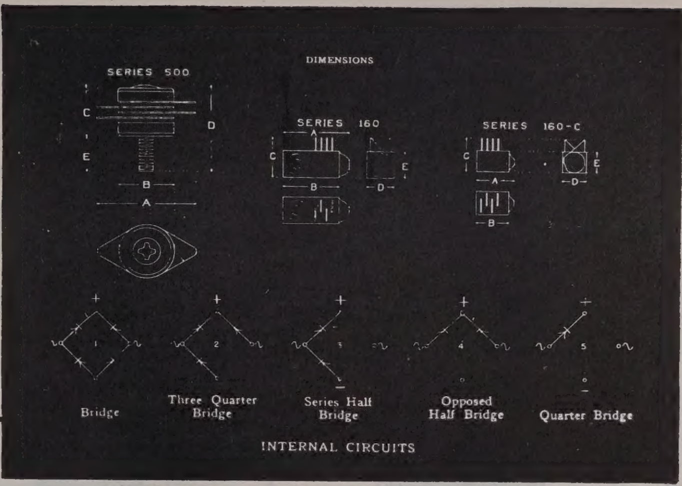
Catalog No.	Former No.	Descr.—Knob, How Operated	Mtg. Hole	Length Under Panel	Wt. Grams	List Price Each
341001	1075S	3AG—Screw Driver	.495″ dia.*	2 3/32	15.0	$0.45
342001	1075F	3AG—Finger	.495″ dia.*	2 7/32	14.3	.45
371001	1087S	8AG—Screw Driver	.495″ dia.*	2 3/32	15.3	.45
372001	1087F	8AG—Finger	.495″ dia.*	2 7/32	14.3	.45
442002	1212D	4AG—Finger, Pressurized	5/8″ dia.—Rd.	2 7/8	45.3	3.00
442001	1212B	4AG—Finger	.623 dia.†	2 13/16	24	.70

*With flat .224″ from C.L.

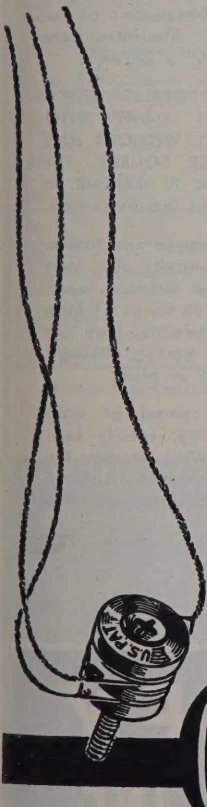
†With flat .250″ from C.L.

Conant Instrument Rectifiers

"STANDARD SINCE 1933"



Series	Type	Body Color	Internal Circuit	Mounting	Number of Terminals	Weight (Grams)	Dimensions (Inches)					Net Price
							A	B	C	D	E	
SERIES 500	M	YELLOW	1	6-32 STUD	4	12.718	.890	.500	.485	.800	.315	$2.10
	TH	BROWN	2	6-32 STUD	4	11.833	.890	.500	.479	.800	.321	1.86
	HS	BLACK	3	6-32 STUD	3	10.631	.890	.500	.445	.800	.355	1.53
	T	RED	4	6-32 STUD	3	10.631	.890	.500	.445	.800	.355	1.53
	H	GREEN	5	6-32 STUD	2	9.072	.890	.500	.400	.675	.275	1.20
SERIES 160	B	YELLOW	1	#2 SCREW	4	2.531	.690	.590	.375	.250	.250	2.10
	BTH	BROWN	2	#2 SCREW	4	2.183	.690	.590	.375	.250	.250	1.86
	BHS	BLACK	3	#2 SCREW	3	1.824	.690	.590	.375	.250	.250	1.53
	BT	RED	4	#2 SCREW	3	1.824	.690	.590	.375	.250	.250	1.53
	BH	GREEN	5	#2 SCREW	2	1.477	.690	.590	.375	.250	.250	1.20
SERIES 160-C	B-C	YELLOW	1	FUSE CLIP	4	1.743	.345	.297	.310	.220	.200	2.10
	BTH-C	BROWN	2	FUSE CLIP	4	1.650	.345	.297	.310	.220	.200	1.86
	BHS-C	BLACK	3	FUSE CLIP	3	1.385	.345	.297	.310	.220	.200	1.53
	BT-C	RED	4	FUSE CLIP	3	1.385	.345	.297	.310	.220	.200	1.53
	BH-C	GREEN	5	FUSE CLIP	2	1.293	.345	.297	.310	.220	.200	1.20



- ★ Highest rectification efficiency for greatest instrument sensitivity.
- ★ Exceptional stability insures permanent instrument calibration.
- ★ Exclusive Conant Complete Color Code simplifies identification of type and terminal polarity.
- ★ Lead wires WELDED to terminals.
- ★ Sealed against moisture to insure permanent characteristics.
- ★ The only rectifiers with a NO-TIME LIMIT guarantee.
- ★ Manufactured by the exclusive Conant process from domestically produced materials only.
- ★ Life tests in continuous operation since June 1, 1934 prove Conant rectifiers do not deteriorate with age or continued normal service.
- ★ Sold by leading radio jobbers everywhere. Consult your local jobber, or your nearest Conant Representative.

SERIES 500 UNITS are for general applications requiring greater output current for meters, relays or other apparatus requiring more than 1 milliampere. Recommended for all such applications at commercial and the lower audio frequencies. Will also operate up to 1,000,000 c.p.s. in special applications wherein accuracy of readings is not essential.

SERIES 160 and 160-C are for applications requiring good frequency response over the entire commercial and audio range and especially when the meter, relay or other apparatus requires less than 1 milliampere for operation. In some special applications these units may be operated at frequencies up to 75,000,000 c.p.s. with special circuit treatment.

SPECIAL TYPES are available in both series 500 and 160-C. When requesting a quotation on a special type include a sketch of the rectifier required or a circuit diagram showing source and frequency of the input voltage, resistance and kind of load, required load current and the ambient temperatures.

SERIES 500 Disc diameter .500 inch. Area each disc .15 square inch. Furnished with 3" braided, tinned copper leads. Finished in synthetic lacquer-enamel.

SERIES 160 Disc diameter .160 inch. Area each disc .02 square inch. Furnished with 3" stranded, tinned thermoplastic covered copper leads. Molded phenolic case. Assembly sealed with specially developed moisture-proof compound.

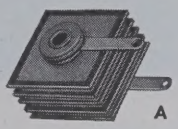
SERIES 160-C Disc diameter .160 inch. Disc area, lead wire and length and moisture-proof seal are identical with Series 160. Dimensions of the case have been reduced to the most compact size. These units may be mounted in a standard midget fuse clip.

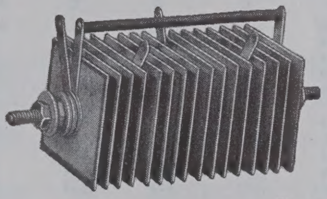
CONANT *Instrument Rectifiers*
LABORATORIES

20 Vesey St., New York 7, New York
1836 Euclid Ave., Cleveland 15, Ohio
600 S. Michigan Ave., Chicago 5, Ill.
518 City Bk. Bldg., Kansas City 8, Mo.
P.O. Box 201, Crosstwn. Sta., Memphis 4, Tenn.
1212 Camp St., Dallas 2, Texas
4018 Greer Ave., St. Louis 7, Mo.
711 Colorado Bldg., Denver 7, Colo.
Bendix Bldg., 1206 Maple Ave.,
Los Angeles 15, Calif.
Export Div., 75 West St., New York 6, N. Y.
Canadian: 50 Yarmouth Rd., Toronto, Ont.

THE BRADLEY LINE

SELENIUM RECTIFIERS


A


B

Above (A) Model RS-100. Designed for radio and low power applications. Rated at 115 volts A.C., 100 milliamperes D.C., but also made for higher voltages and current.

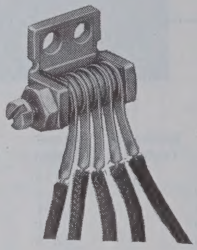
Above (B) SE-11 Series. Power rectifier stacks rated from 0.100 amperes up. Plate size from 1" x 1" up to 5" x 6".

Bradley selenium rectifiers for medium voltage applications are processed to allow good efficiency and stability at D. C. rating up to 24 volts per plate. For power applications, square plates allow a maximum of rating to space factor.

For high voltage applications, Bradley selenium rectifiers are rated up to 70 volts peak inverse per plate.

Bradley manufactures selenium rectifiers for operation from a few microamperes to many thousands of amperes and from fractions of a volt to thousands of volts. On any rectification problem, consult Bradley. With their long application experience, Bradley engineers can quickly specify the right rectifier for your requirements.

COPPER OXIDE RECTIFIERS



In above Universal Instrument Rectifier, you have a single answer to a wide range of measurement rectifier requirements — one rectifier for all circuits with A.C. voltages and D.C. currents within the unit's rating. Rated up to 12 volts A.C., 5 ma. D.C.

BRADLEY "COPROX" INSTRUMENT RECTIFIERS have vacuum processed pellets with gold contacts.

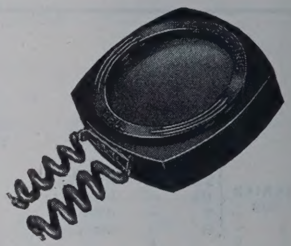
Exhaustive laboratory and field tests have proved our process produces rectifiers with maximum efficiency and minimum temperature errors. Even under severe conditions of use, aging is practically eliminated.

Electrical instruments with better accuracy are being built with "Coprox" rectifiers.

BRADLEY "COPROX" POWER RECTIFIERS, designed for low voltage applications, are rugged, compact and conservatively rated. Long service life is combined with low operating cost.

Bradley manufactures copper oxide rectifiers for operation from a few microamperes up to one ampere, and from microvolts up to hundreds of volts. All "Coprox" rectifiers are matched and balanced over a wide temperature range.

PHOTO ELECTRIC CELLS



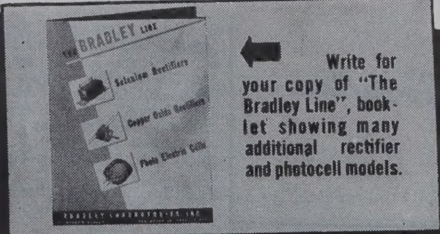
The pigtail contact model 3-1A shown above is only one of a series of standard mountings. Others include housed models with plug-in contacts, for tube socket and nut-and-bolt types. Shapes of Bradley Luxtron* photocells vary from circles to squares, with every in-between shape desired. In size they range from the diminutive to the largest sizes required. Dimensions of the standard model illustrated are 2-3/16" x 2-5/16" x 27/64".

LUXTRON PHOTOCELLS EFFICIENTLY CONVERT LIGHT INTO ELECTRIC ENERGY WITHOUT ANY EXTERNAL POWER SOURCE. The energy developed is sufficient to operate meters and sensitive relays.

Light-weight, rugged and true to rating, these photocells give long life under the most strenuous operating conditions. As far as we have been able to determine, they are the finest on the market, although among the lowest in price.

For precision control of light with electric energy, specify Luxtron photocells. Write Bradley for samples and engineering assistance on any photocell problem you have in mind.

*T.M. Reg. U. S. Pat. Off.



Write for your copy of "The Bradley Line", booklet showing many additional rectifier and photocell models.

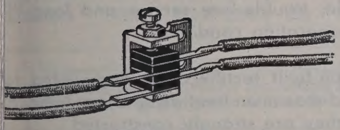
BRADLEY
LABORATORIES, INC.
82 MEADOW STREET, NEW HAVEN 10, CONN.

ELECTROX* Low-Capacity RECTIFIER UNITS

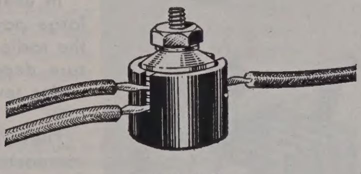
Used by most leading test set manufacturers as original components in their equipment.

*Trade Mark Reg. U. S. Pat. Off.

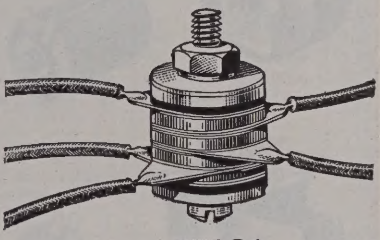
Full and half wave, low-capacity copper oxide rectifiers for instruments, test sets and similar applications. Electrox Rectifiers are made by a pioneer manufacturer of high-quality, dry disc rectifiers. Each type is specially adapted to meet the individual requirements of the user; each unit is individually inspected, tested, and guaranteed right. For dependability, get genuine Electrox Rectifiers!



TYPE A-4
CAT. NO. 5020



TYPE B-2
CAT. NO. 5047
CAT. NO. 5049



TYPE C-4
CAT. NO. 5017

Max. Continuous Rating			Circuit Diagram Fig.	Element Diam. Inches	No. of Elements	Connections	Lead Length Inches	Type	Cat. No.
D.C. M.A.	D.C. Volts	A.C. Rms. Volts							
1	1	1.5	3	⅛	4	4 leads	4	AA-4	5064
5	3	4	3	3/16†	4	4 leads	3	A-4	5020
13		3	1	7/16	1	2 leads	3	B-1	5048
13		4	4	7/16	2	3 leads	3	B-2	5047
13		3*	2	7/16	2	3 leads	3	B-2	5049
20	3	4	3	7/16	4	5 leads	3	B-4	5016
32		3	1	¾	1	2 lugs		C-1	5011
32		3*	2	¾	2	3 leads		C-2	5057
32		3*	5	¾	2	4 lugs		C-2	5010
64	3	4.1	3	¾	4	5 lugs		C-4	5014
64	3	4.1	3	¾	4	5 leads	3	C-4	5017

*3 volts A.C. per element. †3/16″ square.

CIRCUIT DIAGRAMS

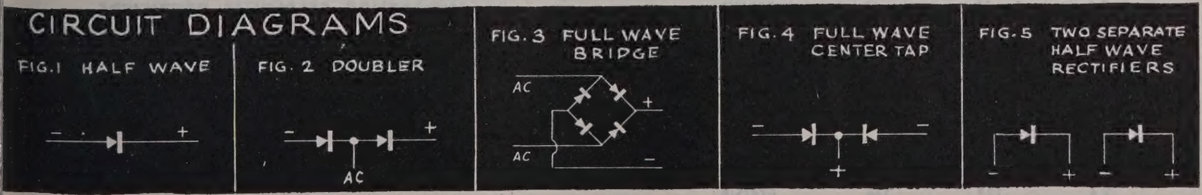


FIG. 1 HALF WAVE

FIG. 2 DOUBLER

FIG. 3 FULL WAVE BRIDGE

FIG. 4 FULL WAVE CENTER TAP

FIG. 5 TWO SEPARATE HALF WAVE RECTIFIERS

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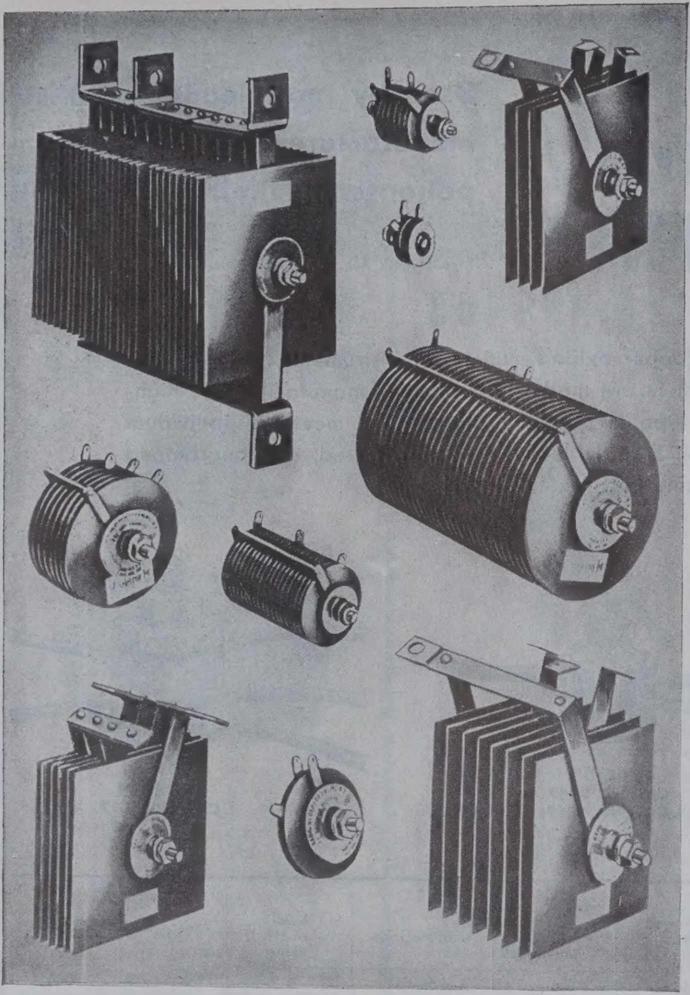

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In every type of AC to DC conversion, from th large power stacks to the small units applicable t the radio and television fields, Seletron Rectifiers assure dependable, trouble-free service and long lif under severest operating conditions.

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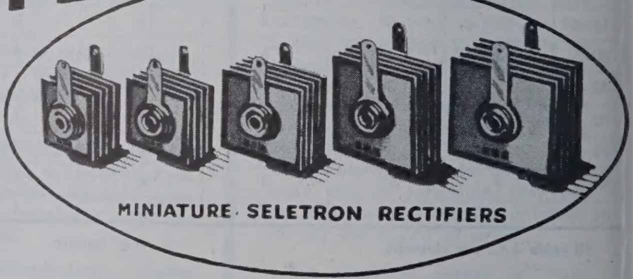
Furnished in eight standard plate sizes in assemblies that provide outputs ranging from a fe milliamperes to thousands of amperes. Stacks to mee specific voltage and current requirements are available in an infinite number of combinations.

*UNBEATABLE PERFORMANCE !

STOCK JOBBER SIZES

D.C. Output @ 35° C. Max. Amps.	D.C. Output @ 35° C. Approx. Volts	Max. Input R.M.S. Volts	Seletron Code Number
0.9	17	24	QIBISIB
1.6	18	24	DIBISIB
3.1	17	24	EIBISIB
5.2	17	24	FIBISIB
10.0	17	24	HIBISIB
16.0	18	24	HIB2SIB
24.0	18	24	HIB3SIB
1.2	36	48	D2BISIB
3.1	35	48	WE2BISIB
5.2	34	48	WF2BISIB
10.0	34	48	WH2BISIB
16.0	35	48	H2B2SIB
24.0	35	48	H2B3SIB
0.9	105	144	WQ6BISIB
1.2	108	144	D6BISIB
2.4	106	144	E6BISIB
5.2	103	144	WF6BISIB
0.9	122	168	WQ7BISIB
1.2	126	168	D7BISIB
2.4	123	168	E7BISIB
5.2	120	168	WF7BISIB

According to our Audit Department, replacement under warranty is only 0.2%.



MINIATURE SELETRON RECTIFIERS

SPECIFY SELETRON MINIATURE SELENIUM RECTIFIERS FOR RADIO AND TELEVISION APPLICATIONS

Code Number	5M4	5M1	5P1	5R1	5Q1	5S1	1M1
Current Rating	75 ma.	100 ma.	150 ma.	200 ma.	250 ma.	500 ma.	100 ma.
Plate Length	1"	1"	1-3/16"	1-1/2"	1-1/2"	2"	1"
Plate Width	1"	1"	1-3/16"	1-1/4"	1-1/2"	2"	1"
Stack Thickness	11/16"	7/8"	7/8"	7/8"	1-1/8"	1-1/8"	3/8"
A.C. Volts	130 V	130 V	130 V	130 V	130 V	130 V	25 V

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403D2625A

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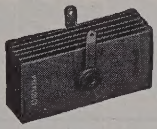
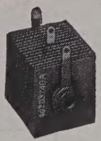

438D3428A


403D3240A

TR Number	Output MA-DC	Input (RMS) Volts	Input (RMS) MA	Inverse Volts	Peak MA	Application	Sugg'd Retail Price, Each
02D3452A	65	130	160	380	750	B+AC-DC (5 tube)	$ .85
02D3150A	75	130	220	380	900	B+3-way Radios	1.04
03D2625A	100	130	325	380	1200	B+ Radios, Television	1.30
03D2787A	150	130	425	380	1200	B+ Radio-Television	1.50
04D2795A	200	130	550	380	2000	B+Television	1.80
04D3450A	250	130	625	380	2000	B+Television	2.00
38D3427A	400	130	1000	380	3500	B+Television	3.50
38D3428A	500	130	1250	380	3500	B+Television	3.65

FTR Number	Output MA-DC	Input (RMS) Volts	Input (RMS) MA	Inverse Volts	Peak MA	Application	Sugg'd Retail Price, Each
403D2889A	100	160	325	440	1200	Vibrator	$2.25
402D3239A*	75	160	220	440	900	Vibrator Doubler	2.55
403D3240A*	100	160	325	440	1200	Vibrator Doubler	3.45
404D3241A*	200	160	550	440	2000	Vibrator Doubler	5.10
4D2814AS†	1000	8	------	-------	------	Battery Charger	.70
104D2943S‡	2000	15	------	-------	------	Battery Charger	2.55
402D3550	150	25	270	35	1800	Bridge Rectifier	1.40
403D3551	300	25	540	35	2400	Bridge Rectifier	1.70
404D3552	600	25	1080	35	4000	Bridge Rectifier	2.10
402D3151	75	20	220	55	900	Bias Rectifier	.50

* These rectifiers have two sections—characteristics given apply to one section only; if both sections are used half-wave, voltage input is 320 volts.
† The characteristics given for this rectifier are based on its use in a half-wave rectifier circuit with a 3 cell battery load.
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K-111

TV-59

K-109

TV-300

FTR Type Number	Nominal Impedance	Nominal MMF/Ft	Attenuation DB/100 ft	Nominal Jacket OD in inches	APPLICATION	Sugg'd Retail Price, Per Foot
K-111	300	--------------	2.4 at 50 Mc 3.4 at 100 Mc 4.6 at 200 Mc	0.480 x 0.290	Television lead-in where 300 ohm shielded cable is advantageous.	$ .125
TV-59	72	22.04 at 1 kc	2.6 at 50 Mc 3.9 at 100 Mc 5.8 at 200 Mc	0.230	FM and Television where 72 ohm lead-in is required.	.05
K-109	160	8.3 at 1 kc	2.6 at 3.85 Mc 3.7 at 11.8 Mc 4.6 at 19.5 Mc	0.275	Automobile antenna lead-in.	.073
TV-300	300	--------------	1.15 at 50 Mc 2.00 at 100 Mc 3.01 at 200 Mc	0.360 x 0.070 no jacket	FM and Television antenna lead-in.	.0295

* Trade Mark.

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FTR Type	OUTPUT (DC) Volts	OUTPUT (DC) Amps	INPUT	Application	Sugg'd Retail Price, Each
FTR 3246-BS	6	10	115 volts, 60 cycle, single phase	"A" Eliminator	$74.50
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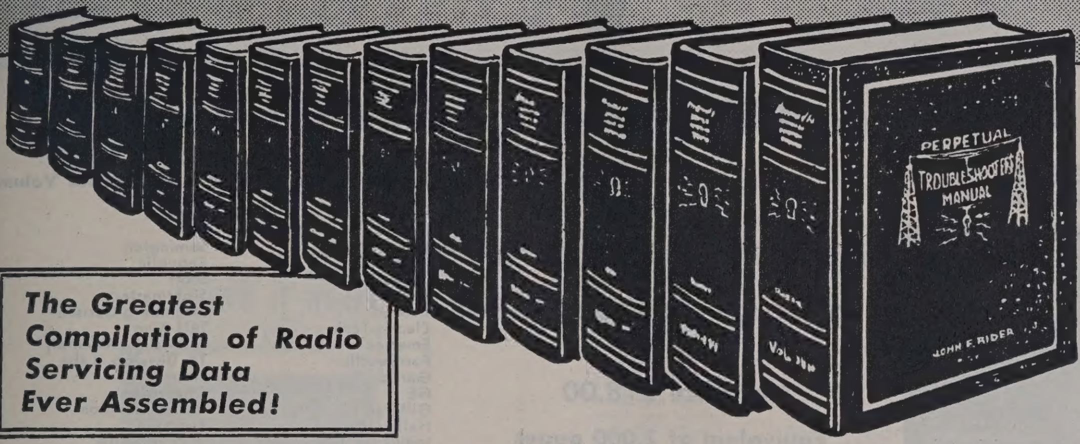

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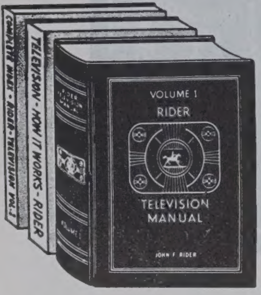
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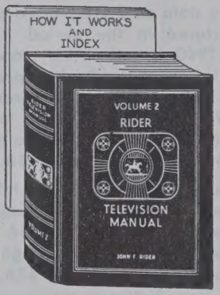

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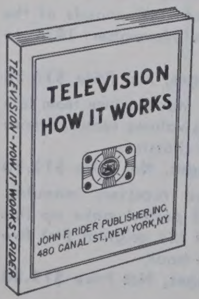
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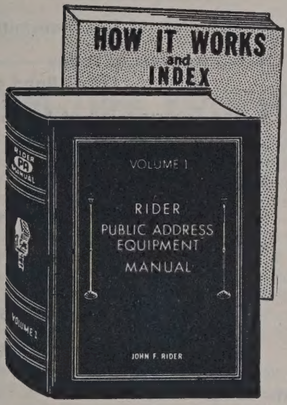

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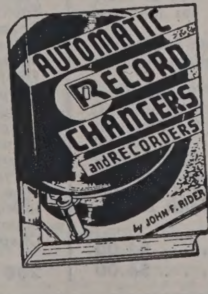

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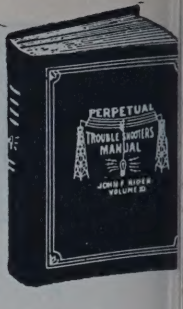

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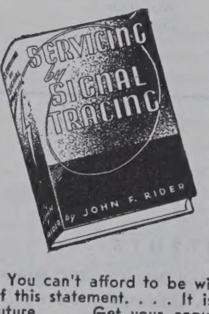

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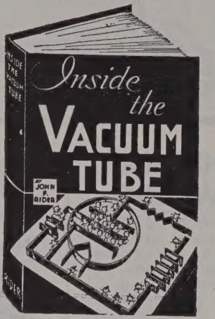

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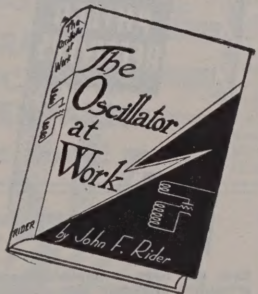

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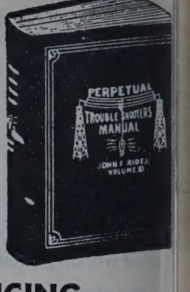

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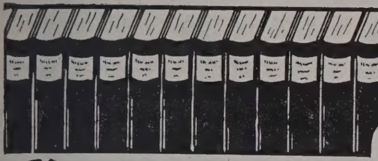

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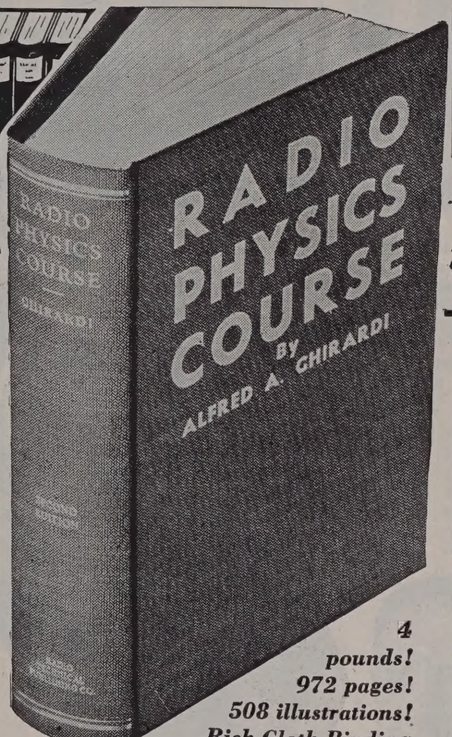

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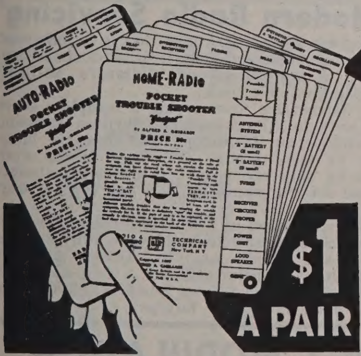
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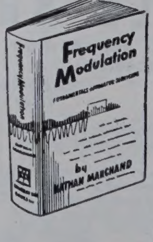

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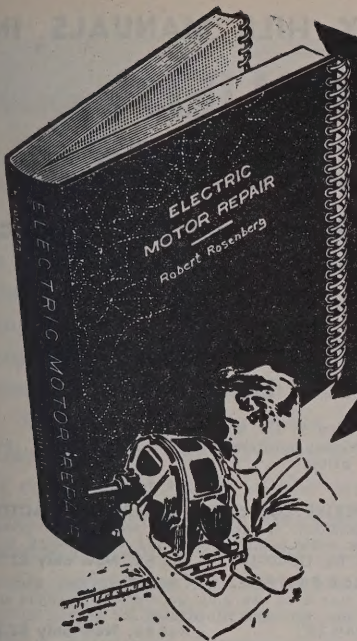

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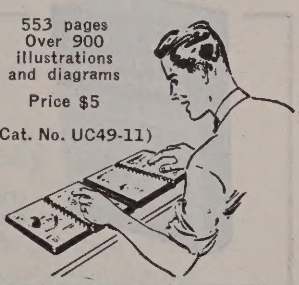

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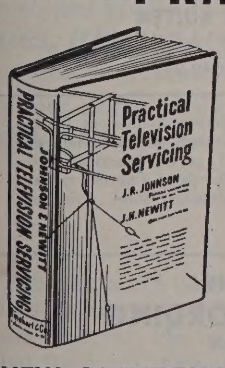
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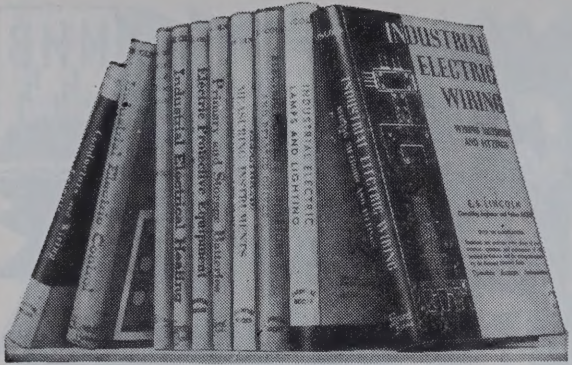

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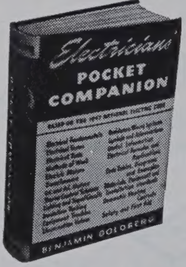

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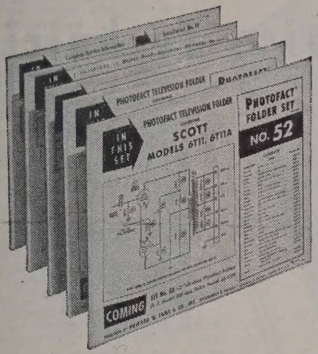

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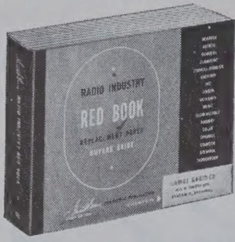

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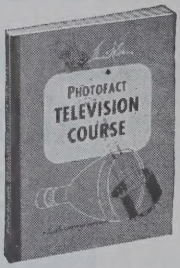

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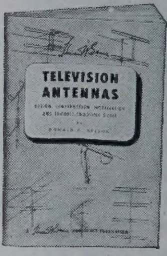

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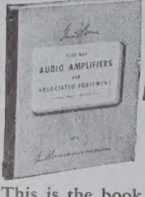

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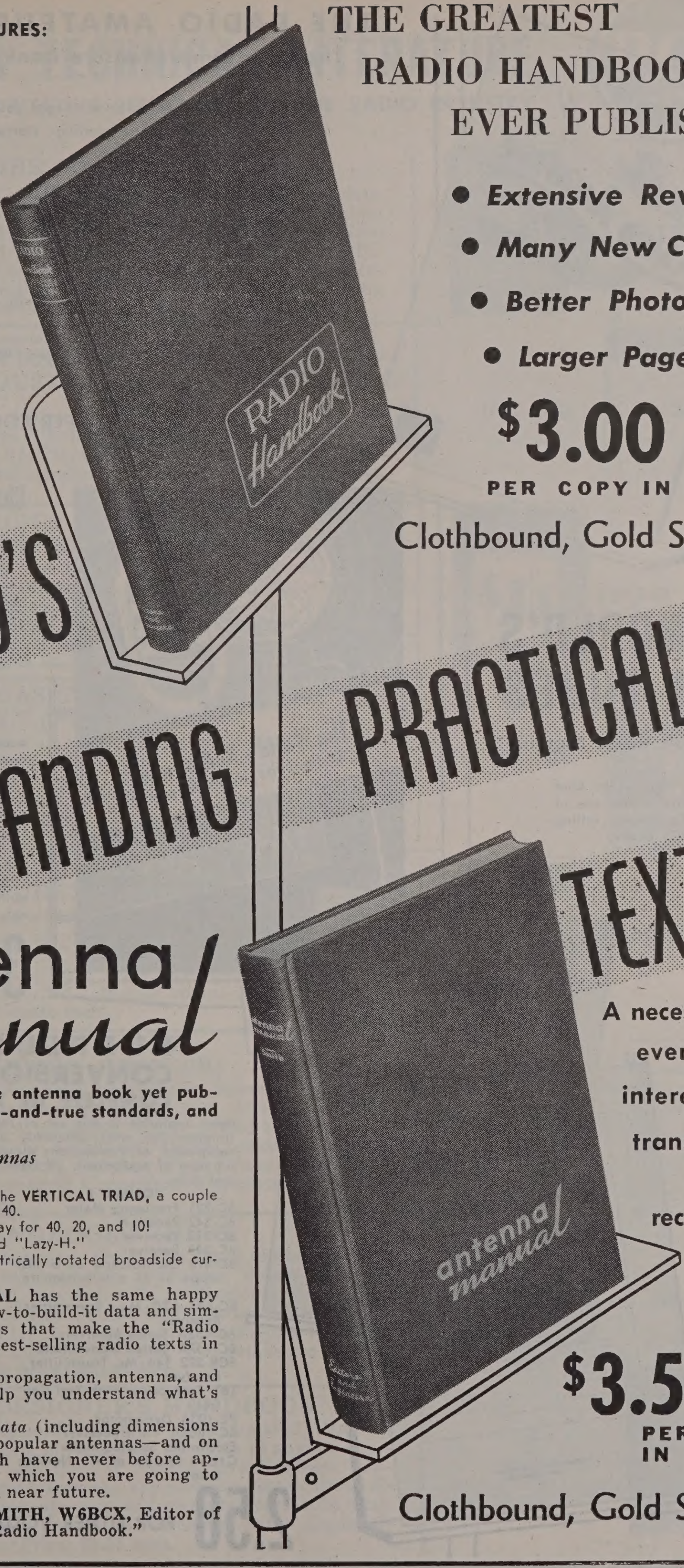

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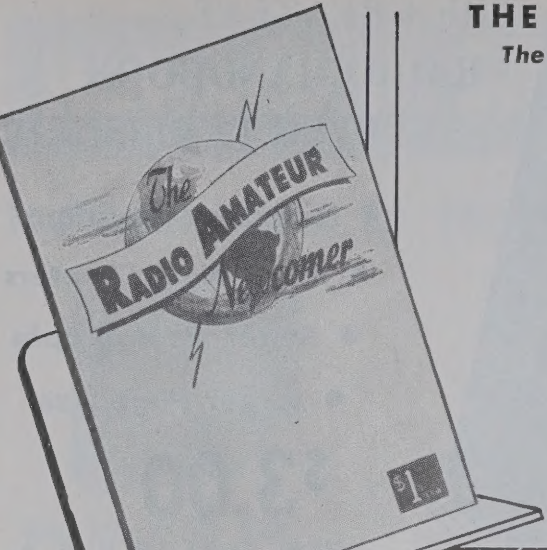

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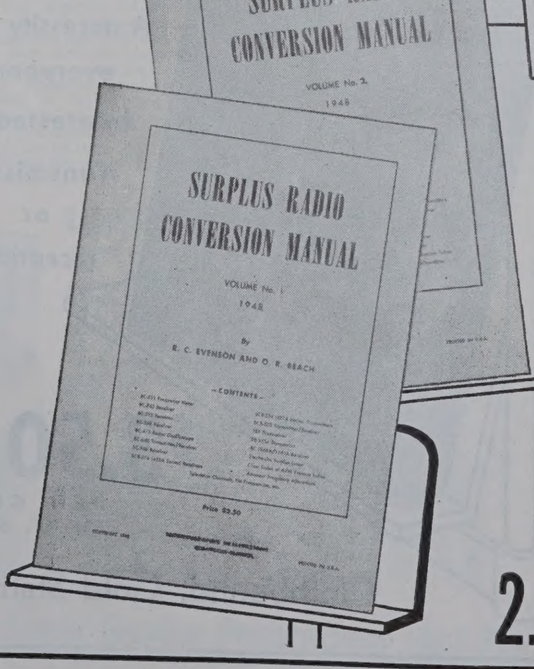
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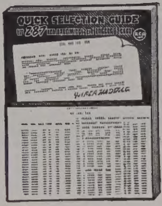

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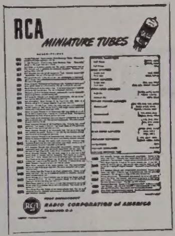

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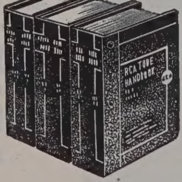

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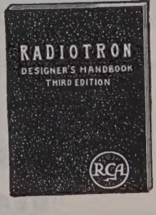

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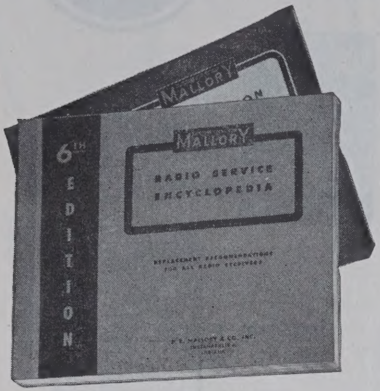
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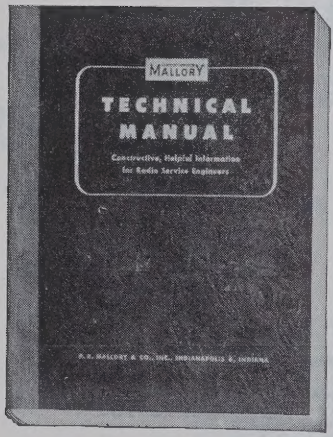
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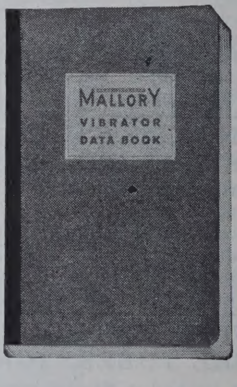
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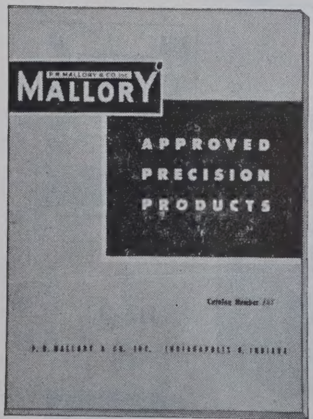
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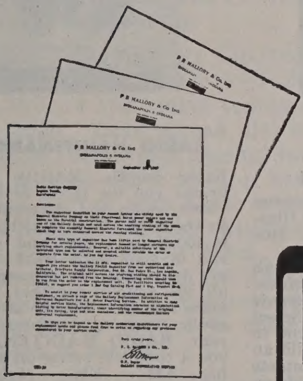
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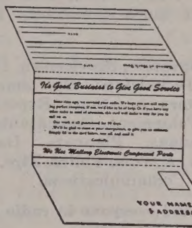
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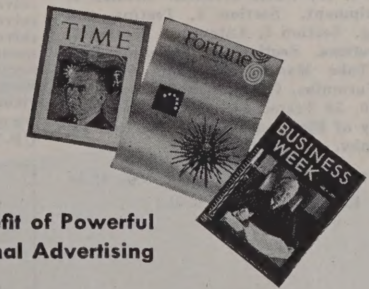
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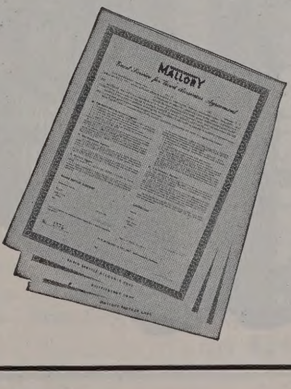

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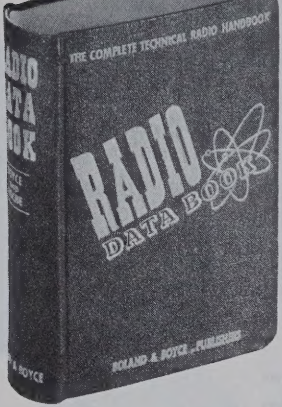
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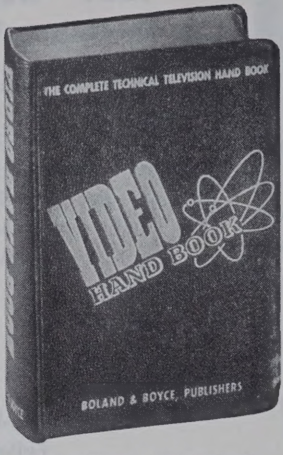
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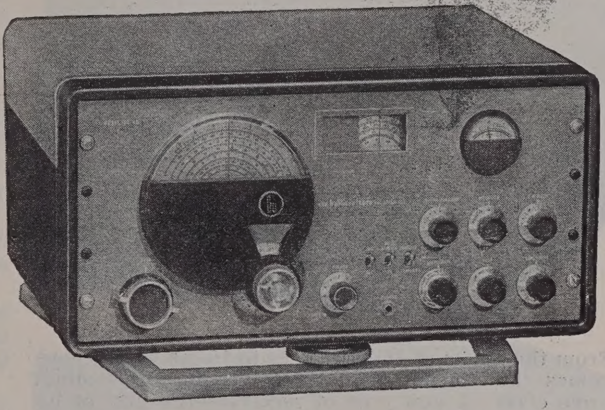

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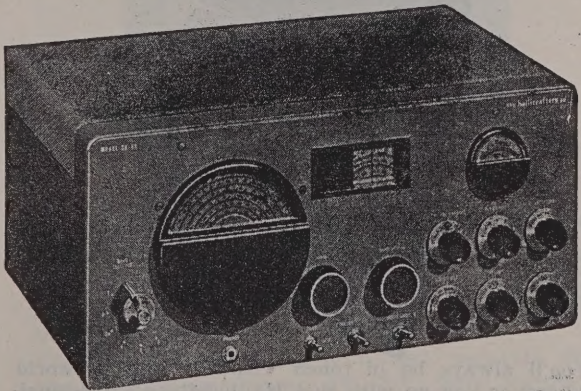

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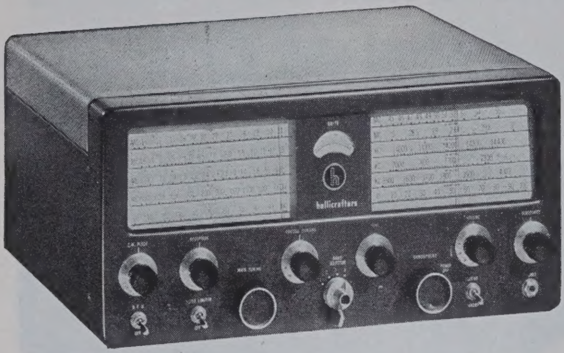

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CONTROLS: Band Selector 538-1650 kc, 1600-4800 kc, 4.6-13.5 Mc, 12.5-35 Mc, 46-56 Mc. Separate Main and Bandspread tuning controls; bandspread dial calibrated for 80, 40, 20, 10, and 6 Meter Bands. BFO Pitch, 3-position Selectivity, Crystal Phasing, Tone, AF Gain, and RF Gain controls. ANL, BFO, and Receive/Send switches. "S" meter adjustment on rear.

PHYSICAL DATA: Gray steel cabinet with satin chrome trim. Piano hinge top. Size 18½ in. wide by 8⅞ in. high by 12 in. deep.

EXTERNAL CONNECTIONS: Use doublet or single wire antenna. 500 ohm output for separate speaker. Phone jack. Socket for external power supply. Connections for remote control. Power cord. For 105-125 volts 50/60 cycle AC.

11 TUBES PLUS VOLTAGE REGULATOR AND RECTIFIER: 6BA6 r-f Amp., 6C4 Osc., 6AU6 Mixer, 6BE6 2nd Conv., three 6SK7 i-f Amps., 6H6 ANL, and delayed AVC, 6SC7 BFO and a-f Amp., 6AL5 Det., 6K6GT Output, VR-150 Reg., and 5Y3GT Rect.

SX-71. Ship wt. approx. 33 lbs................Net **$179.50**

R-44B Speaker. Matches SX-71. Tone switch. 500-ohm input Heavy Duty PM type, 6 x 9 in. oval. 18½ in. wide, 8½ in. high, by 9⅝ in. deep.

Ship. wt. 19 lbs...Net **$24.50**

New S-72 Portable Communications Receiver

You'll always be in touch with the outside world wherever you go with this Hallicrafters extra-sensitive all-wave portable receiver. Super-powered for superb performance with latest circuits and devices for maximum efficiency on AC, DC or battery operation. Designed both for the person who wants better than average reception even in weak signal areas and for the Radio Amateur.

PERFORMANCE: Covers standard broadcast band and three short-wave bands—540 kc to 30.5 Mc. One stage of tuned r-f amplification. Operates from built-in antennas—loop for broadcast and 27 in. whip for short-wave. Automatic Noise limiter. Image ratio 140 to 1 at 11 Mc, 18 to 1 at 30 Mc. Overall sensitivity 1.8 microvolts at 30 Mc, ranging to 6 microvolts at 1.7 Mc. Broadcast Band sensitivity with loop antenna 16 microvolts per meter.

CONTROLS: Band selector switch gives four tuning ranges: 540-1600 kc, 1500-4400 kc, 4.3—13 Mc, and 12—31 Mc. Sensitivity control. Turns on AVC when advanced to full "On" position, at the same time turning off BFO. Volume control combined with main OM/Off switch. Main tuning knob; separate bandspread control. Tone control combined with fine tuning control.

PHYSICAL DATA: Sturdy plywood cabinet, finished in handsome brown leatherette. Space for headphones. Size 14 in. wide, 12¼ in. high, by 7¼ in. deep. Carrying weight approx. 15 lbs., incl. batteries.

EXTERNAL CONNECTIONS: Phone jack on panel. Provision for attaching supplementary antenna if desired. Power cord for 105-125 volts DC or 60 cycle AC fits inside set when not in use. Automatic changeover from battery to electric power protects batteries. Power consumption on battery operation 100 ma. at 7.5 V. and 30 ma. at 90 V. Average battery pack lasts 50 to 100 hours depending upon length of continued use. Takes RCA VS018, Burgess G6M60, Genera 60B6F65 and similar battery packs.

8 TUBES PLUS RECTIFIER: 1T4 r-f Amp., 1R5 Osc. 1U4 Mixer, two 1U4 i-f Amps., 1U5 Det. and a-f Amp. 1U5 BFO and Automatic Noise Limiter, 3V4 Output plus long-life Selenium Rectifier.

S-72. Less Battery. Ship. wt. 16 lbs............Net **$79.95**

LONG-WAVE MODEL — S-72L. Covers airways radio ranges, airport control towers, and marine beacons. Same as S-72 only range 175-400 kc and 535-12,300 kc. ....Net **$89.95**

Net

hallicrafters RADIO

S-40A Communications Receiver

540 KC to 43 MC . . . TEMPERATURE COMPENSATED OSCILLATOR. ONE RF AND TWO IF STAGES. An outstanding value offering excellent performance in the lower medium price range. Built-in PM Speaker.

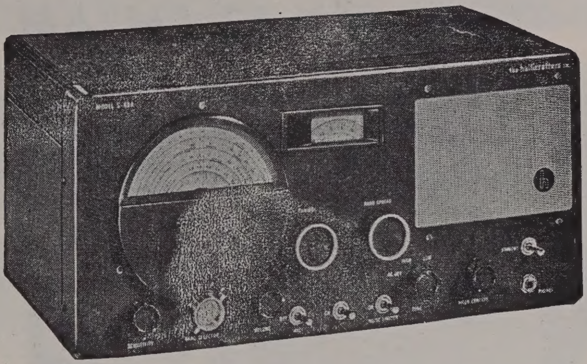
CONTROLS: Band Switch — #1 1540-1700 KC, #2 1.7-5.35 MC, #3 5.35-15.7 MC, #4 15.7-43.0 MC. Main tuning in MC; Bandspread has arbitrary scale. AF Gain, RF Gain; AVC, BFO and Noise Limiter switches; three-position Tone, BFO Pitch, Receive/Standby. Settings for Broadcast marked in color.

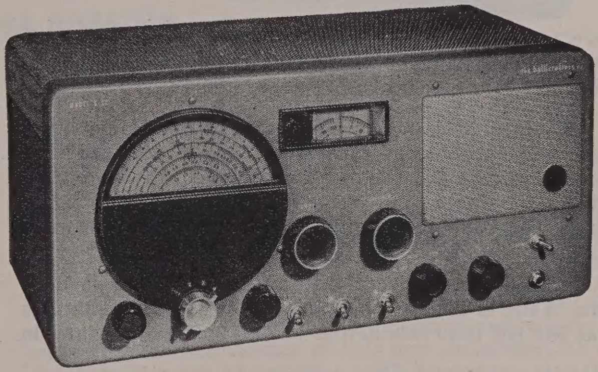
PHYSICAL DATA: Satin Black steel cabinet with brushed chrome trim. Top opens on piano hinge. Size 18½ in. wire by 9 in. high by 11 in. deep.

EXTERNAL CONNECTIONS: Doublet or single wire antenna. Phone jack. Socket for external power supply. Remote standby connections. 105-125 v. 50-60 cycle AC.

8 TUBES PLUS RECTIFIER: 6SG7 RF Amp., 6SA7 Conv., two 6SK7's IF Amps., 6H6 ANL and AVC, 6J5GT BFO, 6SQ7 2nd Det. and AF Amp., 6F6G Output, 80 Rectifier.

S-40A. Ship. wt. 33 lbs.........................Amateur Net **$79.95**

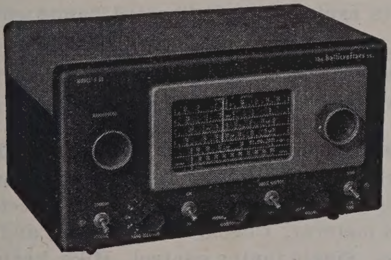




S-52 Communications Receiver

Exactly like the S-40A except designed for AC or DC operation. 7 Tubes plus rectifier and ballast tube; RF and IF tubes like S-40A; then 6H6 Det., 6SC7 and AF Amp., 25L6 Output, 25Z6GT Rect., and Ballast.

S-52. Ship. wt. 30 lbs.........................Amateur Net **$79.95**



S-53 Communications Receiver

540 KC - 31 MC PLUS 48-54.5 MC . . . 2 IF STAGES. Offers maximum performance in small size. 2 MC IF improves image ratio. Built-in speaker.

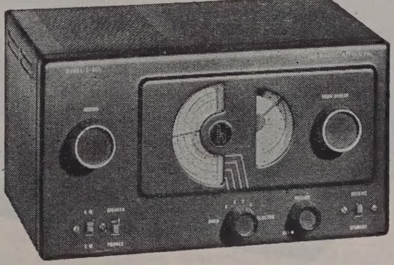
CONTROLS: Main tuning in MC; separate Band Spread; Receive/Standby; Band switch — #1 540-1630 KC, #2 2.5-6.3 MC, #3 6.3-16 MC, #4 14-31 MC, #5 48-54.5 MC; AM/CW; RF Gain; Noise Limiter; AF Gain; 2-position Tone, Speaker/Phones on rear.

PHYSICAL DATA: Steel cabinet, brushed chrome trim. Piano hinge top. Size 12⅞ by 7 by 7¾ in.

CONNECTIONS: Doublet or single wire antenna. Phone tip jacks. Phono jack. 105-125 v. 50-60 cycle AC.

7 TUBES PLUS RECTIFIER: 6C4 Osc., 6BA6 Mixer, two BA6's IF Amps., 6H6 Det., AVC, and ANL, 6SC7 BFO and AF Amp., 6K6GT Output, 5Y3 Rectifier.

S153. Ship. wt. 23 lbs.........................Amateur Net **$69.95**



S-38A Communications Receiver

540 KC - 32 MC in 4 BANDS . . . THE LOWEST PRICED COMMUNICATIONS RECEIVER ON THE MARKET . . . with many features of much higher priced receivers.

CONTROLS: Main tuning in MC; separate Band Spread, Speaker/Phones, AM/CW; Band Switch — # 1 540-1650 KC, # 2 1.65-5.0MC, # 3 5.0-14.5 MC, # 4 13.5-32 MC, AF Gain; Receive/Standby.

PHYSICAL DATA: Satin black steel cabinet, brushed chrome trim. Size 12⅞ by 7 by 7¾ in. deep.

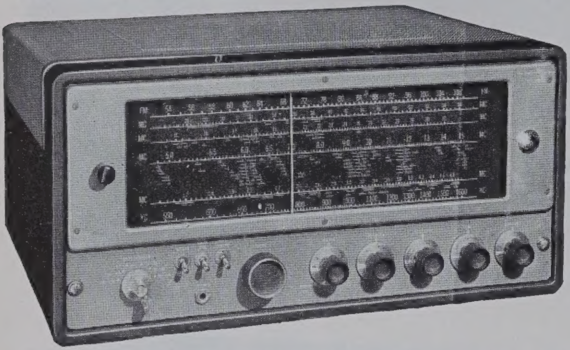
CONNECTIONS: Doublet or single wire antenna. Phone tip jack. Cord for 105-125 v. AC or DC.

4 TUBES PLUS RECTIFIER: 12SA7 Conv., 12SK7 IF Amp. and BFO, 12SQ7 Det. & AVC, 50L6GT Output, 35Z5GT Rectifier.

S-38A. Ship. wt. 14 lbs.........................Amateur Net **$39.95**

hallicrafters RADIO

SX-62 FM/AM All-Wave Radio



SWL VERSION OF FAMOUS SX-42 . . . COVERAGE 540 KC — 109 MC INCLUDING FM . . . BUILT-IN CRYSTAL CALIBRATOR.

Having basically the same chassis as Hallicrafters best communications receiver, the SX-62 provides communications-receiver performance in simplified form. A single tuning control covers the wide-vision dial. Only one band lights up at a time — you always know just where you are tuning.

In addition a crystal calibration oscillator is built in. A flip of the switch at any time will put test signals at 500 KC intervals across the dial. You just tune in the nearest one of these signals and then use the calibration-reset control to adjust the dial pointer to the exact frequency.

Continuous AM reception from 540 KC to 109 MC; FM reception 27-109 MC. Temperature-compensated oscillator with voltage regulator. Two RF and three IF stages; dual IF channels (455 KC and 10.7 MC). Audio flat 60-15,000 cycles; 8-watt push-pull output. CONTROLS: Band Selector — #1 540-1620 KC, #2 1.62-4.9 MC, #3 4.9-15 MC; #4 15-32 MC, #5 27-56 MC, #6 54-109 MC; Receive/Standby, Crystal calibration On/Off, Noise Limiter, Tuning, AF Gain, Phono/FM/AM/CW, six-position Selectivity, four-position Tone, RF Gain, and Calibration Reset. PHYSICAL DATA: Gray steel cabinet with satin chrome trim. Top opens on piano hinge. Size 20 in. wide by 10¼ in. high by 16 in. deep. EXTERNAL CONNECTIONS: Doublet or single wire antenna. 500 and 5000 ohm outputs. Phone jacks. Phonograph jack. Socket for external power. Remote standby connections. 105-125 volt 50-60 cycle AC line. 14 TUBES PLUS VOLTAGE REGULATOR AND RECTIFIER: two 6AG5's RF amps., 7F8 Conv., 6SK7 IF Amp., 6SG7 IF Amp., 7H7 IF Amp., 7H7 Limiter and AM Det., 6H6 Discriminator, 7A4 BFO, 6H6 ANL, 6SL7 AF Amp., two 6V6's Push-pull Output, 6C4 Calibration Osc., VR-150 Regulator, 5U4G Rectifier.

SX-62. Ship. wt. 65 lbs.................Amateur Net **$269.50**

HT-18 Variable Freq. Oscillator

the hallicrafters co.

Complete exciter with calibrated band-switching and built-in power supply. Xtal or VFO, NBFM or CW on 5 Bands. Output 2.5-4.5 watts. Temperature compensated, voltage regulated. Built-in speech amp.

Variable frequency oscillator (used as ECO or Pierce xtal), frequency modulator with speech amplifier, plus 6L6 output. Operation switch, Band Selector (80, 40, 20, 10, 6 meters). Check, Plate, Power, and Deviation switches. Single tuning control. Mike, keying, remote control connections. 72-ohm output. 3 6BA6, 6L6, VR-150, VR-105, 5Y3GT. Size 12¾ x 7 x 7¾ in. deep.

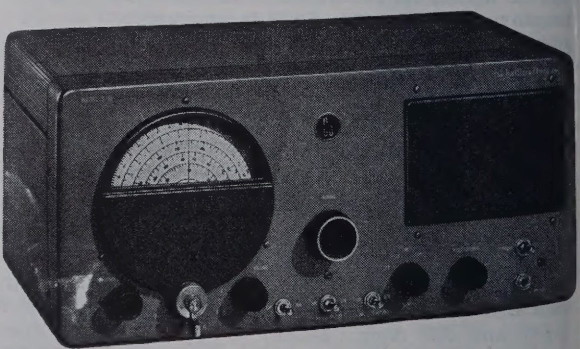
HT-18. Ship. wt. 25 lbs.................Amateur Net **$110.00**

S-51 Marine Receiver

Rugged and specially constructed for dependable sea or air use. Range 132 KC to 13 MC covers all important channels. Fixed frequency operation possible on three pre-tuned channels; facilitates switching frequency and/or standing guard. Built-in PM speaker. CONTROLS: Band Selector — 132-405 KC, 485-1530 KC, 1450-4550 KC, 4.2-13.0 MC, plus 3 fixed freq. positions in 200-300 KC and 2-3 MC range; RF gain, Volume, CW/AM, Range Filter, ANL, Tuning, 3 position Tone, CW Pitch, Rec./Standby. Gray steel cabinet: 18½ by 9 by 9½ in. deep; piano hinge top. Doublet or single wire antenna. Phone jack. Socket for 6, 12, or 32 v. vibrapack. 105-125 v. 50-60 cycle AC or DC. 9 TUBES PLUS RECTIFIER: 6SS7 RF Amp., 7A8 Conv., two 6SS7's IF Amps., 7C6 Det., 35L6 or 6V6 Output, 7A6 Noise Limiter, 6SS7 BFO, 35Z5 Rectifier.

S-51. Ship. wt. 31 lbs.................Amateur Net **$149.50**

Vibrapack for 6, 12, or 32 v. operation.................**$22.50**



SINCE 1933

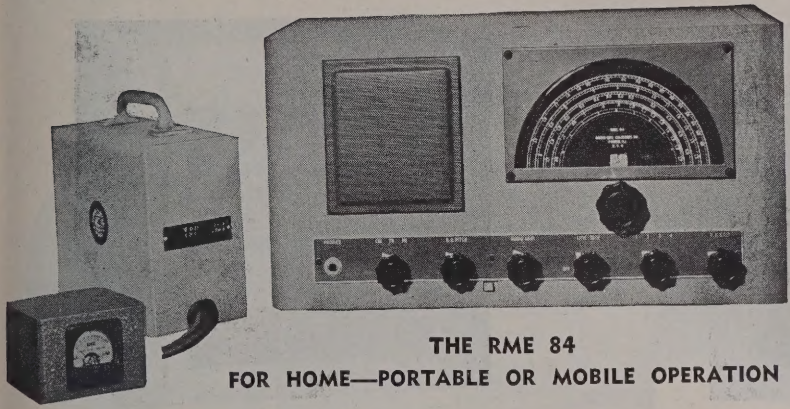
TIME WILL TELL

RME

FINE COMMUNICATIONS EQUIPMENT

RADIO MFG. ENGINEERS, INC.

Peoria 6, Illinois U. S. A.



THE RME 84
FOR HOME—PORTABLE OR MOBILE OPERATION

RME 84 at right, VP-2—6 volt power pack with cable attached, optional for RME 84 in center, CM-1—Carrier Level "S" Meter with cord and plug, optional for RME 84 at left.

The Coverage Is Complete .540 to 44 Megacycles

An important feature is the continuous coverage ranging from 540 kc to 44 megacycles. This coverage, in addition to providing for the regular broadcast band, takes in the 80, 40, 20, 15 and 10 meter amateur bands. The calibration is made on a 7 inch diameter scale. In addition, a smooth-running vernier dial gives band spread on any setting of the main scale. The vernier scale makes five complete revolutions for the 180 degree rotation of the tuning condenser.

Seven Tubes Have Been Chosen For The RME 84

1. A 7B7 loctal radio frequency amplifier is ahead of the first detector.
2. A 7S7 loctal is used as a first detector and radio frequency oscillator.
3. A 7B7 serves as the first IF operating at 455 kc.
4. A 7B7 second IF further amplifies the signal.
5. A 7K7 loctal acts as second detector and first audio amplifier.
6. Another 7K7 provides the beat frequency and acts as noise limiter.
7. The 6G6G provides the final audio frequency output.
8. A 5Y3GT is the power rectifier tube.

Portability Built Into The RME 84

Conscious of the fact that many thousands of amateurs want a receiver for portable operation, the new RME 84 is equipped with a special socket connection making possible connections to either a B battery and an A battery supply or a similar source of power such as an external vibropack. 135 volts of B and 6 volts of A battery will operate the RME 84 at full power. The drain on the B battery is only 32 milliamperes at 135 volts and the 6 volt A battery provides 1.5 amps, including the two dial lights.

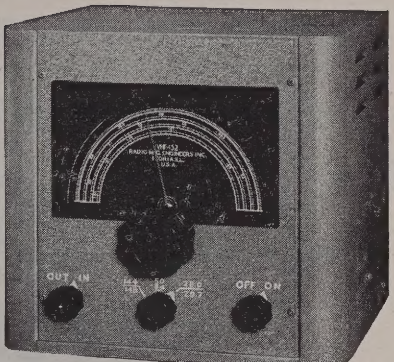
The new noise limiter, of the series type, performs exceptionally well. Also made available for future use with the RME 84 is a signal strength meter to be connected through the special socket located on the rear of the chassis apron.

SENSITIVITY: The average sensitivity of the RME 84 is of the order of 2 microvolts over the entire range of the instrument.

RME 84, CODE HANDY, complete for 115 volt, 60 cycle operation and for use with external battery supply. May also be had for 230 volt, 25 cycle operation at additional cost. **f.o.b. Peoria, Illinois, Net Selling Price** $98.70

VP-2, CODE HOMER, A 6 volt power pack with cable attached, optional equipment for RME 84. **f.o.b. Peoria, Illinois, Net Selling Price** $28.20

CM-1, CODE HURST, Carrier Level "S" Meter with cord and plug, optional equipment for RME 84. **f.o.b. Peoria, Illinois, Net Selling Price** $14.00



VHF-152A 3 BAND CONVERTER

Reception on the new high frequencies, 50 to 54 mc. and 144 to 148 mc. bands, and bettter reception on the 27 to 29.7 mc. band, using the double detection system, image free, at a cost which any amateur can afford—that is what the new VHF-152 is designed to give. . . . Every owner of a communications receiver can, with the acquisition of this new converter, do a much better job of working high frequency signals than is possible with most any higher priced, specially designed receiver.

This converter provides an order of stability at 50 mc. much higher than most communications receivers have when operating at 5 mc. New engineering design and construction make this possible.

Miniature tubes are used, a 6AK5 rf amplifier and a 6J6 detector and a 6J6 oscillator complete the converter proper. The built-in power supply uses a 5Y3GT rectifier tube and a VR150 voltage regulator. The three bands are calibrated to cover the full sweep of a seven-inch diameter scale, indirectly illuminated. . . . The tuning mechanism is of the same sturdy, positive construction characteristic of all RME units. Smooth, velvety operation of the large knob makes operation a pleasure.

The sensitivity of the VHF-152 is of the order of 2 microvolts. Its output frequency is 7000 kc.

Separate connections are provided for the 10, 6 and 2 meter antennas and for the antenna used with the receiver. Each band has its own especially designed antenna input circuit of approximately 300 ohms impedance. The input of the receiver is changed from the VHF-152 output to the receiver antenna by a front panel switch. Another front panel switch selects the 10, 6 or 2 meter band for VHF-152 operation.

Interconnecting plug and cord are also furnished, which permanently connect the VHF-152 direct to the input terminals of the receiver.

The cabinet is designed to match the RME-45 communications receiver, both in streamlined appearance and in two tone gray and black crinkle finish.

Dimensions are as follows: 11" high, 12" wide, 11" deep, with hinged lid. Standard operation is for 115 volt, 50-60 cycle power source.

Complete with tubes, interconnecting plug and cord. **CODE: HAMPY, f.o.b. Peoria, Illinois, Net Selling Price** .... **$86.60.**

SINCE 1933

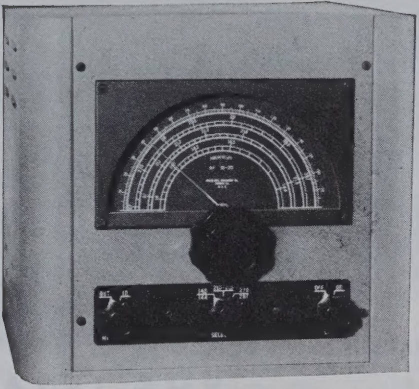
TIME ★ WILL ★ TELL ★

RME

FINE COMMUNICATIONS EQUIPMENT

RADIO MFG. ENGINEERS, INC.

Peoria 6, Illinois U. S. A.



THE HF 10-20 CONVERTER
For 10-11-15 and 20 Meters

Because of the double conversion system, the HF 10-20 provides outstanding and imageless reception on 10-11-15 and 20 meters. And it's an especially vital adjunct to those receivers that tune only up to 18 mc. or possess inadequate bandspread. The HF 10-20 provides an average of 7.8 linear inches of calibrated bandspread on each of the three bands. Images are non-existent. The output (I. F. frequency) of the HF 10-20 is 7 mc. It can be used with any all-wave or amateur receiver. Features include provision for separate antennae, self-contained power supply, antenna selector switch, band selector and high gain. The increase in gain, depending on the receiver and receiving conditions, is approximately 30 DB over the entire range of frequencies covered.

Tubes used are a 6BA6 RF amplifier and a 6J6 twin triode mixer. Built-in power supply uses a 5Y3GT rectifier and a VR150 voltage regulator.

Model HF 10-20 Converter, Standard Model, CODE HORN, in cabinet to match RME 45 Receiver in appearance. Dimensions: 11″ high, 12″ wide, 11″ deep.

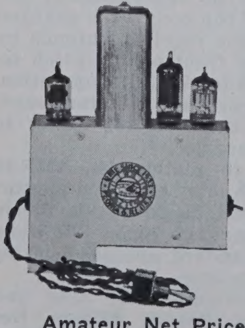
Amateur Net Price........**$77.00**

Model HF 10-20 Type "S" Converter, CODE HILL, in cabinet to match RME 84 in appearance. Dimensions: 9⅛″ high, 10¼″ wide, 10¼″ deep.

Amateur Net Price........**$77.00**

THE NEW RATIO DETECTOR (NBF4)
For Optimum Narrow Band FM Performance

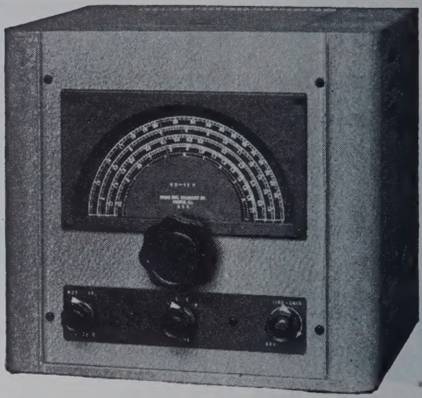
With this plug-in unit and an RME 45 receiver, the noise reducing advantages of NFM are fully realized.



NFM Signals that can't be heard with good AM communications receivers come in loud and clear against a noiseless background.

Equal sensitivity can be enjoyed on AM or NFM. It employs a highly efficient ratio-type detector and a limiter for noiseless reception of NFM signals. Only RME 45 receivers can employ the unit.

Amateur Net Price........**$19.50**



THE DB22A PRESELECTOR
Coverage .54 to 44 Mc. — Average Gain 30 DB

Here's the new DB22A completely redesigned for greater efficiency and higher signal to noise ratio. It uses new 6BA6 miniatures. Image ratio is better than 50 DB with a communications receiver having a single stage of RF. It's calibrated, has smooth planetary tuning, self contained power supply, antenna by-pass switch, gain control and many other features.

Model DB22A Preselector, Standard Model, CODE BONET, in cabinet to match RME 45 Receiver in appearance. Dimensions: 11″ high, 12″ wide, 11″ deep.

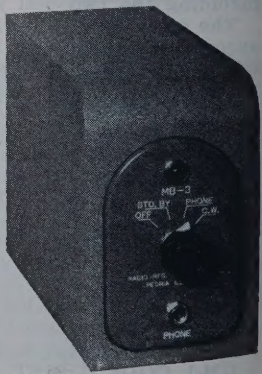
Amateur Net Price........**$71.00**

Model DB22A—Type "S" Preselector, CODE CLEAR, in cabinet to match RME 84 Receiver in appearance. Dimensions: 9⅛″ high, 10¼″ wide, 10¼″ deep.

Amateur Net Price........**$71.00**

THE BOOMERANG (MB-3)
A Break-In & Monitoring Device for CW & Fone

The "Boomerang" is the solution to rapid and efficient break-in, and the avoidance of needless QRM. Dots and dashes are heard in the headphones or the speaker while sending—a great help in perfecting the fist and avoiding errors.



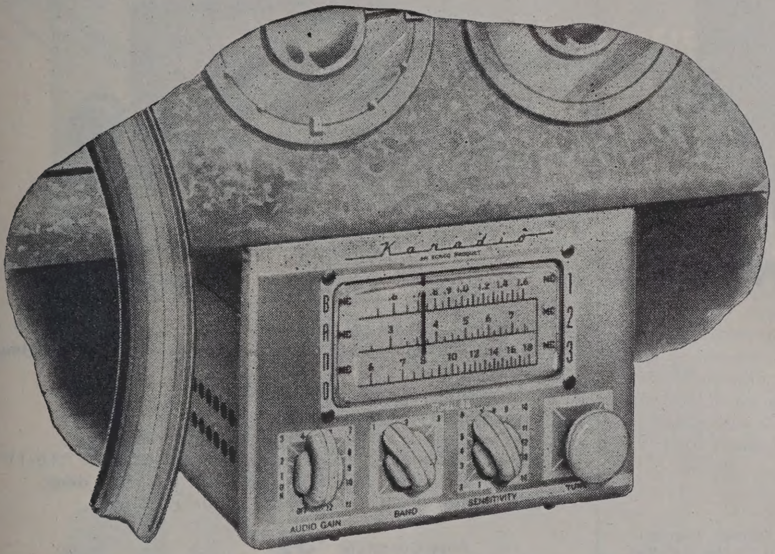
When the key is down, any signal normally going through the receiver is automatically suppressed. Raise the key and instantaneously the receiver functions.

The "Boomerang" can be used as a handy monitor for phone operation, as a code practice oscillator and a tone modulator. Tubes include a 7K7, a 6SL7 and a 6x4 rectifier. Cabinet is two-tone grey finish.

Amateur Net Price........**$29.50**

Karadio

TRULY FINE MOBILE RECEIVERS SINCE 1927



presents the new

MODEL 80-C–
3 BAND RECEIVER

BROADCAST BAND
- - - PLUS - - -

Amateur

75 - 40 - 20 METER BANDS

Band 1—Broadcast	**535-1700 KC**
Band 2—Short Wave	**2.7-7.3 MC**
Band 3—Short Wave	**5.4-18 MC**

MODEL 80B for the PILOT

Band 1—Range	**190-450 KC**
Band 2—Broadcast	**535-1700 KC**
Band 3—Aviation	**2.4-6.8 MC**

KNOW THE WEATHER BEFORE YOU FLY!

SMALL-NEAT
CONVENIENT

for your car

Specifications

Controls: On/off and audio gain, Band selector, Sensitivity, Band Tuning.

6 Tubes: RF Amplifier	6BA6
Power Amplifier	6AQ5
IF Amplifier	6BA6
Converter & Oscillator	6BE6
2nd Detector, 1st Audio and AVC	6AT6
Rectifier	6X5GT

Power: Operates off 6 Volt car battery. No special power units required.

Dimensions: Receiver—6¾" wide, 4⅝" high, 6¼" deep. Speaker and power supply unit—8" by 8" by 4¼".

Shipping Weight: 18 lbs.

Accessories: Diode current jack and phone jack on special order.

Check These Features!

- **High Sensitivity** . . . Three gang tuning capacitor. Tuned RF stage on all bands. Sensitivity runs below 5 microvolts for .5 watt output.
- **Positive Action Tuning** . . . controls mounted directly to radio chassis . . . no backlash from flexible shafts or gear assemblies.
- **Easy to install** . . . in car or truck . . . easy to remove. Accessibility of all parts simplifies repairs or replacements.
- **High Quality** 6" permanent magnet speaker combined with power supply unit. Developed specially for communications use in car or truck.
- **Sturdy Construction.** Housing of sheet steel, hammered metal finish. Steel chassis with heavy plating of cadmium.
- **Special Design** coils for optimum selectivity and sensitivity.
- **Accurately Calibrated**, large, easy-to-read slide rule dial.

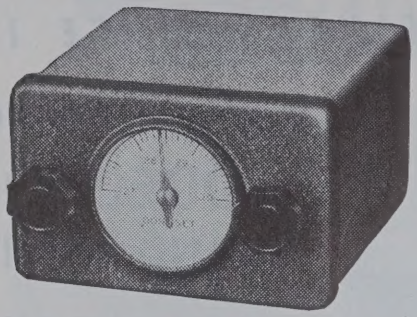
Other Karadios available in single band or fixed frequency receivers. For further information see your jobber or write direct.

ECKSTEIN RADIO AND TELEVISON CO.

LEROY, MINNESOTA

Export Sales Division: SCHEEL INTERNATIONAL, INC., 4237 N. Lincoln Ave., Chicago 18, Illinois, Cable Address: Harscheel, Chicago

GONSET CO.
BURBANK, CALIF.



STANDARD MOBILE CONVERTER

The GON-SET 10-11 Meter Converter, complete with built-in pre-selection, is designed for use with either broadcast, auto, or communications receivers. Attaching the Converter to your present radio provides unexcelled mobile or fixed reception. GON-SET converters have been manufactured since 1938 and are used world-wide. Long experience, together with precision design and construction assures a superior product. Ideal for surplus receivers.

SPECIFICATIONS

- Tubes: 6AK5 - R.F. 6AK5 - Mixer. 6C4 - OSC. 0B2 Voltage Regulator.
- Output: 1500-2000 KC.
- 8-1 Vernier.
- Illuminated Dial.
- Connecting Cables included.
- Weight: 2 lbs.
- Single Dial Control.

MODELS AVAILABLE

6	10-11	15	20	75
(50-54 M.C.)	(27-30 M.C.)	(21-22 M.C.)	(14-14.5 M.C.)	(3-4 M.C.)

• Other Frequencies on Special Order •

Price Complete **$39.95***

"100%'r"

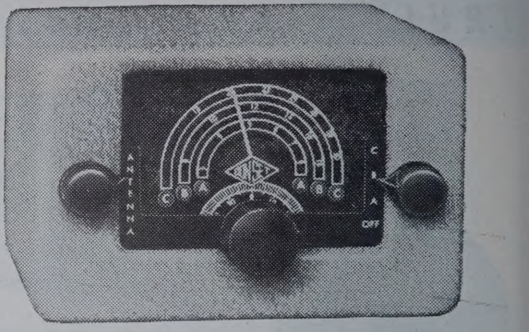
- ACCURATE
- INDEPENDENT OF WAVE FORM
- WORKS ON ANY AM RIG
- NO METER OR SCOPE TO WATCH

The GONSET "100%'r" is a modulation indicator of the "peak flash" type which flashes a warning light whenever the peak modulation percentage exceeds a predetermined value.

A selector switch giving the option of 85 % or 100% permits you not only to tell when overmodulation occurs, but also tells if the average speech level is up high enough.

The GONSET "100%'r" is a must for adjusting a rig using a low level speech clipper. With it you can set the clipper threshold accurately in a matter of seconds.

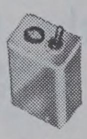
Price Complete **$19.95***



"3-30" MOBILE CONVERTER

- **Continuous coverage, 3 to 30 Mc.**
- **Bandspread dial with plenty of bandspread on amateur bands.**
- **High sensitivity on a short whip.**
- **High stability. No "warm up" drift.**
- **Four working (r.f.) tubes give lots of reserve gain.**
- **Extremely compact. Same size as famous GONSET "10-11" mobile converter, only 5¼" by 3½" by 5¼" deep.**
- **Low plate current drain (approximately 10 ma.).**

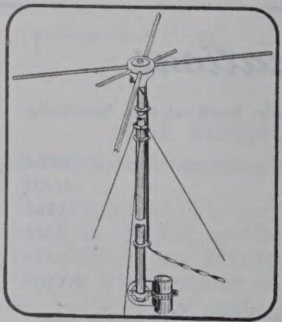
Price Complete **$39.95***



CLIPPER

A simple, inexpensive noise silencer designed specifically to aid in reduction of such interference as ignition noise, power leaks, electric razors, etc. The unit is small in size, 2" x 4" x 1½", and weighs less than one pound. This silencer makes an ideal attachment for communication and mobile receivers. Complete with installation instructions and connecting cables.

Price Complete **$8.25***



MODEL "W-W"

ALL CHANNEL TELEVISION BEAM ANTENNA

- **Operates on new principle.**
- **Rapid assembly. No screws or nuts to install.**
- **Highly efficient on all channels, 2 through 13.**
- **9-foot aluminum mast.**
- **Weatherproof twin lead connections.**
- **Designed by antenna engineers.**

The GONSET "Double-W" all-channel television beam antenna provides results heretofore obtainable only in the highest priced antennas and in addition offers several new features.

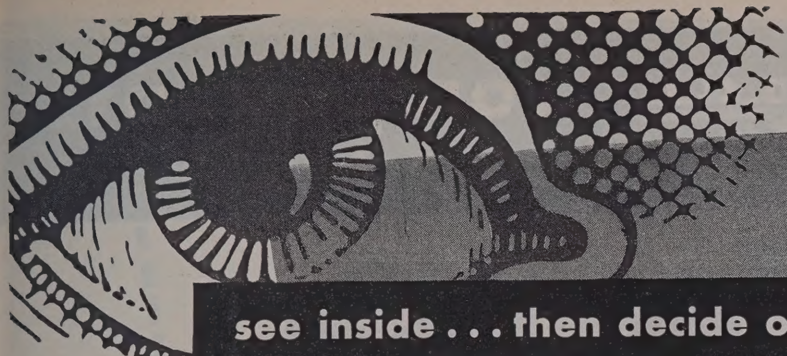
The **gain** of the "Double-W" **increases with frequency,** a desirable characteristic when it is considered that receiver sensitivity decreases and line losses increase as the frequency is raised.

The **directivity** of the "Double-W" also **increases with frequency,** a valuable feature when it is considered that "ghost" problems increase with frequency.

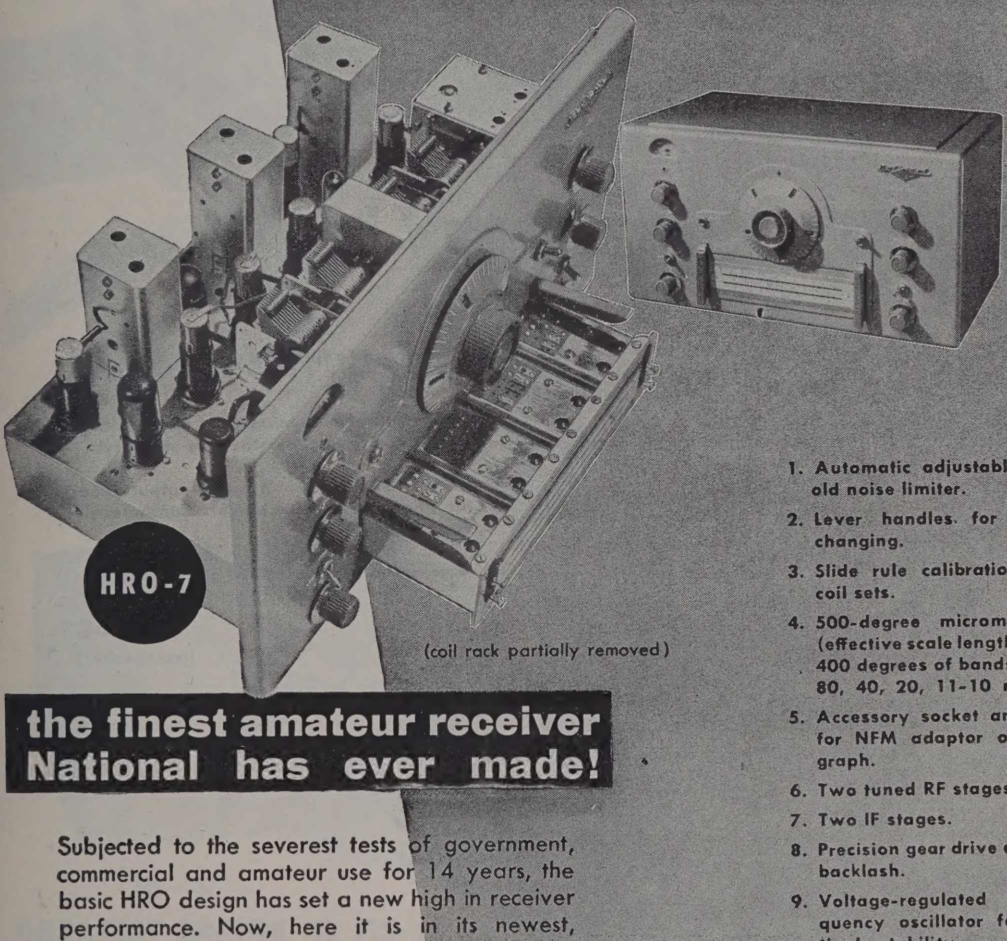
Due to new electrical operating principles no "holes" in reception will be found in any of the channels.

Throughout the high band the directivity pattern is sharper than that of a dipole and reflector combination, or a dipole, director and reflector combination. This provides better discrimination against spurious reflections from buildings and other tall objects slightly to one side of the main signal path. Such reflections often produce a particularly tough "ghost" problem on the high band which cannot be resolved satisfactorily with a dipole-and-reflector combination.

"DOUBLE W" complete with 9-foot mast	**$14.95**	**List**
"DOUBLE W" complete with 5-foot mast	**13.25**	**List**
STACKING KIT (2 "Double-W" required in addition)	**3.25**	**Net**
REFLECTOR KIT	**4.95**	**Net**



see inside . . . then decide on world-famous National RECEIVERS



(coil rack partially removed)

1. Automatic adjustable-threshold noise limiter.
2. Lever handles for coil set changing.
3. Slide rule calibration on all coil sets.
4. 500-degree micrometer dial (effective scale length 12 feet). 400 degrees of bandspread on 80, 40, 20, 11-10 meters!
5. Accessory socket and switch for NFM adaptor or phonograph.
6. Two tuned RF stages.
7. Two IF stages.
8. Precision gear drive eliminates backlash.
9. Voltage-regulated high frequency oscillator for exceptionla stability.

the finest amateur receiver National has ever made!

Subjected to the severest tests of government, commercial and amateur use for 14 years, the basic HRO design has set a new high in receiver performance. Now, here it is in its newest, finest form. As always, the major components are National designed and made.

RANGE: 1.7 to 30 mcs (Additional coils available for 50 to 430 kcs. 480 to 2050 kcs, 30 to 35 mcs.)

SENSITIVITY: 1 microvolt or better.

IMAGE REJECTION: Better than 30 db at 30 mcs.

SIGNAL-TO-NOISE RATIO: Exceeds 16 db with 5 microvolts input.

AVC CHARACTERISTIC: to ± 10 db between 1.0 and 100,000 microvolts input.

$312.86*

(Complete with coils and power supply, less speaker)

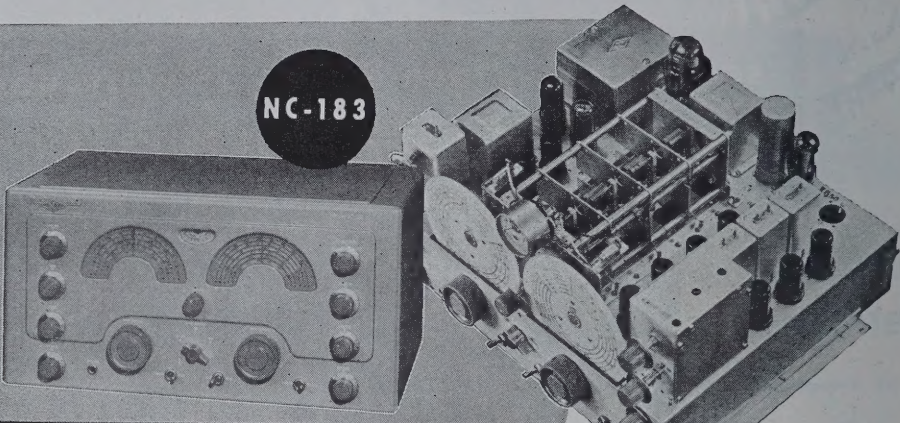
Deluxe HRO-7C

The incomparable HRO-7 power supply 10″ speaker, coils and coil compartment all in one convenient table unit.

$358.50*

National components

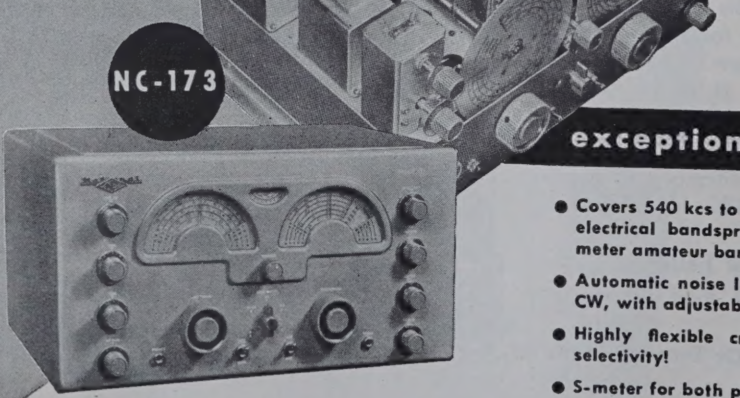
NATIONAL CO. MALDEN, MASS.



2 RF stages plus high-fidelity audio

- Covers 540 kcs to 31 mcs plus 48-56 mcs. Calibrated amateur bandspread for 6, 10-11, 20, 40 and 80 meter bands. Gear drive tuning dials.
- Two RF stages on all bands! Image rejection 40 db at 28 mc!
- New automatic "double-diode" noise limiter, effective on both phone and CW!
- New Crystal filter provides 6 steps of selectivity!
- S-meter with adjustable sensitivity for both phone and CW!
- Temperature compensation and voltage regulator provide outstanding stability!
- High-fidelity push-pull audio output! Ideal for phonograph attachment. Continuously variable tone control.
- Accessory socket for NFM adaptor!

$268*
(less speaker)



exceptional sensitivity, stability

- Covers 540 kcs to 31 mcs plus 48-56 mcs. Calibrated electrical bandspread for 6, 10-11, 20, 40 and 80 meter amateur bands!
- Automatic noise limiter effective on both phone and CW, with adjustable threshold!
- Highly flexible crystal filter provides 6 steps of selectivity!
- S-meter for both phone and CW!
- New temperature compensation and voltage regulation assure exceptional stability!
- Accessory socket for NFM-73 adaptor!
- Trimmer control permits panel adjustment of RF stage!
- Tone control. Phono input jack also provided.

$189.50*
(less speaker)

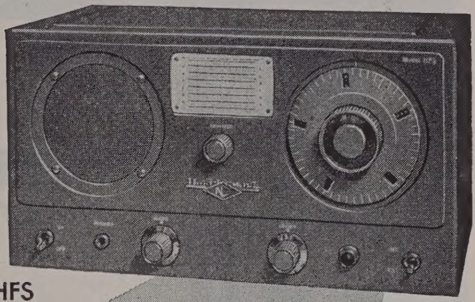
*Prices slightly higher west of the Rockies.

Net

National © EST. 1914 components

NATIONAL CO. MALDEN, MASS.

see inside . . . then decide on world-famous National RECEIVERS



HFS

EXPLORE VHF

Check MUF! Be ready for those DX contacts whether it's on 1, 2, 6 or 10 meters! Here is the latest in VHF design — compact, dependable, modestly-priced — ideal for both your car and your shack.

(less power supply) **$142.00***

COMPLETE COVERAGE 27 MCS — 250 MCS!

. . .in 6 bands, including 1¼, 2, 6, 10 and 11 meter amateur bands.

AM — FM — CW!

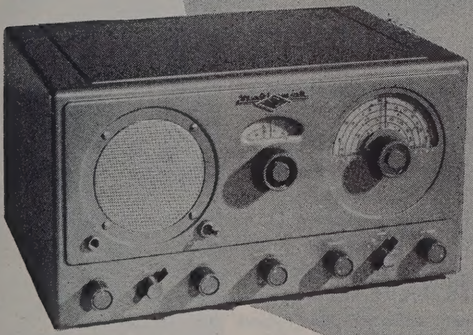
Operation assures optimum signal-to-noise ratio.

MOBILE, PORTABLE OR FIXED!

Operates from standard National 5886 power supply, National 686S vibrator power supply or "A" and "B" batteries! Built-in speaker. Light.

RECEIVER OR CONVERTER!

Makes any receiver capable of tuning to 10.6 mcs a top VHF receiver. All features of connected receiver are usable on VHF.

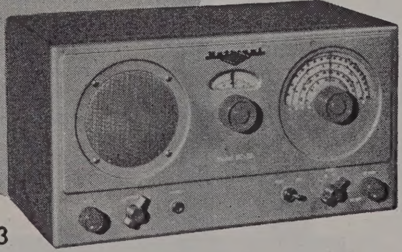


NC - 57

GREATEST RANGE IN ITS CLASS!

Complete coverage 540 kc to 55 mc. Separate 6SG7 tuned RF amplifier. Bandspread tuning over entire range. Separate RF gain control for adjusting sensitivity. Pitch control to adjust beat note on CW. Voltage regulated oscillator circuit. Automatic threshold noise limiter to minimize ignition noise, static, etc. Simple 5-position switch for band switching. RF trimmer control to match various types of antenna for maximum efficiency. Provision for battery operation. Accessory socket for SM-57 signal strength meter.

$89.50*



NC - 33

Operates from 110-120 volts AC or DC. Ideal for shipboard and other uses where DC only is available. Covers from 500 kcs distress frequency to 35 mcs. Electrical bandspread on all bands! Broadcast, amateur, police and foreign bands plainly marked. Automatic noise limiter assures optimum reception under all operating conditions. CW oscillator with pitch control provides superb CW reception.

$57.50*

(with built-in speaker)

** Prices slightly higher west of the Rockies.*

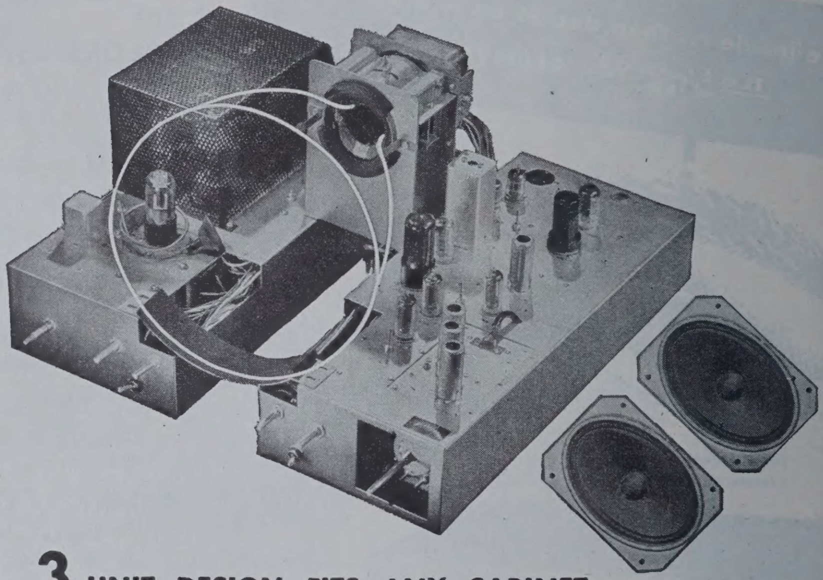
National © EST. 1914

components

NATIONAL CO. MALDEN, MASS.

1 2 3

NATIONAL TELEVISION chassis



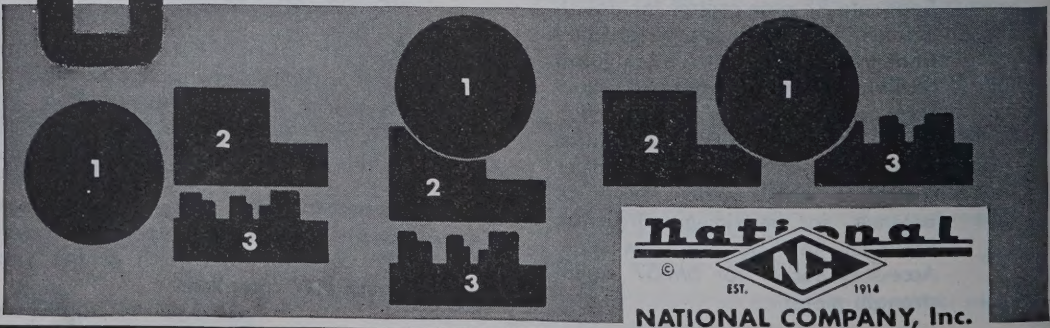
3-UNIT DESIGN FITS ANY CABINET . . .

The most versatile television chassis yet designed! Three basic units — power supply chassis, RF chassis and deflection yoke assembly — may be placed side by side, one above the other, etc., to conform to any cabinet. Simply plug in the cable connectors. Each unit is soundly engineered and built to famous National standards of performance.

1. Operates 10″ or 12″ picture tube. **2.** Tunes all 12 channels. **3.** Wired, pre-tuned and tested — not a kit. **4.** RF stage employs tuned grid and plate for maximum gain and optimum band width. **5.** Unique 36 mc IF minimizes interference. **6.** Fine tuning control covers range of 2-3 mc. for maximum tuning accuracy. **7.** Improved intercarrier sound. **8.** Magnetic deflection and "flyback" high voltage supply. **9.** 72-ohm unbalanced and 300-ohm balanced inputs. **10.** Supplied with two six-inch PM speakers.

$149.50 *(less picture tube)*

Supplied with mounting bracket for 10″ or 12″ picture tube



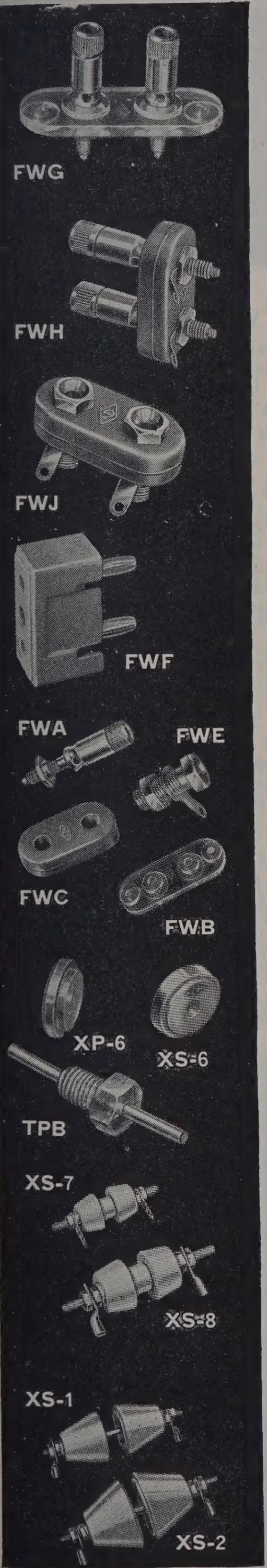
National © EST. 1914

NATIONAL COMPANY, Inc.

Net

National © EST. 1914 components

NATIONAL CO. MALDEN, MASS.



FWG Net $.60
A Victron terminal strip for high frequency use. The binding posts take banana plugs at the top, and grip wires through hole at the bottom, simultaneously, if desired.

FWH Net $.66
The insulators of this terminal assembly are molded R-39 and have serrated bosses that allow the thinnest panel to be gripped firmly, and yet have ample shoulders. Binding posts same as FWG above.

FWJ Net $.54
This assembly uses the same insulators as the FWH above, but has jacks. When used with the FWF plug (below), there is no exposed metal when the plug is in place.

FWF Net $.70
This molded R-39 plug has two banana plugs on ¾" centers and fits FWG, FWH or FWJ above. Leads may be brought out through the top or side.

FWA, Post **Net, each $.20**
Brass Nickel plated

FWE, Jack **Net, each $.15**
Brass Nickel Plated

BWA (not illustrated)
Net $.10
Standard banana plug, silver plated to reduce contact resistance in r.f. circuits.

BWE (not illustrated)
Net $.15
Matching jack for BWA, silver plated.

FWC, Insulator
Net, per pair $.24
R-39 Insulation.

FWB, Insulator
Net, each $.15
Polystyrene insulation.

XS-6 **Net, each $.12**
A low-loss steatite bushing for ½" holes. Passes 6-32 screw.

XP-6 **Net, box of ten $.51**
Same as above but polystyrene.

TPB **Net, per dozen $.75**
A threaded polystyrene bushing with removable .093 conductor moulded in, ¼" diam., 32 thread.

XS-7, (⅜" Hole) **Net $.36**
XS-8, (½" Hole) **Net $.48**
Steatite bushings. Prices include male and female bushings with metal fittings.

XS-1, (1" Hole) **Net $.72**
XS-2, (1½" Hole) **Net $.81**
Prices listed are per pair, including metal fittings. Insulation steatite.

AA-3 Net $.36
A low-loss steatite spreader for 6 inch line spacing. (600 ohms impedance with No. 12 wire.)

AA-5 Net $.30
A low-loss steatite aircraft-type strain insulator.

AA-6 Net $.54
A general purpose strain insulator of low-loss steatite.

GS-1, ½" x 1⅜" **Net $.24**
GS-2, ½" x 2⅞" **Net $.30**
GS-3, ¾" x 2⅞" **Net $.60**
GS-4, ¾" x 4⅞" **Net $.75**

GS-4A, ¾" x 6⅞"
Net $1.05
Cylindrical low-loss steatite standoff insulators with nickel plated caps and bases.

GSJ, (not illustrated)
Net $.10
A special nickel plated jack top threaded to fit the ¾" diameter insulators GS-3, GS-4 & GS-4A.

GS-10, ¾" high
Net, box of ten $.90

GS-10S (not illustrated) but same as GS-10 except includes threaded stud in top end. **Net, box of ten $1.00**

GS-5, 1¼" high **Net $.30**
GS-6, 2" high **Net $.42**
GS-7, 3" high **Net $.75**

These cone type standoff insulators are of low loss steatite. They are molded with a tapped hole in each end for mounting as follows:

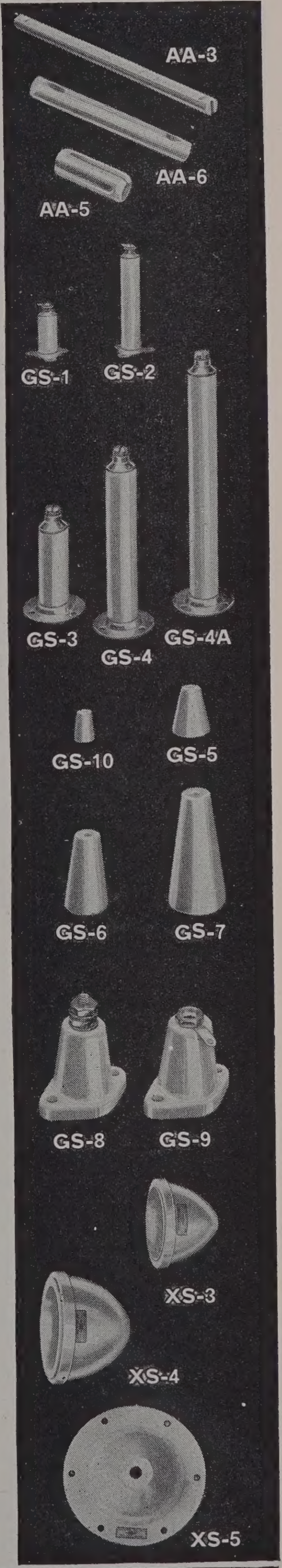
GS-5, 8-32 tap 7/16" deep; GS-6 & GS-7, 10-24 tap 11/16" deep; GS-10, 6-32 tap ¼" deep and GS-10S as noted above.

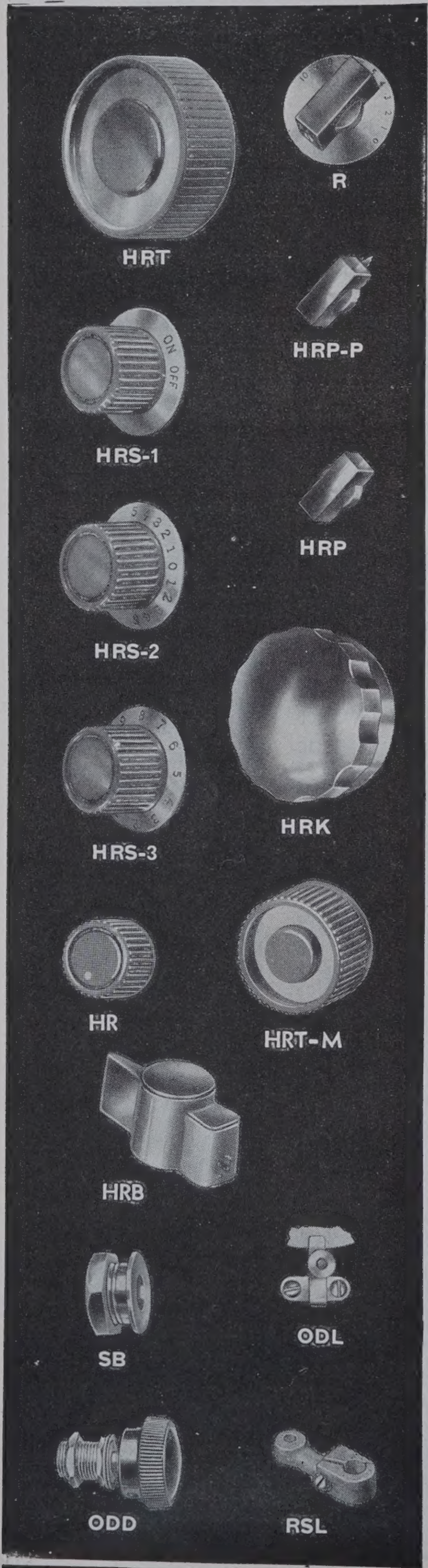
GS-8, with terminal **Net $.54**
GS-9, with jack **Net $.75**
These low-loss steatite standoff Insulators are also useful as lead-through bushings.

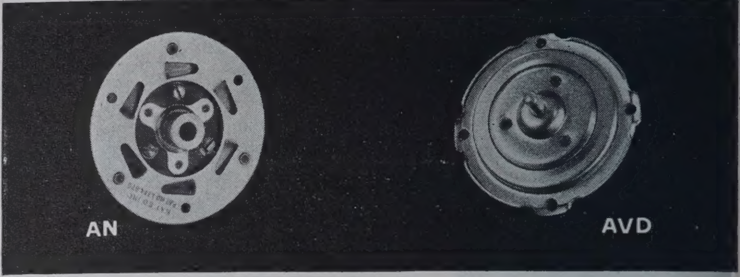
XS-3, (2¾" hole) **Net $3.60**
XS-4, (3¾" hole) **Net $4.35**
Prices are per pair and include nickel plated spindles, lugs and hardware. These low-loss steatite bowls are ideal for lead-in purposes at high voltages.

XS-5, Without Fittings
Net, each $ 4.95

XS-5F, With Fittings
Net, per pair $10.20
These big low-loss bowls have an extremely long leakage path and a 5¼" flange for bolting in place. Insulation steatite. Fittings include nickel plated brass spindles, lugs, nuts and washers.







HRT (gray or black) **Net $.75**

The HRT knob is 2⅛" in dia. and fits ¼" shafts. This knob has a chrome appearance circle and combined with the HRS series shown below gives the new look to panel layouts.

HRS (gray or black) **Net $.50**

The HRS series knobs are a popular easy to grip knob. They are molded of high quality plastic and have 1⅜" dia. chrome plated bevel skirts fit ¼" shafts available in the following scales:

HRS-1	ON-OFF	through 30°
HRS-2	5-0-5	through 180°
HRS-3	0-10	through 300°
HRS-4		Single etched line

HR (gray or black) **Net $.30**

An HRS type knob without the chrome plated skirt but with a white dot for spotting relative control settings.

HRB **Net $.45**

Ideal for bandswitching or other applications where a switch is turned to several index positions, the new HRB lever knob has just the right feel — a bright zinc alloy die casting.

SB **Net $.18**

A nickel plated brass bushing ½" dia. (Fits ¼" shaft).

ODL **Net $.33**

A locking device which clamps the rim of O, K, L and M Dials. Brass, nickel plated.

ODD **Net $.42**

Vernier pinch drive for O, L, or other plain dials.

AN Vernier Mechanism **Net $1.80**

A vernier mechanism ratio 5-1 has an insulated output shaft coupling for ¼" shafts. Drive Shaft fits 3/16" knob.

AVD Vernier Mechanism **Net $1.65**

Similar to AN-Output shaft coupling is non insulated.

For commercial uses many variations available. Write for further particulars.

R **Net $ .60**

This small dial has a 1⅝" dia. scale calibrated 0-10 in 180° for increased reading with clockwise rotation. Black bakelite knob. Fits ¼" shaft.

HRP-P **Net $ .24**

Black bakelite knob 1¼" long and ½" wide. Equipped with pointer. Especially suitable for use on wafer and other rotary switches on laboratory equipment and the like. (Fits ¼" shaft).

HRP **Net $ .18**

The type HRP knob has no pointer but is otherwise the same as the knob above. Recommended for uncalibrated or hard-tuning controls. (Fits ¼" shaft).

HRK **Net $ .57**

Black bakelite knob 2⅜" dial — extremely rugged. This is the knob used on National type O and type L dials.

HRT-M **Net $ .50**

This is a smaller version of the HRT and was designed originally for use on the NC-57 Receiver — now available in choice of gray or black — is 1-7/16" in diameter.

N Dial Net $4.50
AD Dial Net $3.00

The four-inch N and AD Dials have engine divided and die stamped scales respectively. The N Dial has a decimal vernier; the AD Dial employs a pointer. The planetary drive has a ratio of 5 to 1, and is contained within the body of the dial. 2, 3, 4 or 5 scale. Fits ¼" shaft. **Specify scale.**

B Dial Net $2.70

"Velvet Vernier" Dial, Type B, has a compact veriable ratio 6 to 1 min., 20 to 1 max. drive that is smooth and trouble free. The case is black bakelite. 1 or 5 scale. 4" dia. Fits ¼" shaft. **Specify scale.**

BM Dial Net $2.10

The BM Dial is a smaller version of the B for use where space is limited. The drive ratio is fixed. Although small in size, the BM Dial has the same smooth action as the larger units. 1 or 5 scale. 3" dia. Fits ¼" shaft. **Specify scale.**

AM Dial Net $2.25

The original "Velvet Vernier" mechanism in a metal skirted dial 3" in dia. ratio 5 to 1. It is available with 2, 3, 4, 5 or 6 scale and fits ¼" shaft.

P Dial Net $1.00

The new P dial is the same as the AM except direct drive.

Type O, 3½" dia., scale 2, with HRK knob, fits ¼" shafts. **Net $1.00**

Type L, same as O except 5" dia., scale 2 only. **Net $1.95**

Type K, same as O except less knob, complete with ODD vernier drive, scale 2 only. **Net $1.50**

Type M, same as K except 5" dia., scale 2 only. **Net $2.25**

The dials at the right are for individual calibration: all four employ the noted 5:1 drive ratio Velvet Vernier mechanism and are of excellent quality.

MCN Dial Net $2.70

The MCN dial has been scaled down to lend itself ideally to mobile installations and small converters and tuners. It may also be mounted on the standard 3½" rack panel where such mounting may be desirable. The dial provides three calibrating scales and a 0-100 logging scale. On the rear side of the dial, the mechanism extends ¼" below the dial frame. 2¾" H. x 3⅞" W.

SCN Dial Net $3.00

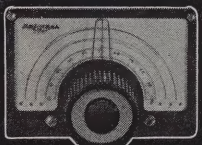
The SCN dial provides the same dial scales as the ACN dial but in a reduced size. It is used where economy of panel-mounting space is desirable and where a smaller dial would be out of proportion with the size of the panel. 4-7/16" H. x 6¼" W.

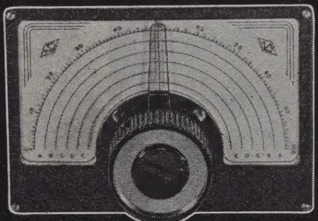
ICN Dial Net $6.00

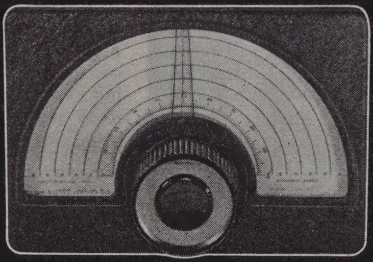
The ICN dial meets those hundreds of requests from amateurs the world over for an illuminated ACN dial. Two dial lights mounted on the top corners of the dial provide efficient and even illumination on all bands. The dial window has been blanked out in semi-circular shape to prevent shadow casting. Dial scales are the same as those used on the ACN dial. 5⅛" H. x 7¼" W.

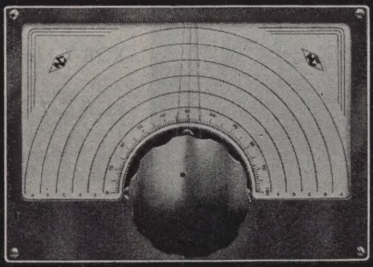
ACN Dial Net $3.30

The ACN is the original of this type dial, a National design for the benefit of experimenters who "build their own" and desire direct calibration 5" H. x 7¼" W.


MCN

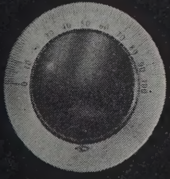

SCN


ICN


ACN

DIAL SCALES

Scale	Divisions	Rotation	Direction of Condenser Rotation for increase of dial reading
1	0–100–0	180°	Either
2	0–100	180°	Counter Clockwise
3	100–0	180°	Clockwise
4	150–0	270°	Clockwise
5	200–0	360°	Clockwise
6	0–150	270°	Counter Clockwise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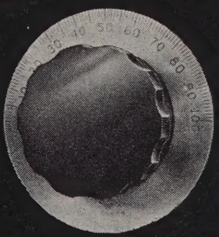
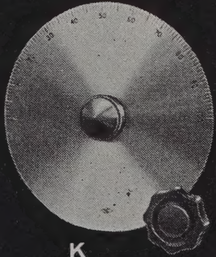
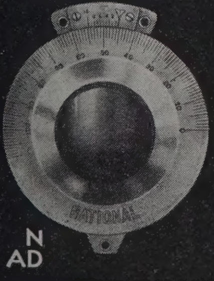
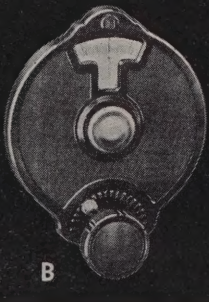

O
L


K
M


N
AD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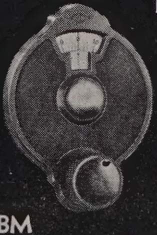
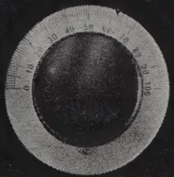
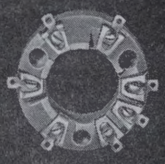
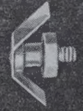

BM

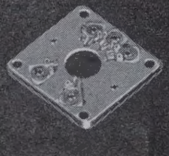

P

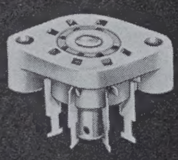

XLA

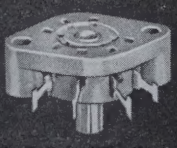
XLA-S


XLA-C

XCA


XMA


XOA-7 (Axial)
XOA-C-7


XOR-7 (Radial)
XOR-C-7

XOA-C-9

XLA **Net $.99**
A low-loss socket for the 6F4 and 950 series acorn tubes for frequencies as high as 600 Mc. Conventional by-pass condensers may be compactly mounted between the contact terminals and the chassis. Low contact resistance, short and direct leads and low and constant inductance are features.

XLA-S **Net $.36**
An internal shield fitting the XLA socket and suitable for tubes such as the 956.

XLA-C **Net $.36**
This miniature by-pass condenser may be mounted inside the socket, directly below the contact. Capacities of 50 or 100 mmf. available.

XCA **Net $.99**
A low-loss steatite socket for acorn triodes. Pin grips are designed to accept tube prongs with minimum strain but exert maximum pressure when seated.

XMA **Net $1.32**
For pentode acorn tubes, this socket has built-in by-pass condensers. The base is a copper plate.

XOA-7 (mica-filled bakelite) **Net $.50**

XOA-C-7 (ceramic) **Net $.50**

XOR-7 (mica-filled bakelite) **Net $.50**

XOR-C-7 (ceramic) **Net $.50**
These high quality sockets for the 7 pin miniature tubes have silver plated beryllium copper contacts that correctly grip the tube pins close to the base of the tube to provide the short leads and low inductance so necessary in ultra-high frequency design.

A novel feature of these new sockets is the interchangeability of the contacts, which are easily removed for replacement. This permits the use of a mixture of axial (XOA) and radial (XOR) type contacts in the same socket to obtain the shortest possible leads, or minimum size in tight places. The above sockets all mount with two 4-40 screws on .875" centers. Chassis cutout should be ¾" dia. Shields for use with these sockets are on page 21.

XOA-C-9 (ceramic) **Net $.57**

XOR-C-9 (ceramic) **Net $.57**
These sockets are for the new 9-pin miniature tubes. The XOR-C-9 (not illustrated) has radial contacts. Both have all of the features described above for the 7-pin types and they also mount with 4-40 screws. Mounting center dimension is 1⅛", the chassis cutout should be 13/16" dia.

CIR SERIES SOCKETS

Any Type **Net $.30**
Always a popular National component, type CIR Sockets feature low-loss steatite insulation, a contact that grips the tube prong for its entire length, and a metal ring for six position mounting.
XC-4, 5, 6, 7S, 7L and CIR-4, 5, 6, 7S and 7L all have 1-27/32" mounting centers. CIR-8E has slotted holes in plate but will mount on 1-27/32" center. CIR-8 and XC-8 have 1½" mounting centers.

XC SERIES SOCKETS

XC-4	**Net $.36**
XC-5	**Net $.39**
XC-6	**Net $.42**
XC-7S	**Net $.45**
XC-7L	**Net $.45**
XC-8	**Net $.39**

National wafer sockets have exceptionally good contacts with high current capacity together with low loss steatite insulation. All types have a locating groove to make tube insertion easy. The XC-6 is ideal for use with AR-17 coils shown on page 24.

HX-29 **Net $.81**
A low-loss wafer socket with steatite insulation for the popular 829 and 832 tubes.

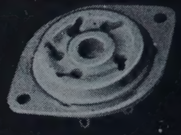
JX-51 **Net $.81**
A low loss steatite wafer socket for the 813 and other tubes having the Giant 7-pin base. (not illustrated)

XM-10 **Net $.90**
A heavy duty metal shell socket for tubes having the XU 4-pin base.

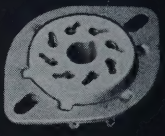
XM-50 **Net $1.20**
(see XM-10 for style)
A heavy duty metal shell socket for tubes having the Jumbo 4-pin base ("fifty watters").

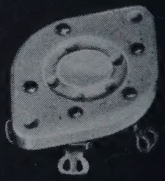
HX-100S **Net $1.65**
With Standoff Insulators
A low loss wafer socket suitable for the type 4-125-A, 4-250-A and other tubes using the Giant 5-pin base. Shield grounding clips are supplied which mount on the chassis with the socket mounting screws to ground the tube shield at three points. Air holes are provided in the socket to permit forced air cooling.

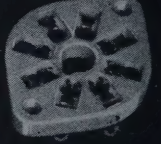
HX-100 **Net $.99**
Same as above less standoff insulators.

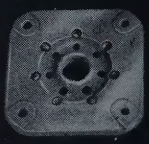

CIR-5

CIR-8

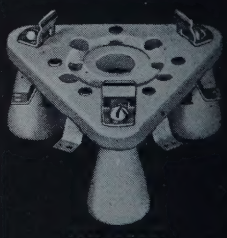

CIR-8E

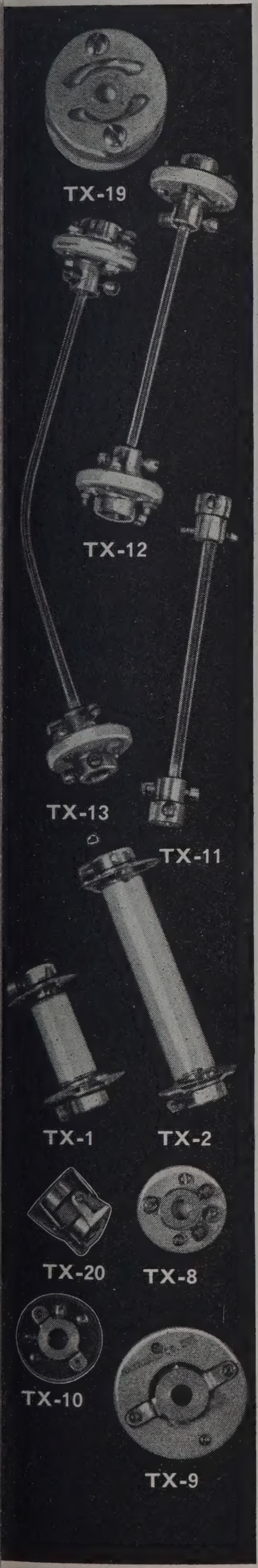

XC-5


XC-8


HX-29

XM-10


HX-100S



SHAFT COUPLINGS

TX-19 Net $1.25

A steatite insulated flexible coupling for 1/4" shafts. Conservatively rated at 5000 volts peak. Diameter 1 3/8", length 1". Length and flashover voltage can be increased by turning collars outboard.

TX-11 Net $.42

The flexible shaft of this coupling connects shafts at angles up to 90 degrees, and eliminates misalignment problems. Fits 1/4" shafts. Length 4 1/4".

TX-12, Length 4 5/8" **Net $ .90**
TX-13, Length 7 1/8" **Net $1.05**

These couplings use flexible shafting like the TX-11 above, but are also provided with steatite insulators at each end.

TX-1, Leakage path 1" **Net $.65**
TX-2, Leakage path 2 1/2" **Net $.75**

Flexible couplings with glazed steatite insulation which fit 1/4" shafts.

TX-20 Net $1.25

A small bakelite insulated flexible coupling of the "Hooke's joint" type. Accommodates up to five degrees angular misalignment as well as 1/64" offset of centers. For 1/4" shafts.

TX-8 Net $.60

A non-flexible rigid coupling with steatite insulation. 1" diam. Fits 1/4" shaft.

TX-10 Net $.40

A very compact insulated coupling free from backlash. Insulation is canvas bakelite. 1-1/16" diam. Fits 1/4" shaft.

TX-10F (Not illustrated) **Net $.45**

A new version of the TX-10 which employs thin canvas bakelite strips for flexibility.

TX-22 (not illustrated) **Net $.40**

A non-insulated coupling identical to TX-10 except of all metal construction. Makes good electrical connection between coupled shafts.

TX-9 Net $.75

This small insulated flexible coupling provides high electrical efficiency when used to isolate circuits. Insulation is steatite. 1 5/8" diam. Fits 1/4" shaft.

TX-21 (not illustrated) **Net $.40**

Similar to TX-10 except 13/16" long and couples 1/4" shaft to 5/32" shaft.

SAFETY GRID AND PLATE CAPS

SPP-9 Net $.21

Ceramic insulation. Fits 9/16" diameter.

SPP-3 Net $.21

Ceramic insulation. Fits 3/8" diameter.
National Safety Grid and Plate Caps have a ceramic body which offers protection against accidental contact with high voltage caps on tubes.

GRID AND PLATE GRIPS

Type 12, for 9/16" Caps **Net $.06**

Type 24, for 3/8" Caps **Net $.03**

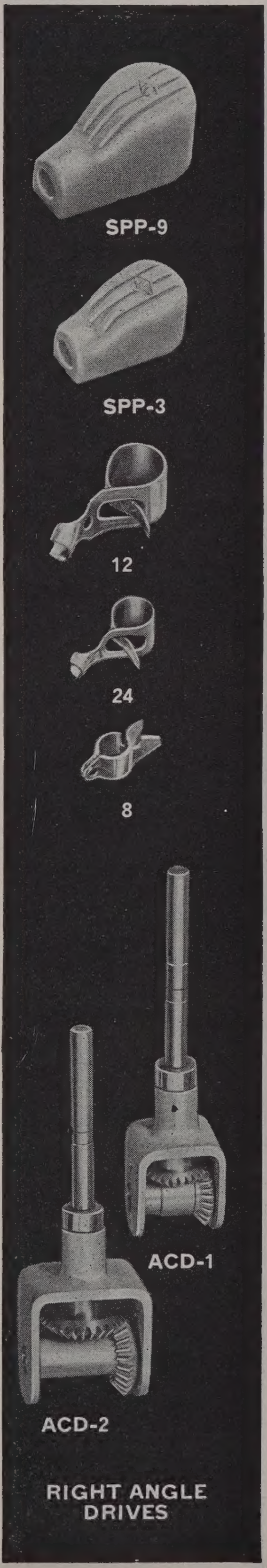
Type 8, for 1/4" Caps **Net $.03**

National Grid and Plate Grips provide a secure and positive contact with the tube cap and yet are released easily by a slight pressure on the ear.

RIGHT ANGLE DRIVES

ACD-1	Net $3.75
ACD-2	Net $3.90
ACD-3	Net $3.90

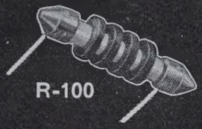
These sturdy drives were developed for use with the new National AMT condensers (see page 26). They are as compact as the torque requirements will allow and have nickel plated cast frames and bronze gears which operate smoothly without chatter or binding. The ACD-1 has 32 pitch gears and a 1/4" dia. dial shaft and drives 1/4" shafts. ACD-2 has 24 pitch gears (for heavier service) and 1/4" dia. shaft driving 1/4" shafts. ACD-3 is the same as ACD-2 except that it drives 3/8" diameter shafts.

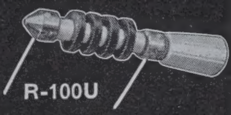


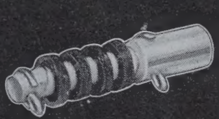
National components

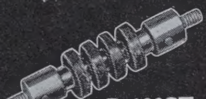
NATIONAL CO. MALDEN, MASS.

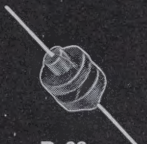
© EST. 1914


R-100


R-100U


R-100S


R-100ST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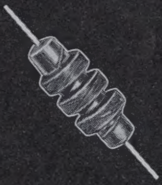

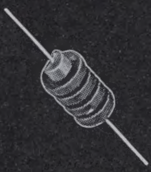
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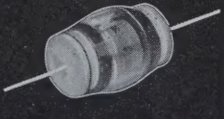
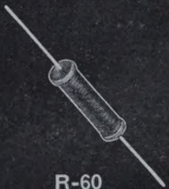

R-33G


R-60

R-100 ....Net $ .35
R-100U ....Net $ .42
R-100S ....Net $ .42
R-100ST ....Net $ .40

These RF chokes are identical electrically, but differ in mounting provisions. The R-100 employs pigtail leads; the R-100U has pigtail leads and a removable stand-off insulator; the R-100S has cotter-pin lug terminals and a non-removable stand-off insulator; the R-100ST has a 6-32 threaded stud at each end. These chokes are available in 2.5, 5 and 10 millihenry sizes and are rated at 125 milliamperes.

R-33 Net $ .35

The R-33 series chokes are 2-section RF chokes available in 10, 50, 100 and 750 microhenry sizes. Also available in this series is a single layer solenoid choke of 1 microhenry inductance. All are rated at 33 milliamperes. The chokes are wound on a ⅝" long form and range in diameter up to 5/16" maximum.

R-50 Net $ .35
R-50-1 Net $ .53

The R-50 series chokes are 3 and 4-section RF chokes and available in 0.5, 1, 2.5, and 10 millihenry sizes. They are rated at 50 milliamperes. The chokes are wound on a 1" long form and have a maximum diameter of 15/32". The 10 millihenry R—50-1 choke is wound on an iron core.

R-33G Net $3.60

The R-33G choke is a 2-section 750 microhenry RF choke hermetically sealed in glass with a current rating of 33 milliamperes. The choke body is 1" long by ⅝" diameter.

R-60 Net $ .35

The R-60 choke is a high current RF choke (500 milliamperes) available in 2 and 4 microhenry sizes. The choke is 1⅛" long by 5/16" diameter.

R-300 ....Net $ .38
R-300U ....Net $ .42
R-300S ....Net $ .42
R-300ST ....Net $ .40

These RF chokes are similar in size to R-100 series but have higher current capacity. The R-300U is provided with a removable stand-off insulator at one end. The R-300S has a non-removable stand-off insulator and cotter-pin lug terminals. The R-300ST has a 6-32 threaded stud at each end. Inductance values of 0.5, 1.0, 2.5 and 5.0 millihenries are available with a current rating of 300 milliamperes. R-300, R-300U, R-300S and R-300ST are identical electrically.

R-152 Net $1.75

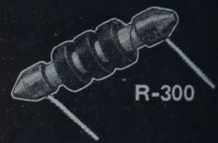
For use in the range between 2 and 4 Mc. Ideal for high power transmitter stages operated in the 80 meter amateur band. Inductance 4 m.h., DC resistance 10 ohms, DC current 600 ma. Coils honeycomb wound on steatite core.

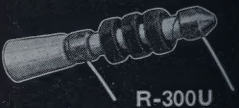
R-154 Net $1.75
R-154U Net $1.40

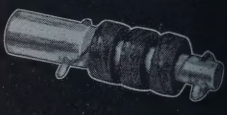
For the 20, 40 and 80 meter bands, Inductance 1 m.h., DC resistance 6 ohms, DC current 600 ma. Coils honeycomb wound on steatite core. The R-154U does not have the third mounting foot and the small insulator, but is otherwise the same as R-154. See illustration.

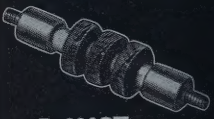
R-175 Net $2.25

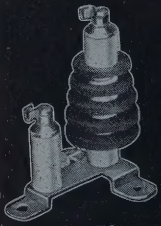
The R-175 Choke is suitable for parallel-feed as well as series-feed in transmitters with plate supply up to 3000 volts modulated or 4000 volts unmodulated. Unlike conventional chokes, the reactance of the R-175 is high throughout the 10 and 20 meter bands as well as the 40 and 80 meter bands. Inductance 225 µh, distributed capacity 0.6 mmf., DC resistance 6 ohms, DC current 800 ma., voltage breakdown to base 12,500 volts.

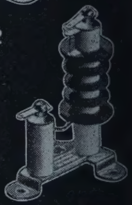

R-300

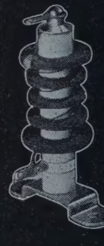

R-300U

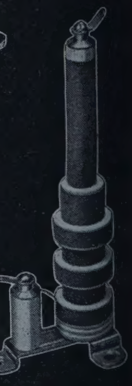

R-300S


R-300ST


R-152

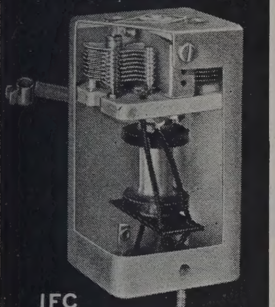

R-154


R-154U


R-175

Manufacturers: We have facilities for quantity production of RF chokes of practically any type. Send us your specifications.

I. F. TRANSFORMERS


IFC
IFCO

IFL
IFM
IFN
IFO

IFC, Transformer, **Net $4.25**
IFCO, Oscillator, **Net $4.25**
Litz coils wound on a polystyrene form and ceramic insulated air-dielectric trimming condensers make these transformers inherently stable and exceptionally retentive of tuning. The 4½" x 2⅜" x 2" shield can has two 6-32 spade bolts for mounting. Available for either 175 KC or 450-550 KC. Specify frequency.

IFL FM Discriminator **Net $6.90**
IFM IF Transformer **Net $6.45**
IFN IF Transformer **Net $6.45**
IFO FM Ratio Discriminator **Net $6.98**

IFL, IFM, IFN and IFO transformers operate at 10.7 Mc. and are designed for use in FM Superheterodyne receivers. Coils are precision wound on grooved polystyrene forms and tuning is accomplished by movable iron cores. Bandwidth is not affected by tuning slug position. The transformer cans are 1⅜" square and stand 3⅛" above the chassis. Two 6-32 spade bolts are provided for mounting.

The IFL transformer is a 10.7 Mc. FM discriminator transformer suitable for use in conventional FM receiver discriminator circuit and is linear over a band of ±100 Kc.

The IFM transformer is a 10.7 Mc. IF transformer with a 150 Kc. bandwidth at 1.5 db attenuation. Approximate stage gain of 30 is obtained with IFM Transformer and 6SG7 tube.

The IFN transformer is a 10.7 Mc. IF transformer with a 100 Kc. pass band at 1.5 db attenuation. Approximate stage gain of 30 is obtained with IFN Transformer and 6SG7 tube.

The IFO transformer is a 10.7 Mc. FM discriminator transformer of the ratio type and is linear over a band of ±100 Kc.

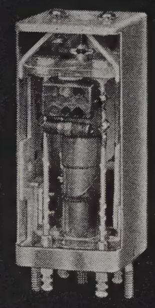
IFJ, with variable coupling **Net $8.25**

IFK, with fixed coupling **Net $7.25**

15 Mc. IF transformers suitable for ultra high frequency superheterodynes. They are made in two models with and without variable coupling. Approximate stage gain of 10 is obtained with IFJ or IFK Transformer and 6AB7 tube.

SA:4842 **Net $4.50**
A 456 kc. discriminator transformer for narrow band frequency modulation. This unit is the nucleus of the NFM adapter described by Harrington and Bartell in November 1947 QST. Two slug-tuned secondaries are employed and discrimination is accomplished by resonating one at approximately 10 kc. above, the other at approximately 10 kc. below the center frequency of the i.f. channel.

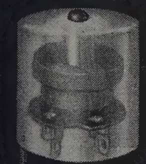
CD-1, ¼ pint can **Net $.95**
Liquid Polystyrene Cement — is ideal for windings as it will not spoil the properties of the best coil form.


IFJ
IFK

SA-4842

NATIONAL COIL DOPE
A SPECIAL LACQUER FOR R. F. COILS
NATIONAL COMPANY, Inc.
MALDEN, MASS. U. S. A.
CD-1

COILS AND COIL FORMS


OSR

XR-50

AR-5

AR-2

AR-2 High Frequency Coil **Net $1.13**
AR-5 High Frequency Coil **Net $.97**

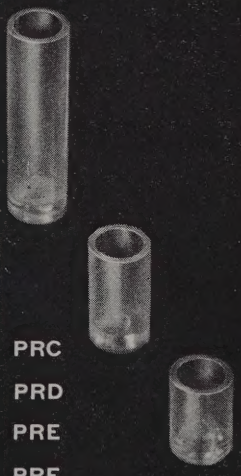
The AR-2 and AR-5 coils are high Q permeability tuned RF coils on low loss mica-filled bakelite forms. The AR-2 coil tunes from 75 Mc. to 220 Mc. with capacities from 100 to 10 mmfd. The AR-5 coil tunes from 37 Mc. to 110 Mc. with capacities from 100 to 10 mmfd. The inductive windings supplied may be replaced by other windings as desired to modify the tuning range.

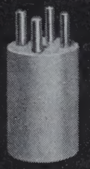
XR-50 **Net $.60**
These mica-filled bakelite coil forms may be wound as desired to provide a permeability tuned coil. The form winding length is 11/16" and the form winding diameter is ½ inch. The iron slug is ⅜" dia. by ½" long.

OSR **Net $1.80**
A shielded oscillator coil which tunes to 100 kc. with .00041 mfd. Two separate inductances, closely coupled. Excellent for interruption-frequency oscillator in super-regenerative receivers.

Symbol	Outside Diameter	Length	Net
PRC-1	⅜"	⅜"	.15
PRC-2	⅜"	½"	.15
PRC-3	⅜"	¾"	.15
PRD-1	½"	½"	.15
PRD-2	½"	1"	.15
PRE-1	9/16"	¾"	.18
PRE-2	9/16"	1"	.18
PRE-3	9/16"	2"	.24
PRF-1	¾"	¾"	.24
PRF-2	¾"	1¼"	.30

These small coil forms are of molded polystyrene, open at one end and closed at the other except for a hole which permits mounting by a single 6-32 screw. A size for every application.

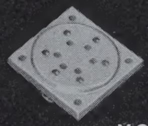

PRC
PRD
PRE
PRF



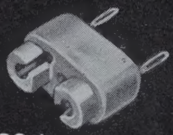
XR-1
XR-2

XR-3

XR-4
XR-5
XR-6



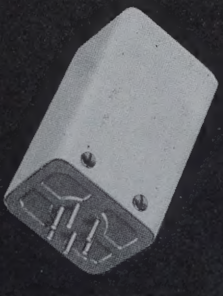
XC-6C



SC-1

CFA

PH-1



PLUG-IN BASE AND SHIELD

Coil Forms molded of R-39 mica-filled bakelite permitting them to be grooved and drilled. Coil Form diameter 1", length 1½".

XR-1 Four Prong, **Net $.35**
XR-2, without Prongs **Net $.25**

XR-3, molded of R-39 Diameter 9/16", length ¾" without prongs. **Net $.20**

XR-4, Four Prong, **Net $.51**
XR-5, Five Prong, **Net $.51**
XR-6, Six Prong, **Net $.60**
Molded of R-39 permitting them to be grooved and drilled. Coil Form Diameter 1½", length 2¼". A special socket is required for the XR-6.
National type **XC-6C** **Net $.51**

SC, Crystal Sockets **Net $.32**
The SC-1, SC-2, and SC-3 are crystal mounting sockets for crystal holders with mounting pins spaced 0.5000", 0.486", and .750" respectively and pin diameters of ⅛" and 3/32" and ⅛" respectively, steatite insulation. Single 4-36 or 4-40 screw mounting for SC-1 and SC-2; single 6-32 screw mounting for SC-3.

CFA **Net $.35**
The National chart frame is supplied with a celluloid sheet to cover the chart size 2¼" x 3¼" with sides ¼" wide. Durable finish.

PH-1 An attractive and rugged pull handle of cast zinc alloy chrome plated, with 10-32 Tapped Holes on 3¾" mounting centers. **Net $.45**

PH-2 same as PH-1 but with black or gray finish. **Net $.25**
The plug in base and shield includes the low loss R-39 base which is ideal for mounting condensers and coils when it is desirable to have them shielded and easily removable. Shield is 2" x 2⅜" x 4½".

5 Prong base and shield **PB-10-5**	**Net $.75**
6 Prong base and shield **PB-10-6**	**Net $.75**
5 Prong base only **PB-10-A-5**	**Net $.51**
6 Prong base only **PB-10-A-6**	**Net $.51**

RZ Coil Shield **Net $.35**
1⅜" square x 4" high.
RS Coil Shield **Net $.35**
1-7/16" x 1⅞" x 3½" high.

RO Coil Shield **Net $.35**
2" x 2⅜" x 4⅛" high. National Coil Shields are formed from a single piece of pure aluminum. They are mechanically strong and have ample thickness to mount small parts on the walls, and include spade belts, for chassis mounting.

T-78 Tube Shield **Net $.27**
National Tube Shield type T-78 is a three-piece pure aluminum shield suitable for shielding glass tubes with ST-12 bulb, such as the 6C6 and 6D6 tubes.

JS-1 Jack Shield **Net $.30**
For shielding small standard jacks mounted behind a panel, or on the ends of extension coils. Indispensable for reducing hum pickup.

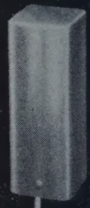
XOS Tube Shields **Net $.48**
The XOS tube shield is a two-piece shield for the miniature Button 7 pin base tubes. The shield is available in three sizes corresponding to the tube body heights XOS-1 for 1-5/16", XOS-2 for 1½", XOS-3 for 2".

The shield contains a spring which centers tube in shield and holds tube and shield firmly in place. The two 4-40 spade bolts serve to mount the XOA or XOR Socket and the XOS Tube Shield.

FXT Fixed tuned exciter tank similar in general construction to National I.F. transformers, this unit has two 25 mmf., 2000 volt air condensers and an unwound XR-2 Coil Form.
FXT, (without plug-in base) **Net $3.45**
FXTB-5 (with 5 prong base) **Net $3.90**
FXTB-6 (with 6 prong base) **Net $3.90**

Paint (not illustrated)

CP-1, dark gray **Net $.40**
CP-2, black **Net $.40**
A high quality air-drying paint that may be applied with a brush.
CP-3, light gray, matches newest National receivers—for spraying and baking. **Net $.50**

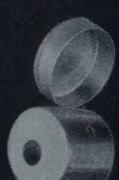


RZ

RS

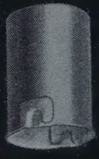
RO

T-78

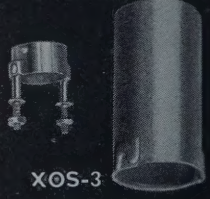


JS-1

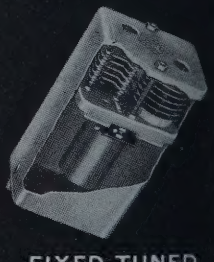
XOS-1



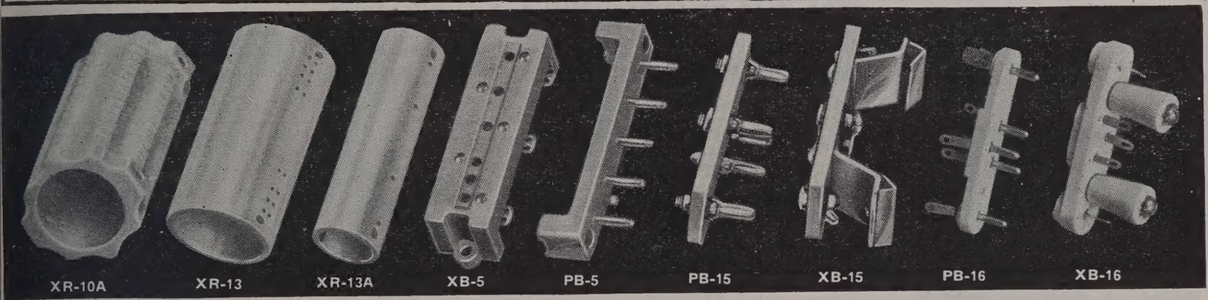
XOS-2



XOS-3



FIXED-TUNED EXCITER TANK



TRANSMITTER COIL FORMS

The Transmitter Coil Forms and Mounting are designed as a group, and mount conveniently on the bars of a TMA condenser. The larger coil form, Type XR-14A, (not illustrated) has a winding diameter of 5", a winding length of 3¾" (30 turns total) and is intended for the 80 meter band. The smaller form, Type XR-10A, has a winding length of 3¾" and a winding diameter of 2½" (26 turns total). It is intended for the 20 and 40 meter bands.

Either coil form fits the PB-15 plug. For higher frequencies, the plug may be used with a self-supporting coil of copper tubing. The XB-15 Socket may be mounted on breadboards or chassis, as well as on the TMA Condenser.

SINGLE UNITS	
XR-10A, Coil Form only	Net $ .99
XR-14A, Coil Form only	Net $2.40
PB-15, Plug only	Net $1.05
XB-15, Socket only	Net $1.20
ASSEMBLIES	
UR-10A, Assembly (including small Coil Form, Plug and Socket)	Net $3.24
UR-14A, Assembly (including large Coil Form, Plug and Socket)	Net $3.60

BUFFER COIL FORMS

National Buffer Coil Forms are designed to mount directly on the tie bars of a TMC condenser using the PB-5 Plug and XB-5 Socket. Plug and Socket are of molded R-39.

The two coil forms are of steatite, left unglazed to provide a tooth for coil dope. The larger form, Type XR-13, is 1¾" in diameter and has a winding length of 2¾". The smaller form, Type XR-13A, is 1" in diameter and provides a winding length of 2¾". Both forms have holes for mounting and for leads.

SINGLE UNITS	
XR-13, Coil Form only	Net $.75
XR-13A, Coil Form only	Net $.60
PB-5, Plug only	Net $.51
XB-5, Socket only	Net $.51
ASSEMBLIES	
UR-13A, Assembly (including small Coil Form, Plug and Socket)	Net $1.65
UR-13, Assembly (including large Coil Form, Plug and Socket)	Net $1.65

EXCITER COILS

There is a National exciter coil for every application. AR-15 coils are mounted on 5 pin bases which fit any standard 5 contact tube socket. AR-16 coils are mounted on the well known National PB-16 plug which fits the National XB-16 socket. The AR-17 coils have 6 pin bases which fit standard 6 contact tube sockets and the link windings of this series have center taps which may be grounded for harmonic reduction. All center link models are center tapped for use in balanced circuits. Insulation polystyrene and steatite. For use where plate power input does not exceed 50 watts. Available with fixed or swinging end or center links for all amateur bands, 6 through 80 meters.

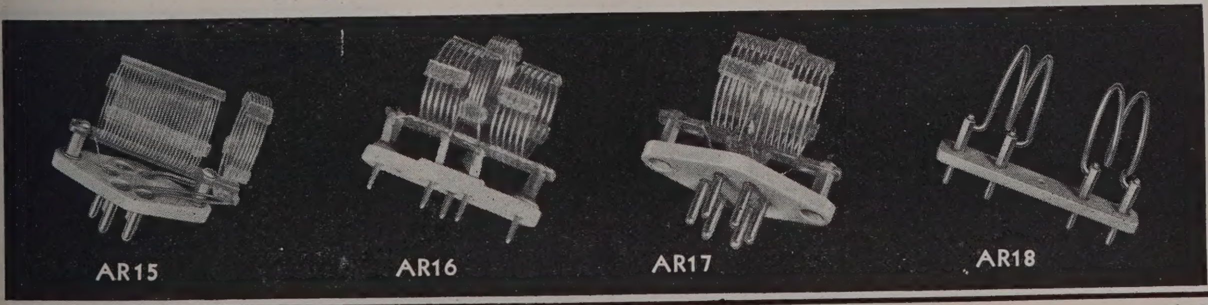
The XR-16 Coil Form (not illustrated) fits the PB-16 Plug-in Base; it has a winding length of 1¾", diameter 1¼".

AR-15, AR-16, AR-17 Coil, any type	Net $1.25
XR-16 Coil Form	Net $ .42
PB-16 Plug-in Base	Net $ .45
XB-16 Socket for PB-16	Net $ .45

500 WATT COILS

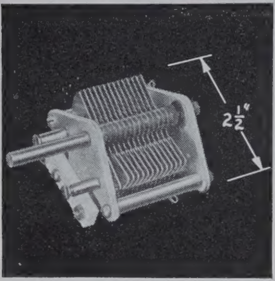
Air-wound coils designed to mount on the split stator models of National AMT condensers. The AR18-C coils have fixed center links and require the XB18-C socket. The AR18-S coils are designed to accommodate the swinging link furnished with the XB18-S socket. Link winding of the XB18-S has a center tap which may be grounded for harmonic reduction. Plugs and jacks are silver plated to insure low contact resistance. Insulation, steatite. The sockets (not illustrated) are 7¼" in length. AR-18 coils are available for all amateur bands, 6 through 80 meters.

(See your National distributor for prices)



TYPE TMS TRANSMITTING CONDENSERS

This is a condenser designed for transmitter use in low power stages. It is compact, rigid, and dependable. Provision has been made for mounting either on the panel, on the chassis, or on two stand-off insulators. Insulation is steatite. Voltage ratings listed are conservative.

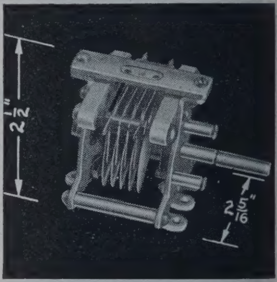


Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	Net
SINGLE STATOR MODELS							
100 Mmf.	9.5	3″	.026″	1000v.	9	**TMS-100**	**$2.60**
150	11	3″	.026″	1000v.	14	**TMS-150**	**2.80**
250	13.5	3″	.026″	1000v.	22	**TMS-250**	**3.30**
300	15	3″	.026″	1000v.	27	**TMS-300**	**3.80**
35	8	3″	.065″	2000v.	7	**TMSA-35**	**3.90**
50	11	3″	.065″	2000v.	11	**TMSA-50**	**4.40**
DOUBLE STATOR MODELS							
50–50 Mmf.	6–6	3″	.026″	1000v.	5–5	**TMS-50D**	**$3.00**
100–100	7–7	3″	.026″	1000v.	9–9	**TMS-100D**	**3.20**
50–50	10.5–10.5	3″	.065″	2000v.	11–11	**TMSA-50D**	**4.40**

TYPE TMK TRANSMITTING CONDENSERS

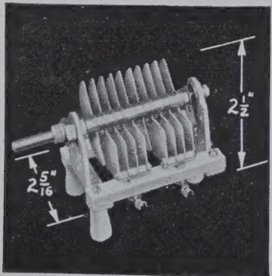
This is a new condenser for exciters and low power transmitters. Special provision has been made for mounting AR-16 coils in a swivel plug-in mount on either the top or rear of the condenser. For stand-off or panel mounting-steatite insulation.

Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	Net
SINGLE STATOR MODELS							
35 Mmf.	7.5	2 7/32″	.047″	1500v.	7	**TMK-35**	**$3.45**
50	8	2 3/8″	.047″	1500v.	9	**TMK-50**	**3.55**
75	9	2 11/16″	.047″	1500v.	13	**TMK-75**	**3.80**
100	10	3″	.047″	1500v.	17	**TMK-100**	**3.95**
150	10.5	3 5/8″	.047″	1500v.	25	**TMK-150**	**4.65**
200	11	4 1/4″	.047″	1500v.	33	**TMK-200**	**5.25**
250	11.5	4 7/8″	.047″	1500v.	41	**TMK-250**	**5.75**
DOUBLE STATOR MODELS							
35–35 Mmf.	7.5–7.5	3″	.047″	1500v.	7–7	**TMK-35D**	**$3.80**
50–50	8–8	3 5/8″	.047″	1500v.	9–9	**TMK-50D**	**3.95**
100–100	10–10	4 1/4″	.047″	1500v.	17–17	**TMK-100D**	**5.25**
Swivel Mounting Hardware for AR 16 Coils						**SMH**	**$ .10**



TYPE TMH TRANSMITTING CONDENSERS

A condenser that features very compact construction. Excellent power factor, and aluminum plates .0400" thick with polished edges. It mounts on the panel or on removable stand-off insulators. Steatite insulators have long leakage path. Stand-offs included in listed price.

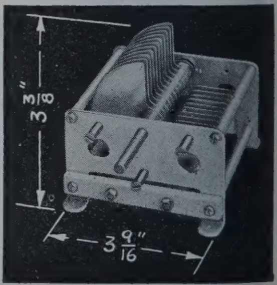


Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	Net
SINGLE STATOR MODELS							
50 Mmf.	9	3 3/4″	.085″	3500v.	15	**TMH-50**	**$3.95**
75	11	3 3/4″	.085″	3500v.	19	**TMH-75**	**4.15**
100	12.5	5 1/8″	.085″	3500v.	25	**TMH-100**	**4.35**
150	18	6 1/2″	.085″	3500v.	37	**TMH-150**	**4.95**
35	11	5 1/8″	.180″	6500v.	17	**TMH-35A**	**4.25**
DOUBLE STATOR MODELS							
35–35 Mmf.	6–6	3 3/4″	.085″	3500v.	9–9	**TMH-35D**	**$4.15**
50–50	8–8	5 1/8″	.085″	3500v.	13–13	**TMH-50D**	**4.35**
75–75	11–11	6 1/2″	.085″	3500v.	19–19	**TMH-75D**	**4.95**

TYPE TMC TRANSMITTING CONDENSERS

A condenser designed for use in the power stages of transmitters where peak voltages do not exceed 3000 volts. The frame is extremely rigid and arranged for mounting on panel, chassis or stand-off insulators. The plates are aluminum with buffed edges. Insulation is steatite. The stator in the split stator models is supported at both ends.

Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	Net
SINGLE STATOR MODELS							
50 Mmf.	10	3″	.077″	3000v.	7	**TMC-50**	**$3.60**
100	13	3 1/2″	.077″	3000v.	13	**TMC-100**	**4.25**
150	17	4 5/8″	.077″	3000v.	21	**TMC-150**	**5.25**
250	23	6″	.077″	3000v.	32	**TMC-250**	**5.70**
300	25	6 3/4″	.077″	3000v.	39	**TMC-300**	**6.10**
DOUBLE STATOR MODELS							
50–50 Mmf.	9–9	4 5/8″	.077″	3000v.	7–7	**TMC-50D**	**$4.35**
100–100	11–11	6 3/4″	.077″	3000v.	13–13	**TMC-100D**	**5.95**
200–200	18.5–18.5	9 1/4″	.077″	3000v.	25–25	**TMC-200D**	**7.25**



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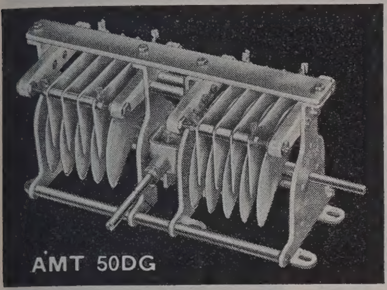
NATIONAL CO. MALDEN, MASS.

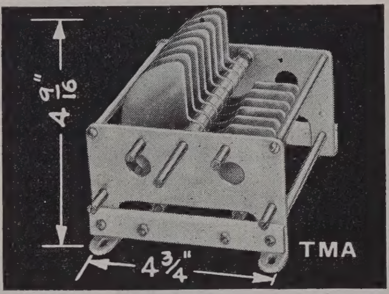


TYPE AMT

A larger and sturdier model of the TMK condenser. The frame is extremely rigid, with mounting feet a part of the end plates. Heavy steatite insulation.

The solid aluminum tie bar across the top of the condenser acts as a mounting for AR-18 series coils in the double stator models.

The double stator models are available in either standard end drive (D series) or center-drive (DG series) with ¼" dia. shaft extension.



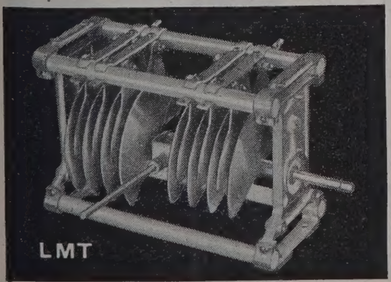
TYPE TMA

This is a larger model of the popular TMC. The frame is extremely rigid and arranged for mounting on panel, chassis or stand-off insulators. The plates are of heavy aluminum with rounded and buffed edges. Insulation is steatite located outside of the concentrated field.

Maximum Capacity	Minimum Capacity	Length	Air Gap	Peak Voltage	No. of Plates	Catalog Symbol	Net
SINGLE STATOR MODELS							
50 Mmf.	13	4¾″	.177″	6000 v.	9	AMT-50	$ 5.20
100	20	6¾″	.177″	6000 v.	17	AMT-100	6.10
300	19.5	4 9/16″	.077″	3000 v.	23	TMA-300	7.60
50	15	4 9/16″	.171″	6000 v.	7	TMA-50A	4.95
100	19.5	6⅞″	.171″	6000 v.	15	TMA-100A	5.85
150	22.5	6⅞″	.171″	6000 v.	21	TMA-150A	6.45
230	33	9 5/16″	.171″	6000 v.	33	TMA-230A	7.95
100	30	9¼″	.265″	9000 v.	23	TMA-100B	8.50
150	40.5	12½″	.265″	9000 v.	33	TMA-150B	9.95
50	21	7⅛″	.359″	12,000 v.	13	TMA-50C	5.55
100	37.5	12⅞″	.359″	12,000 v.	25	TMA-100C	8.95
75	25	18 1/16″	.719″	20,000 v.	17	TML-75E	18.35
150	60	18 1/16″	.469″	15,000 v.	27	TML-150D	18.50
100	45	13⅝″	.469″	15,000 v.	19	TML-100D	16.60
50	22	8 5/16″	.469″	15,000 v.	9	TML-50D	11.50
245	54	18 1/16″	.344″	10,000 v.	35	TML-245B	20.15
150	45	13⅝″	.344″	10,000 v.	21	TML-150B	18.35
100	32	10 15/16″	.344″	10,000 v.	15	TML-100B	17.55
75	23.5	8 5/16″	.344″	10,000 v.	11	TML-75B	12.80
500	55	18 1/16″	.219″	7,500 v.	49	TML-500A	24.60
350	45	13⅝″	.219″	7,500 v.	33	TML-350A	19.65
250	35	10 15/16″	.219″	7,500 v.	25	TML-250A	18.35
DOUBLE STATOR MODELS D—End drive DG—Center drive							
50–50	13–13	9⅜″	.177″	6000 v.	18	AMT-50D	7.00
100–100	20–20	13⅜″	.177″	6000 v.	34	AMT-100D	9.00
50–50	13–13	9⅜″	.177″	6000 v.	18	AMT-50DG	10.75
100–100	20–20	13⅜″	.177″	6000 v.	34	AMT-100DG	12.75
200–200	15–15	6⅞″	.077″	3000 v.	16–16	TMA-200D	9.40
180–180	10–10	12¾″	.140″	4000 v.	24–24	TMA-180D	12.90
50–50	12.5–12.5	6⅞″	.155″	6000 v.	8–8	TMA-50DA	6.75
100–100	17–17	9 5/16″	.155″	6000 v.	14–14	TMA-100DA	8.75
60–60	19.5–19.5	12½″	.249″	9000 v.	15–15	TMA-60DB	8.95
40–40	18–18	12⅞″	.343″	12,000 v.	11–11	TMA-40DC	8.50
30–30	12–12	18 1/16″	.719″	20,000 v.	7–7	TML-30DE	18.55
60–60	26–26	18 1/16″	.469″	15,000 v.	11–11	TML-60DD	20.15
100–100	27–27	18 1/16″	.344″	10,000 v.	15–15	TML-100DB	12.35
60–60	20–20	13⅝″	.344″	10,000 v.	9–9	TML-60DB	19.15
200–200	30–30	18 1/16″	.219″	7,500 v.	21–21	TML-200DA	24.60
100–100	17–17	10 15/16″	.219″	7,500 v.	11–11	TML-100DA	20.15

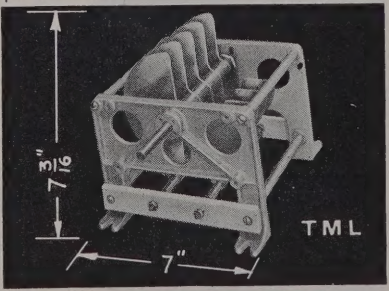
TYPE LMT

A heavy duty transmitting condenser that completely eliminates troublesome closed loops, vastly simplifying the problem of unwanted harmonics. The rotor shaft is completely insulated from the end plates. Long leakage path (higher safety factor). Plates and parts are extra heavy with highly polished rounded edges to prevent flash-over. Adjustable stator plate mounting and end bearings. Available in single-stator, double-stator, or double-stator right angle center drive models. Same capacities and prices as National TML Condenser. Condensers with right angle drive add $3.90 to price shown.



TYPE TML

is a heavy duty job throughout. The frame structure (rugged aluminum castings with dural tie bars) and precision bearings assure permanent rotor alignment. All plates are extra thick with rounded and polished edges. This, plus specially treated steatite insulators and a husky self-cleaning rotor contact, provides high flashover, current and voltage ratings.



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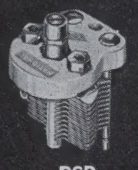
NATIONAL CO. MALDEN, MASS.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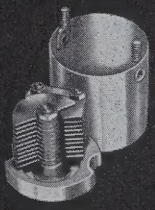
M30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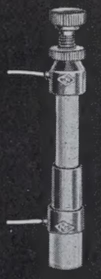
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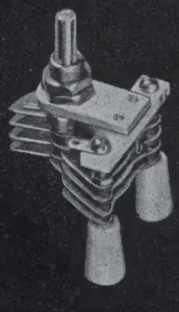
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MINIATURE CONDENSERS:

Type PS variable condensers are compact silver plated units of soldered construction for use as semi-fixed bandsets or padders. Base is steatite — bearing is "snug" but smooth. PSR models are screwdriver adjust type; PSE have 1/4" diameter shafts both ends; PSL are similar to PSR but include rotor shaft lock.

Type M-30 **Net $.22**
The M-30 is a tiny (13/16" x 9/16" x 1/2") mica trimmer — 30 mmf. max. — steatite base.

Type W-75, 75 mmf. **Net $1.60**

Type W-100, 100 mmf. **Net $1.76**

Small air-dielectric padding condensers having a very low temperature coefficient. They are mounted in 1 1/4" diameter aluminum shields and have 1/4" hex heads for socket-wrench adjustment.

The UM condensers are low-loss, aluminum plate staked construction miniature variables designed for UHF converters, VFOs and the like — minimum capacity is exceptionally low. The UMs can be mounted in PB-10 or RO shield cans and have 1/4" dia. shafts front and rear for ganging (see pages 21, 23 and 24 for shield cans and couplings). Plates: straight-line-cap., 180° rotation. Dimensions: Base 1" x 2 1/4", mtg. holes on 5/8" x 1-23/32" centers, 2-5/16" max. length.

The UMB-25 and UMB-50 are differential (balanced stator) models. UM-10D and UMA-25 are double-spaced and the latter is bolted construction for experimental capacity reduction. Hardware for panel or chassis mounting is supplied with all UM condensers.

Capacity	Catalog Symbol			Net
25 mmf.	PSR-25	PSE-25	PSL-25	$1.70
50	PSR-50	PSE-50	PSL-50	1.85
75	PSR-75	PSE-75	PSL-75	2.00
100	PSR-100	PSE-100	PSL-100	2.15

Capacity	Minimum Capacity	No. of Plates	Air Gap	Catalog Symbol	Net
15 mmf.	1.5	6	.017"	UM-15	$1.02
35	2.5	12	.017"	UM-35	1.15
50	3	16	.017"	UM-50	1.25
75	3.5	22	.017"	UM-75	1.45
100	4.5	28	.017"	UM-100	1.60
10	1	8	.042"	UM-10D	1.40
25	3.4	14	.042"	UMA-25	1.75
BALANCED STATOR MODEL					
25	2	4-4-4	.017"	UMB-25	$2.40
50	5	8-8-8	.017"	UMB-50	2.70

NEUTRALIZING CONDENSERS:

NC-600U **Net $.38**
With standoff insulator

NC-600 **Net $.32**
Without insulator

For neutralizing low power beam tubes requiring from .5 to 4 mmf., and 1500 max. total volts such as the 6L6. The NC-600U is supplied with a GS-10 standoff insulator screwed on one end, which may be removed for pigtail mounting.

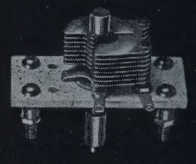
STN **Net $2.07**
The Type STN has a maximum capacity of 18 mmf. (3000 V), making it suitable for such tubes as the 809. It is supplied with two standoff insulators.

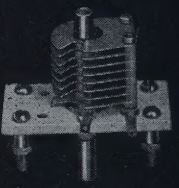
NC-800A **Net $3.00**
The NC-800A disk-type neutralizing condenser is suitable for the T40, 35TG, 808 and similar tubes. It is equipped with a clamp for locking. The chart below gives capacity and air gap for different settings.

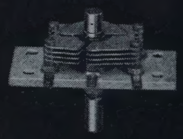
NC-75 **Net $3.60**
For 812, 75TH and similar tubes.

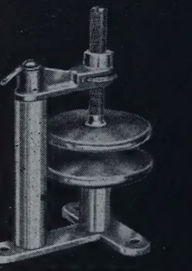
NC-150 **Net $5.25**
For RK36, 100TH, HK354, 250TH, etc.

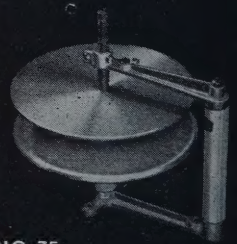
NC-500 **Net $8.75**
For WE-251, 304TH, 833A and the like. These large disk-type neutralizing condensers are for the higher powered tubes. Disks are aluminum, insulation steatite.

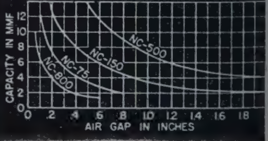

UM


UMA-25


UMB-25


NC-800A


NC-75
NC-150
NC-500



Net

National components

NATIONAL CO. MALDEN, MASS.

PRECISION CONDENSERS

Originally developed for the famous HRO and NC-100 receivers, National PW and NPW condensers and drive units are well known to professional and amateur radio men throughout the world. Sturdily constructed of the finest materials and carefully adjusted by skilled hands, they have become "standard specifications" for applications requiring smooth, precise control and high re-set accuracy.

The Micrometer Dial reads direct to one part in 500. Division lines are approximately 1/4" apart. The drive, at the mid-point of the rotor, is through an enclosed preloaded worm gear with 20 to 1 ratio. Each rotor is individually insulated from the frame, and each has its own individual rotor contact. Stator insulation is steatite. Plate shape is straight-line frequency when the frequency range is 2:1.

PW Condensers are available in 1, 2, 3 or 4 sections, in either 160 or 225 mmf per section. Larger capacities cannot be supplied.

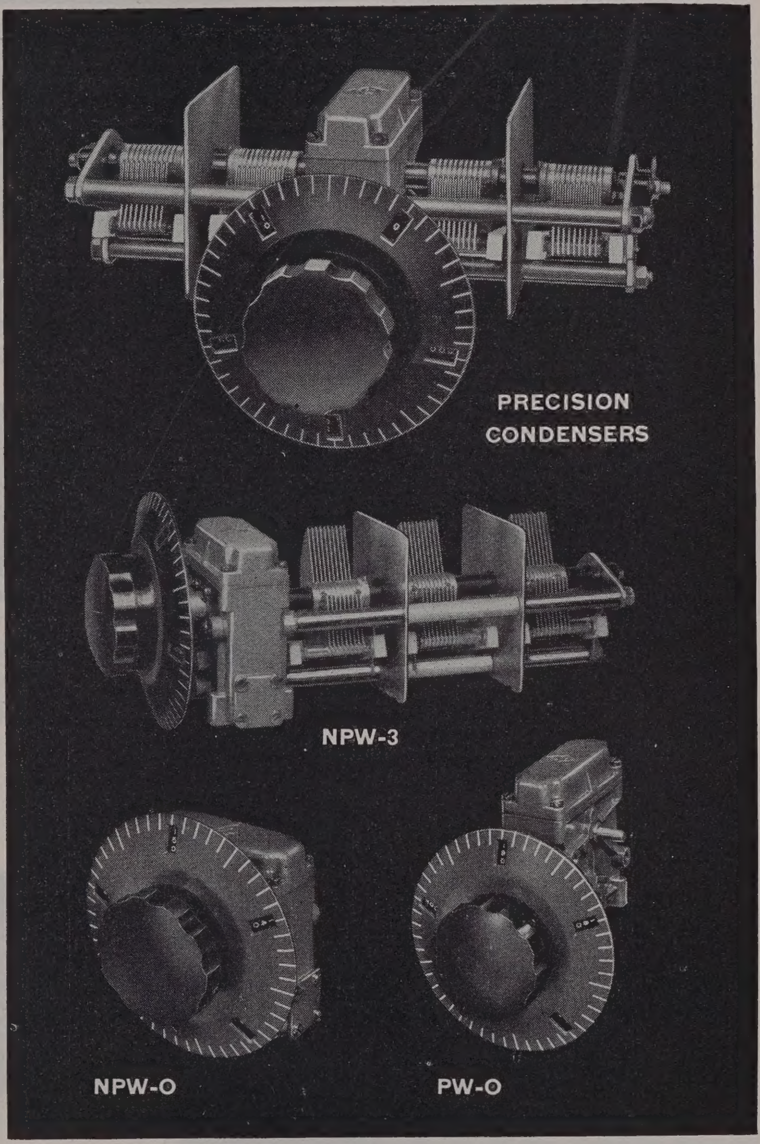
PW-1R	Single section right	**Net $13.50**
PW-1L	Single section left	**Net $13.50**
PW-2R	Double section right	**Net $18.00**
PW-2L	Double section left	**Net $18.00**
PW-2S	Single section each side	**Net $18.00**
PW-3R	Double section right; single left	**Net $24.00**
PW-3L	Double section left; single right	**Net $24.00**
PW-4	Double section each side	**Net $27.00**
NPW-3	Three sections, each 225 mmf.	**Net $24.00**

Similar to PW models, except that rotor shaft is perpendicular to panel.

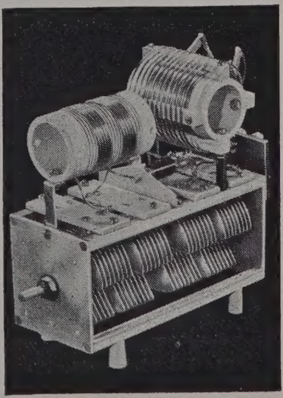
NPW-O **Net $9.00**
Uses parts similar to the NPW condenser. Drive shaft perpendicular to panel. One TX-9 coupling supplied.

PW-O **Net $9.90**
Uses parts similar to the PW condenser. Drive shaft parallel to panel. Two TX-9 couplings supplied.

PW-D **Net $5.25**
The Micrometer Dial used on the condensers and drives above is available separately. It revolves ten times in covering the complete range and as there is no gear reduction unit furnished, the driven shaft will revolve ten times, also. The PW-D dial fits a shaft 5/16" in diameter.



MULTI-BAND TANK ASSEMBLY



The unique MB-150 Multi-Band Tank tunes all amateur bands from 80 through 10 meters with 180° rotation of the shaft; the coils are never changed. The unit is built around a circuit which tunes to two harmonically unrelated frequencies at the same time. Thus, it becomes possible to cover a wide frequency range and yet maintain a reasonably constant L/C ratio. 3" wide x 8 1/4" high (including the GS-10 standoffs) x 9" long overall including the 1/4" dia. shaft and output terminals.

Features of the MB-150:

(1) For use as the all-band plate tank in push-pull or single-ended stages running up to 150-watts input (1500 volts peak). It is ideal for a pair of 807s or 809s or a single 829B.

(2) Separate link coupling coil has special clips which adjust to match impedances up to 600 ohms directly. Output couples into a higher powered amplifier, an antenna or an antenna tuning network.

(3) Fast band changing is accomplished without handling coils, thus removing one of the danger points in the amateur station.

MB-150 Multi-Band Tank Assembly **Net $18.75**

National components

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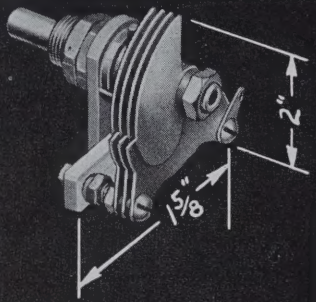
NATIONAL CO. MALDEN, MASS.

TYPE STHS

STRAIGHT-LINE WAVELENGTH

180° Rotation



The ST Type condenser has Straight-Line Wavelength plates. All double-bearing models have the front bearing insulated to prevent noise. On special order a shaft extension at each end is available, for ganging. On double-bearing single shaft models, the rotor contact is through a constant impedance pigtail. Steatite insulation.

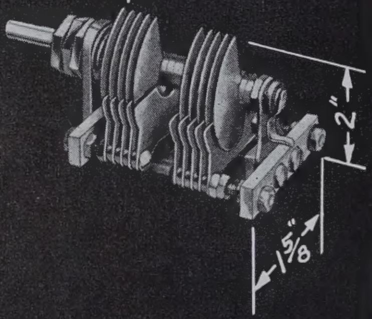
Capacity	Minimum Capacity	No. of Plates	Air Gap	Length	Catalog Symbol	Net
SINGLE BEARING MODELS						
15 Mmf.	3 Mmf.	3	.018″	1 3/16″	STHS- 15	$1.65
25	3.25	4	.018″	1 3/16″	STHS- 25	1.90
50	3.5	7	.018″	1 3/16″	STHS- 50	2.10
SPLIT STATOR DOUBLE BEARING MODELS						
50–50	5–5	11–11	.026″	2¾″	STD- 50	$3.60
100–100	5.5–5.5	14–14	.018″	2¾″	STHD-100	3.90
DOUBLE BEARING MODELS						
35 Mmf.	6 Mmf.	8	.026″	2¼″	ST- 35	$1.85
50	7	11	.026″	2¼″	ST- 50	1.90
75	8	15	.026″	2¼″	ST- 75	2.00
100	9	20	.026″	2¼″	ST-100	2.10
140	10	27	.026″	2¾″	ST-140	2.30
150	10.5	29	.026″	2¾″	ST-150	2.30
200	12.0	27	.018″	2¼″	STH-200	2.50
250	13.5	32	.018″	2¾″	STH-250	2.70
300	15.0	39	.018″	2¾″	STH-300	2.90
335	17.0	43	.018″	2¾″	STH-335	3.10

TYPE ST

(Type STD Illustrated)

STRAIGHT-LINE WAVELENGTH

180° Rotation



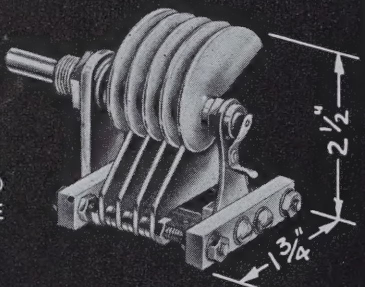
NOTE — Type SS Condensers, having straight-line capacity plates but otherwise similar to the Type ST, are available. Capacities and Prices same as Type ST.

TYPE SE

(Type SEU Illustrated)

STRAIGHT-LINE FREQUENCY

270° Rotation



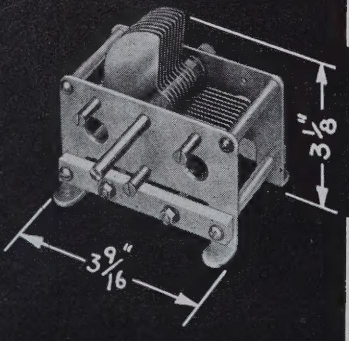
TYPE SE — All models have two rotor bearings, the front bearing being insulated to prevent noise. A shaft extension at each end, for ganging, is available on special order. On models with single shaft extension, the rotor contact is through a constant impedance pigtail. The SEU models (illustrated) are suitable for high voltages as their plates are thick polished aluminum with rounded edges. Other SE condensers do not have polished edges on the plates. Steatite insulation.

15 Mmf.	7 Mmf.	6	.055″	2¼″	SEU- 15	$2.80
20	7.5	7	.055″	2¼″	SEU- 20	2.95
25	8	9	.055″	2¼″	SEU- 25	3.10
50	9	11	.026″	2¼″	SE- 50	2.30
75	10	15	.026″	2¼″	SE- 75	2.40
100	11.5	20	.026″	2¼″	SE-100	2.60
150	13	29	.026″	2¾″	SE-150	2.75
200	12	27	.018″	2¼″	SEH-200	2.80
250	14	32	.018″	2¾″	SEH-250	3.00
300	16	39	.018″	2¾″	SEH-300	3.25
335	17	43	.018″	2¾″	SEH-335	3.50

TYPE EMC

STRAIGHT-LINE WAVELENGTH

180° Rotation

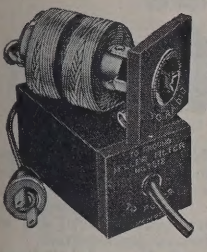


TYPE EMC — A general purpose condenser available in large sizes and having Straight-Line wavelength plates. They are similar in construction to the TMC Transmitting condenser, and have high efficiency and rugged frames. Insulation is Steatite, and Peak Voltage Rating is 1000 volts. Same sizes available with straight line capacity plates, type DXC condenser.

Capacity	Minimum Capacity	No. of Plates	Length	Catalog Symbol	Net
150 Mmf.	9 Mmf.	9	2 15/16″	EMC-150	$4.50
250	11	15	2 15/16″	EMC-250	4.75
350	12	20	2 15/16″	EMC-350	6.00
500	16	29	4 3/8″	EMC-500	6.75
1000	22	56	6¾″	EMC-1000	10.35

Miller

ALL WAVE INTERFERENCE FILTER



These filters are designed to eliminate radio interference caused by small household appliances such as sewing machines, vacuum cleaners, food mixers and other similar devices requiring less than 150 watts. Inductive-capacitive circuit assures maximum attenuation of interference.

Dimensions: 2½" square x 4" long.

Cat. No.	Volts	Watts	List Price
7818	115	150	$7.00

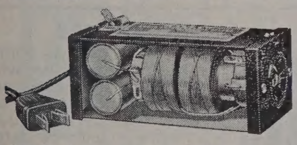
APPLIANCE FILTER

Similar to the Cat. No. 7818, except wound with larger wire to be used with all types of plug-in devices with power requirements up to 550 watts.

Dimensions: 2¼" square x 4" long.

Cat. No.	Volts	Watts	List Price
7815	115	550	$7.00

GENERAL PURPOSE FILTER

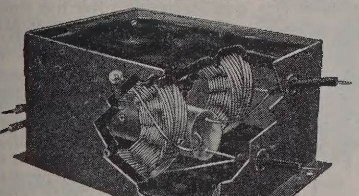


This filter is recommended for use with marine and D.C. appliances and radios. It is also for use with extremely noisy A.C. appliances. A good, permanent connection to ground should be used with this filter.

Dimensions: 2½" square x 5" long.

Cat. No.	Volts	Watts	List Price
7813	115	200	$7.50

INDUSTRIAL FILTERS



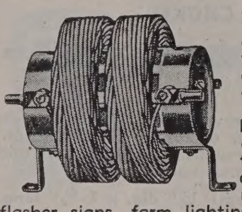
Miller industrial filters are designed for use with all types of radio interference producing devices. Duo-lateral wound chokes and non-inductive condensers result in a high degree of noise attenuation. Completely sealed in metal cases having provision for standard junction boxes at each end of the case.

Dimensions: 9-3/42" x 6-½" x 5" high.

Weight: 16 lbs. Approx.

Cat. No.	Volts	Amps.	List Price
7841	220	5	$30.00
7842	220	10	32.50
7843	220	20	35.00
7844	220	30	37.50
7845	220	40	40.00

LINE FILTER CHOKES



All Miller line filter chokes are duo-lateral wound on ceramic forms (except #7825 & D-7825 are on bakelite). They are for installation in noise producing equipment such as flasher signs, farm lighting plants, motor generators, etc. Also used with radio transmitters to prevent r.f. energy feed-back into the power circuits. Typical circuit diagrams are supplied with each choke. Always select chokes having a current rating at least as high as the maximum current load of the circuit to be filtered.

SINGLE LINE FILTER CHOKES

For use in filtering individual and branch circuits.

Dimensions: #7825 1-⅞" x 1-¾"

Others: 2-½" x 4"

Cat. No.	Amps.	Ohms.	MH	List Price
7825	2	.75	.60	$1.50
7826	5	.28	.57	4.00
7827	10	.15	.37	4.50
7828	20	.08	.20	5.00
7829	30	.05	.13	5.50

DUAL LINE FILTER CHOKES

For use in filtering both sides of single phase circuits.

Dimensions: #D-7825 3-¼" x 2-⅛"

Others: 4-½" x 4"

Cat. No.	Amps.	Ohms.	MH	List Price
D-7825	2	.75	.60	$3.00
D-7826	5	.28	.57	6.00
D-7827	10	.15	.37	7.00
D-7828	20	.08	.20	8.00
D-7829	30	.05	.13	9.00

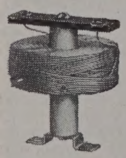
Specifications are for each winding.

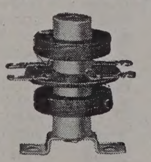
TOWER LIGHTING CHOKES

Similar in construction and size to the D-7826, except of 2-pi construction and recommended for use in the circuits of obstruction and warning lights of antenna towers.

Cat. No.	Amps.	Ohms.	MH	List Price
7870	5	.56	1.20	$6.00
7871	10	.30	.75	7.00
7872	20	.17	.45	8.00

RECTIFIER HASH FILTER CHOKES





Duo-lateral wound chokes for use in series with the plate leads of mercury vapor rectifiers to prevent r.f. hash feed-back.
The single chokes are insulated for use up to 10,000 volts to ground. The dual choke is insulated for 2500 volts plate to plate. Wound on Alsimag forms with two hole mounting brackets.

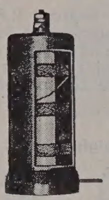
Dimensions: 2" dia. by 2-⅜" high.

Cat. No.	MH	Ohms	MA	List Price
7867	4.50	4.5	500	$2.00
7868	2.75	2.3	1000	2.50

Dual Choke Dimensions: 1-¼" Dia. x 1-¾" high

7865 3.25 (per Coil) 15 250 1.50

HIGH TENSION FILTER CHOKES



These chokes are used to prevent radio interference caused by high tension (secondary) circuit neon sign animators and lead radiation of border tubing. The chokes are sectional wound and enclosed in weatherproof bakelite cases. They are insulated for 15,000 volts and continous current operation up to 100 milliampere. Designed for ease of installation and trouble-free service. Circuit diagram supplied with each choke.

Dimensions: 1-⅜" dia. x 3-¼" high.

Cat. No.	Volts	Amps.	List Price
7875	15,000	.1	$2.50

ELECTRIC SHAVER FILTER

Miller Electric Shaver Filter

Carefully designed and constructed, this filter is the inductive - capacitive type and requires no ground connection. Shock-proof moulded rubber construction. For use with all electric shavers. Fully guaranteed.

Dimensions: 1-⅛" dia. x 3" long.

Cat. No.	Volts	Watts	Finish	List Price
7817	115	50	Black	$2.50
7817-I	115	50	Ivory	2.50

RADIO INTERFERENCE FILTER CONDENSERS

Miller
7803

Highest quality non-inductive wound paper dielectric condensers manufactured for use with Miller Filters and Filter chokes. These condensers are rated at 220 volts AC or DC and are designed to withstand surges up to 1000 volts. Uncased type for installation within the equipment. Wax impregnated and sealed.
Maximum operating voltage—220 AC.

Cat. No.	Capacity	Dimensions	List Price
7803	2.x2. Mfd.	1-⅞"x1-¼"x4-½"	$4.50
7804	2. mfd.	1-⅞"x¾"x3-½"	2.50

FLUORESCENT LIGHT FILTER CHOKES

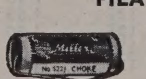
Miller
7878

Radio interference generated by fluorescent lights and tubing may be prevented from getting into the supply line by the use of these filter chokes. Chokes are installed as close to the ballast as practical. Complete instructions are supplied with each choke.

Dimensions: 1-¼" dia. x 1-½" long.

Cat. No.	Volts	Watts	List Price
7876	220	20	$1.50
7877	220	40	1.50
7878	220	80	1.50
7879	220	160	1.50

FILAMENT CHOKE



Enclosed solenoid wound chokes for use in the filament and vibrator circuits of battery operated receivers, transmitters, etc.

Dimensions: ¾" Dia. x 1-⅞" long, plus 3" leads.

Cat. No.	uH	Ohms	Amps.	List Price
5221	10	.02	8	$ .60

For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog. [A]

Miller

UNSHIELDED CHOKES

These single section R.F. Chokes are ideally suited for general purpose applications in receiver and filter circuit. Solder lug terminals and single hole mounting.

AIR CORE TYPE

Dimensions: 1-1/8" dia. x 5/8" high.

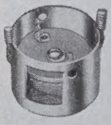
Cat. No.	MH	Ohms	MA	List Price
610	.25	8	125	$.40
620	.75	17	125	.40
630	1.50	21	125	.40
640	2.50	28	125	.50
650	5.0	41	125	.50
660	7.5	53	125	.50
670	10.0	64	125	.60
680	12.5	74	125	.60
690	15.0	83	125	.60
691	20.0	97	125	.75
692	30.0	120	100	.75
693	60.0	175	100	1.00
694	80.0	230	100	1.25
Center Tapped Chokes				
670-T	10.0	64	125	.70
691-T	20.0	97	100	.85
693-T	60.0	175	100	1.10

IRON CORE TYPE

These chokes are similar in construction to the No. 600 series except that they are wound on powdered iron cores.

Cat. No.	MH	Ohms	MA	List Price
951	.5	6.8	125	$.90
952	1.0	10.9	125	1.00
953	2.5	19.5	125	1.05
954	5.0	23.0	125	1.20
955	7.5	37.0	125	1.25
956	10.0	45.0	125	1.30
957	25.0	78.0	100	1.60
958	50.0	130.0	100	1.75
959	75.0	172.0	100	2.00
960	100.0	210.0	100	2.25
961	150.0	268.0	100	2.50

SHIELDED CHOKES



Single section wound R.F. R.F. Chokes assembled in round aluminum shield with two spade bolts for mounting. Solder lug terminals.

Dimensions: 1-1/4" dia. x 1" high (No. 758 is 1-5/8" dia.)

Cat. No.	MH	Ohms	MA	List Price
751	.5	10	125	$.75
752	1.0	17	125	.75
753	2.5	30	125	.85
754	5.0	49	125	.85
755	7.5	61	125	.85
756	10.0	75	125	.95
757	25.0	125	125	1.10
758	50.0	186	100	1.35

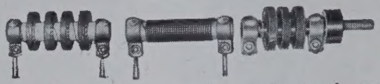
IRON CORE TYPE

Similar to the No. 700 series except wound on powdered iron cores for lower circuit loss.

Dimensions: 1-1/4" dia. x 1" high.

Cat. No.	MH	Ohms	MA	List Price
851	.5	8.6	125	$1.25
852	1.0	11.5	125	1.35
853	2.5	22.0	125	1.40
854	5.0	31.0	125	1.55
855	7.5	42.0	125	1.60
856	10.0	47.0	125	1.65
857	25.0	100.0	125	1.95
Dimensions: 1-5/8" dia. x 1" high.				
858	50.0	160.0	100	2.10
859	75.0	222.0	100	2.35
860	100.0	348.0	100	2.60
861	150.0	520.0	100	2.85

LOW POWER AND RECEIVER CHOKES



These chokes are wound on 1/4" dia. forms and feature the exclusive Miller 'Sta-on' terminal clips. Low distributed capacity and accurate inductance values.

Dimensions: (form) 1/4" dia. x 1-1/2" long.

Cat. No.	MH	Ohms	MA	List Price
4531	.5	11	200	$.75
4532	1.5	21	200	.75
4537	2.5	26	200	.75
4538	5.0	40	125	1.00
4539	7.5	79	125	1.25
4540	10.0	95	125	1.50
4541	25.0	160	125	1.75

UHF CHOKES

Dimensions: 1/4" Dia. x 1-1/2" long.

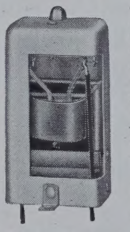
Cat. No.	uH	Ohms	MA	List Price
4528	2.5	.07	200	$.60
4529	4.0	.25	200	.60

SINGLE STUD MOUNTING CHOKE

Dimensions: 5/8" O.D. x 1-1/4" high (plus #6-32 stud)

Cat. No.	MH	Ohms	MA	List Price
4530	2.5	23	200	$.85

PHONO SCRATCH FILTER



The Miller Phono Scratch Filter is designed to reduce needle and surface noise and may be used with any type of high impediance phonograph pick-up. The resonant frequency of the parallel tuned circuit is adjustable between 2000 and 3000 cycles. The attenuation is approximately 22 db. Assembled in an aluminum shield with two mounting brackets.

Dimensions: 1-3/8" x 1-7/8" x 3" high.

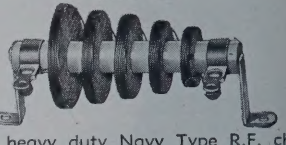
Cat. No.	Item	List Price
EL-59	Scratch Filter	$7.50

TV POWER TRANSFORMER (R.F.)

These R.F. power supply transformers for use with television receivers and cathode ray oscilloscope make it possible to construct an inexpensive source of high voltage D.C. Two types are available, the #4525 for voltages to 4000 DC and the #4526 for voltages to 10,000 DC (or 30,000 DC in a voltage rectifier tripler circuit). Type 1B3-GT tubes are used as rectifiers and the R.F. oscillator circuit uses one or more type 6V6 or 6Y6 tubes connected in parallel. The high frequency AC source permits use of simple and inexpensive resistive capacitive filters with low ripple content in the output. Typical circuit diagrams are supplied with each coil.

Cat. No.	Item	List Price
4525	**H.V. R.F. Trans. (to 4 KV)** **Dimensions—1-1/4" Dia. x 3-3/4" high** **(Illustrated)**	$7.50
4526	**H.V. R.F. Trans. (to 30 KV)** **Dimensions—2-1/4" Dia. x 6" high** **(not illustrated)**	$12.50

HEAVY DUTY TRANSMITTER CHOKES

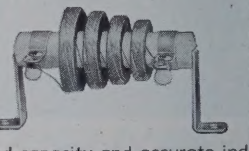


These heavy duty Navy Type R.F. chokes are sectional wound on Alsimag forms and are provided with removable mounting brackets. Ends of form are tapped for #6-32 machine screw. For general use in amateur and commercial transmitters.

Dimensions: (form) 1/2" dia. x 3-1/2" long.

Cat. No.	MH	Ohms	MA	Meters	List Pr.
4534	1.0	2.5	1000	20	$2.00
4535	1.5	3.6	1000	40	2.25
4533	2.5	4.5	750	80	2.50
4536	4.0	5.5	750	160	2.75

MEDIUM DUTY TRANSMITTER CHOKES

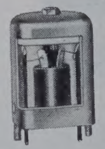


For use in medium power transmitters, these chokes are similar in construction to our Heavy Duty types. Low distributed capacity and accurate inductance values are features.

Dimensions: (form) 1/2" dia. x 2-1/2" long.

Cat. No.	MH	Ohms	MA	List Price
4550	2.0	6.5	400	$1.50
4551	4.0	10.0	400	1.75

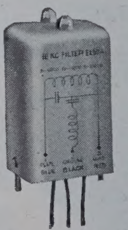
10 K. C. FILTERS



This filter is used to eliminate the 10 KC heterodyne 'whistle' present in high fidelity broadcast receivers. It is used in the detector load circuit of a diode or infinite impedance detector. The 10,000 cycle attenuation is approximately 30 db. The filter consists of a parallel resonant circuit with an iron core coil and a variable condenser providing a tuning range from 7500 to 12,000 cycles.

Dimensions: 1-3/8" sq. x 2-1/4" high.

Cat. No.	Use	List Price
EL-58	10 KC Filter	$6.00



This band elimination circuit 10,000 cycle filter has sharper cut-off characteristics than our type EL-58. It should be connected in the plate circuit of a triode audio stage. The cut-off frequencies are 9000 and 11,000 cycles. The load resistance R is 10,000 ohms. The attenuation is approximately 30 db. Recommended for general use with any high fidelity broadcast band receiver.

Dimensions: 1-3/8" x 1-7/8" x 2-7/8" high.

Cat. No.	Use	List Price
EL-60	10 KC Filter	$12.50

PHONO-OSCILLATOR COIL

The Miller Phono-Oscillator coils are permeability tuned and are assembled in an aluminum shield, together with the grid coupling condenser and resistor. The tuning range of the coil is from 540 to 700 KC, by core adjustment. A typical circuit diagram is supplied with each coil.

Dimensions: 1-7/16" square x 2-1/2" high.

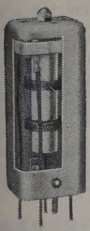
Cat. No.	Use	Freq. Range	List Price
522	Phono-Oscillator	540-700 KC	$3.00

[B1] **For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.**

Miller

REPLACEMENT I. F. TRANSFORMERS

(Double Tuned)



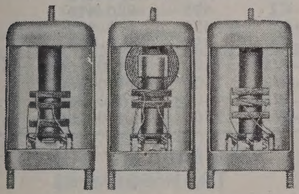
These transformers are an essential part of the stock of every serviceman and dealer. In many cases they will give better performance than the original transformer. All have been pretuned and should require only slight adjustment after installation. Leads are color coded, and the transformers are assembled in aluminum shields. These transformers may be used as replacements in most makes of receivers using transformers of the same physical size. Be sure to order a transformer of the correct frequency.

Dimensions: 1-3/8" square x 2-5/8" high.

Cat. No.	Freq.	KC Range	Use	List Price
512-K1	175	160-190	Input	$2.25
512-K2	175	160-190	Interstage	2.25
512-K3	175	160-190	Full-Wave	2.25
512-K4	175	160-190	Half-Wave	2.25
512-H1	262	240-280	Input	2.00
512-H2	262	240-280	Interstage	2.00
512-H3	262	240-280	Full Wave	2.00
512-H4	262	240-280	Half Wave	2.00
512-C1	455	425-500	Input	2.00
512-C2	455	425-500	Interstage	2.00
512-C3	455	425-500	Full Wave	2.00
512-C4	455	425-500	Half Wave	2.00

UNIVERSAL REPLACEMENT COILS

(Permeability Tuned)



This series of variable inductance iron core coils are well suited for general replacement use and new designs. The inductance may be adjusted to cover the standard broadcast band with tuning condensers having a maximum capacity of between 250 and 450 mmfd. The oscillator coils may be used with any I.F. amplifier operating in the 100 to 550 KC range. Complete instructions are supplied.

UNSHIELDED

Dimensions: 7/8" dia. x 2" high. "L" mtg. Bracket.

Cat. No.	Use	Freq. Range	List Price
72-A	Antenna Stage	500-1800 KC	$2.00
72-RF	R.F. Stage	500-1800 KC	2.00
72-Osc.	Oscillator Coil	100-550-KC I.F.	2.00

SHIELDED

Dimensions: 1-3/8" square x 2-1/2" high

Cat. No.	Use	Freq. Range	List Price
73-A	Antenna Stage	500-1800	$2.50
73-RF	R.F. Stage	500-1800	2.50
73-Osc.	Oscillator Coil	100-550 KC I. F.	2.50

ANTENNA COIL PRIMARIES

High impedance duo-lateral wound replacement primary windings. Dimensions given are for outside diameter of coil secondary.

Cat. No.	Diameter	List Price
352	1/2"	$.35
353	5/8"	.35
354	3/4"	.35
355	7/8"	.35
356	1"	.35
357	1-1/4"	.35

DE-LUXE BROADCAST COILS

These coils are used in the finest quality receivers for lasting performance and stability. All coils are wound on XXX grade bakelite tubing and the secondaries are Litz wire wound (except oscillator coils) for maximum "Q". The antenna and R.F. coils are inductive-capacitive coupled for uniform gain. For use with standard 365 mmfd. tuning condensers.

SHIELDED COILS

Dimensions: 1-7/8" dia. x 3" high.

Cat. No.	Use	Freq. Range	List Pr.
242-A	Antenna	540-1750	$1.50
242-RF	Interstage	540-1750	1.50
242-BP	Band-pass	540-1750	1.25
277-C	2-coil Oscillator	540-1750*	1.25
279-C	Topped Oscillator	540-1750*	1.10

NOTE: *Oscillator coils are for use with 455KC intermediate frequency and require a 400 mmfd. series pad condenser.

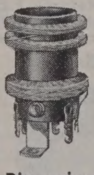
UNSHIELDED COILS

Dimensions: 7/8" dia. (form) x 2-3/4" high.

Cat. No.	Use	Freq. Range	List Pr.
241-A	Antenna	540-1750	$1.00
241-RF	Interstage	540-1750	1.00
241-BP	Band-pass	540-1750	.85
276-C	2-coil Oscillator	540-1750*	1.00
278-C	Tapped Oscillator	540-1750*	.85

NOTE: *Oscillator coils are for use with 455 KC intermediate frequency and require a 400 mmfd. series pad condenser.

HIGH GAIN T.R.F. COILS

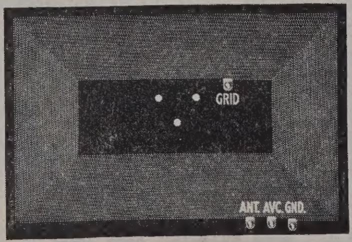


These coils are excellent for use in 2-tuned circuit TRF receivers and beginners circuits. They feature high impedance primaries and Litz wire wound secondaries wound on XXX grade bakelite tubing. Single "L" mounting brackets. For use with standard 365 mmfd. tuning condensers.

Dimensions: 1" dia. (form) x 2" high.

Cat. No.	Use	Freq. Range	List Pr.
42-A	Antenna	540-1600 KC	$.90
42-RF	Interstage	540-1600 KC	.90

LOOP ANTENNA



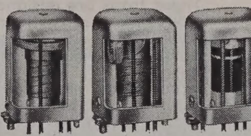
Using the patented "Air Loop"* construction, the No. 703-A Loop Antenna provides high "Q" and mechanical rigidity. The loop as supplied has a secondary inductance of 253 microhenries, which may be reduced as needed. Instructions are supplied. May be used in older sets to replace the antenna coil for local reception without an antenna.

Dimensions: 8-1/8" 5-3/8" x 1/8" thick.

***Mfg. under Franklin Airloop Cp. Pat. #2,401,472**

Cat. No.	Use	Frequency	List Price
703-A	Loop Antenna	540-1700 KC	$1.75

STANDARD BROADCAST COILS



High gain general purpose coils featuring high impedance coupled antenna and R.F. units with progressive wound Litz wire secondaries (except oscillator coils). For use with standard 365 mmfd. tuning condenser. All windings are thoroughly impregnated with tropicalized R.F. lacquer.

SHIELDED COILS

Dimensions: 1-3/8" square x 2-1/2" high.

Cat. No.	Use	Freq. Range	List Pr.
44-A	Antenna	540-1700	$1.15
44-RF	Interstage	540-1700	1.15
44-BP	Band-Pass	540-1700	1.15
44-C	2-coil Oscillator	540-1700*	1.15
41-C	Tapped Oscillator	540-1700*	1.15

NOTE: *Oscillator coils are for use with 455 KC intermediate frequency amplifier and a 400 mmfd. series pad condenser.

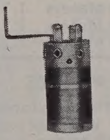
UNSHIELDED COILS

Dimensions: 5/8" dia. (form) x 2-1/2" high.

Cat. No.	Use	Freq. Range	List Pr.
43-A	Antenna	540-1700	$.85
43-RF	Interstage	540-1700	.85
43-BP	Band-Pass	540-1700	.85
43-C	2-coil Oscillator	540-1700*	.85
45-C	Tapped Oscillator	540-1700*	.85

NOTE: *Oscillator coils are for use with 455 KC intermediate frequency amplifier and a 400 mmfd. series pad condenser.

REPLACEMENT OSCILLATOR COILS



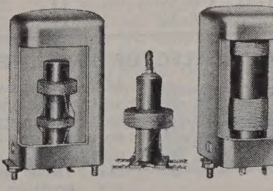
These solenoid wound general purpose coils may be used as general replacements in many makes of standard broadcast band receivers. For use with 365 mmfd. variable condensers to cover the band from 540 to 1700 KC. Wound on XXX grade bakelite tubing with enamelled copper wire.

UNSHIELDED

Dimensions: 3/4" dia. x 1-3/4" long. "Z" mtg. Bracket.

Cat. No.	I.F. Freq.	Series Pad	List Price
480-K	175	.001 mfd.	$.70
480-H	262	.0006 mfd.	.70
480-C	455	.0004 mfd.	.70

ALL WAVE TEST OSCILLATOR COILS



A set of high quality coils for use in building an electron coupled test oscillator. A 2-gang 365 mmfd. condenser with sections connected in parallel is required. The fundamental frequency range, in five bands, is from 50 KC to 20 MC. The low frequency coil is unshielded, the other coils are in two shields measuring 1-3/4 square x 3" high.

Cat. No.	Use	Frequency	List Price
T-550	Test Oscillator	50-20,000 KC	$7.50

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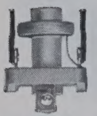
Miller

LOOP ANTENNA WAVE TRAPS

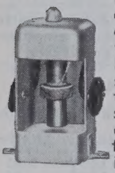


These traps are designed especially for use with receivers having built-in loop antenna. Similar in construction to our Series #811, except with a separate low inductance winding which is to be connected in series with the loop antenna of the receiver. Slight readjustment of the loop tuning circuit after the trap has been installed is desirable. Trap circuit is parallel connected.

Dimensions: 1-⅜" square x 1-¾" high.

Cat. No.	Band	KC Range	List Pr.
815-X1	I.F. & Commercial	250-500	$1.50
815-X2	I.F. & Commercial	125-250	1.50
815-BC1	Broadcast	900-1800	1.50
815-BC2	Broadcast	500-900	1.50
815-A	Amateur	160 Meters	1.50
815-B	Amateur	80 Meters	1.50

SHIELDED WAVE TRAPS

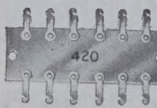


Parallel resonant wave traps assembled in aluminum shields are well suited for use in older types of radio receivers and in locations where the signal strength of the interfering station is high in relation to the signal to be received. Screwdriver frequency adjustment from top of shield. Two mounting brackets are attached to the shield.

Dimensions: 1-⅜" square x 2-½" high.

Cat. No.	Band	KC Range	List Pr.
812-X1	I.F. & Commercial	425-525	$1.75
812-X2	I.F. & Commercial	225-325	1.75
812-X3	I.F. & Commercial	150-225	1.75
812-BC1	Broadcast	1200-1600	1.75
812-BC2	Broadcast	800-1200	1.75
812-BC3	Broadcast	500-800	1.75
812-A	Amateur	160 Meters	1.75
812-B	Amateur	80 Meters	1.75
812-C	Amateur	40 Meters	1.75
812-D	Amateur	20 Meters	1.75
812-E	Amateur	10 Meters	1.75

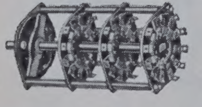
BAKELITE TERMINAL PLATES



These terminal plates, provided with securely riveted solder type terminal lugs, are particularly adaptable to the assembly of groups of resistors and by-pass condensers. Lugs are on 1/16" thick bakelite sheet stock and the terminal spacing is 7/16".

Cat. No.	Dimensions	Lugs per Side	List Pr.
420	1" x 3"	6	$ .30
430	1-¾" x 2-½"	5	.35
440	1" x 5-¾"	14	.50
450	1-¾" x 3-¾"	8	.50
460	1-¾" x 5-¼"	11	.70
470	1-¾" x 8-⅜"	19	1.00

BAND SELECTOR SWITCHES



Miller band switches will make positive noise - free contact through an indefinite period of operation. These switches are positive self-cleaning type with silver plated contacts. Switches have an adjustable stop to be set for your requirements. Single hole mounting through a ⅜" diameter hole. Supplied with nut and lockwasher. Switches are 1-⅞" diameter.

Cat. No.	Circuits	Positions	Length	List Price
205	2	5	¾"	$2.50
402	4	2	¾"	2.50
405	4	2 to 5	2-¼"	3.25
605	6	2 to 5	4-½"	4.25

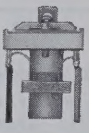
DUAL WAVE TRAPS

Finest quality iron core dual wave traps having both a series and a parallel tuned circuit. Each circuit is tuned by a knob accessible at the top of the shields. Circuits may be tuned to the same frequency for maximum attenuation, or may be tuned to different stations within the range of the trap.

Dimensions: 1-⅜" x 2-¾" x 2-¼" high.

Cat. No.	Band	KC Range	List Pr.
813-X1	I.F. & Commercial	250-500	$3.75
813-X2	I.F. & Commercial	125-250	3.75
813-BC1	Broadcast	900-1600	3.75
813-BC2	Broadcast	500-900	3.75
813-A	Amateur	1500-3000	3.75

UNSHIELDED WAVE TRAPS

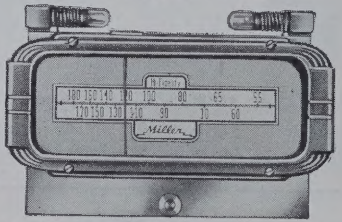


These unshielded wave traps may be installed within the cabinet or on the chassis. They are parallel resonant and provided with screw driver adjustment. Several traps may be connected in series with the antenna to provide simultaneous rejections of more than one interfering station.

Dimensions: 1-⅜" square x 1-¾" high.

Cat. No.	Band	KC Range	List Pr.
811-X1	I.F. & Commercial	250-500	$1.25
811-X2	I.F. & Commercial	125-250	1.25
811-BC1	Broadcast	900-1800	1.25
811-BC2	Broadcast	500-1000	1.25
811-A	Amateur	160 Meters	1.25
811-B	Amateur	80 Meters	1.25
811-C	Amateur	40 Meters	1.25
811-D	Amateur	20 Meters	1.25
811-E	Amateur	10 Meters	1.25

SLIDE RULE DIALS



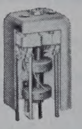
Miller Series No. 152 Slide Rule dials are designed for top-of-chassis mounting. The dimension from top of chassis to center of dial shaft bushing is 1-13/16". Dials are supplied with hubs for ⅜" diameter shafts. Two screw type dial light sockets are packed with each dial. The attractive escutcheon plate is finished in antique bronze with a protective lacquer coating. The dial scales are calibrated for use with condensers having counter-clockwise rotation. The escutcheon requires a panel cutout measuring 1-⅞" high by 5-¼" wide.

Dimensions:

6-⅝" wide by 4-⅛" high (plus ½" for dial lights), ¼" diameter shaft extends 1-¼" beyond front of dial. The dial tuning ratio is approximately 5-½ to 1 and the effective scale length is 4-⅜".

Cat. No.	Calibration	List Price
152	.540-1800 KC	$6.00
152-A	.54-1.7 MC/0-100	6.00
152-B	.54-1.7/1.7-5.5 MC	6.00
152-C	.54-1.7/5.5-18. MC	6.00
152-D	.54-1.7/1.7-5.5/5.5-18 MC	6.00
152-E	.14-.42/.54-1.7/2.5-7 MC	6.00
152-F	.14-.42/2.5-7. MC	6.00

MIDGET I.F. TRANSFORMERS

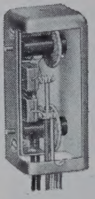


These mica compression tuned intermediate frequency transformers are well suited for use in small receivers of all types. They measure only 1-⅛" square and 2" high. In spite of their small size, only the highest quality of parts and workmanship has been used in the construction of the Miller Midget transformers.

Dimensions: 1-⅛" square x 2" high.

Cat. No.	Use	Freq.	KC Range	List Price
AIR CORE TYPES				
112-K1	Input	175	165-185	$2.00
112-K2	Interstage	175	165-185	2.00
112-K3	Full Wave	175	165-185	2.00
112-K4	Half Wave	175	165-185	2.00
112-C1		455	450-475	1.75
112-C2		455	450-475	1.75
112-C3		455	450-475	1.75
112-C4		455	450-475	1.75
112-W1		1500	1400-1600	1.75
112-W2		1500	1400-1600	1.75
112-W3		1500	1400-1600	1.75
112-W4		1500	1400-1600	1.75
IRON CORE TYPES				
012-K1		175	165-185	2.25
012-K2		175	165-185	2.25
012-K3		175	165-185	2.25
012-K4		175	165-185	2.25
012-H1		262	250-275	2.00
012-H2		262	250-275	2.00
012-H3		262	250-275	2.00
012-H4		262	250-275	2.00
012-C1		455	450-475	2.00
012-C2		455	450-475	2.00
012-C3		455	450-475	2.00
012-C4		455	450-475	2.00
012-W1		1500	1400-1600	2.00
012-W2		1500	1400-1600	2.00
012-W3		1500	1400-1600	2.00
012-W4		1500	1400-1600	2.00

PERMEABILITY TUNED TRANSFORMERS



Miller permeability tuned intermediate frequency transformers are recommended for all applications where a high degree of frequency stability and operation under humid conditions are used. The two iron core adjusting screws are accessible from the side of the aluminum shield. These transformers have excellent gain and selectivity characteristics. An internal spring clip prevents vibration from affecting the adjustment.

Dimensions: 1-⅜" square x 3-¼" high.

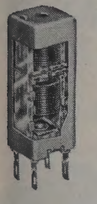
Cat. No.	Use	Freq.	KC Range	List Price
912-M1	Input	132	127-137	$4.00
912-M2	Interstage	132	127-137	4.00
912-M3	Full Wave	132	127-137	4.00
912-M4	Half Wave	132	127-137	4.00
612-K1		175	165-185	4.00
912-K2		175	165-185	4.00
912-K3		175	165-185	4.00
912-K4		175	165-185	4.00
912-H1		262	250-275	3.50
912-H2		262	250-275	3.50
912-H3		262	250-275	3.50
912-H4		262	250-275	3.50
912-C1		455	450-475	3.50
912-C2		455	450-475	3.50
912-C3		455	450-475	3.50
912-C4		455	450-475	3.50
912-W1		1500	1400-1600	3.50
912-W2		1500	1400-1600	3.50
912-W3		1500	1400-1600	3.50
912-W4		1500	1400-1600	3.50
912-X1		3000	2900-3100	3.50
912-X2		3000	2900-3100	3.50
912-X3		3000	2900-3100	3.50
912-X4		3000	2900-3100	3.50

[DI]

For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.

Miller

MINIATURE I.F. TRANSFORMERS*



Designed for experimental and custom receivers as well as replacements for 'personal' radios, these transformers are permeability tuned and comparable in performance to standard size components. Expressly designed for use with the new miniature tubes. Plastic insulation throughout. Screw driver adjustment of primary and secondary from top and bottom of shield. Supplied with spring clip for mounting to the chassis.

Dimensions: ¾" square x 2" high.

***Mfg. under K-Trans. Pats. and Pats. Pend.**

Cat. No.	Use	Freq.	KC Range	List Price
12-H1	Input	262	250-275 KC	$2.25
12-H2	Output	262	250-275 KC	2.25
12-C1		455	440-480 KC	2.00
12-C2		455	440-480 KC	2.00

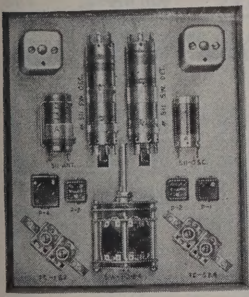
UNIVERSAL I.F. TRANSFORMERS

This new series of Miller transformers is used for general replacement purposes and in new designs. High gain and excellent stability are combined in a small transformer designed for use in both home and auto radio receivers. The ceramic mica compression trimmers have been heat cycled for temperature stability. All transformers are assembled in aluminum shields with screw-driver adjustment accessible at the top of the shield.

Dimensions: 1-¼" square x 2-½" high.

Cat. No.	Use	Freq.	KC Range	List Price
		AIR CORE TYPES		
312-H2	Input	262	250-275	$1.50
312-H4	Output	262	250-275	1.50
312-C2		455	440-475	1.50
312-C4		455	440-475	1.50
		IRON CORE TYPES		
412-H2	Input	262	250-275	$2.00
412-H4	Output	262	250-275	2.00
412-C2		455	440-470	2.00
412-C4		455	440-470	2.00

ALL WAVE COIL KIT



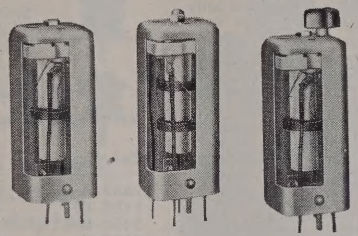
A simple, inexpensive coil kit for the construction of an all-wave receiver capable of out-performing many commercial sets costing much more than the Miller #511. Easy to construct by following the instructions supplied with each kit. 5 Tubes, including rectifier and 2 dual purpose tubes are used.

Frequency Range: 540-25,000 KC (in four bands)

Cat. No.	Quantity	Item	List Price
241-A	1	B. C. Ant. Coil	$1.00
276-C	1	B. C. Osc. Coil	1.00
511-SWA	1	Short Wave Ant. Coil	2.25
511-SWC	1	Short Wave Osc. Coil	2.25
512-C2	1	455 KC Input I.F.	2.00
512-C4	1	455 KC Output I.F.	2.00
MA-2	2	H. F. Trimmers (dual)	1.00
--------	4	Osc. Series Pad Cond.	4.85
405	1	Band Selector Switch	3.25
511-CD	1	Circuit Diagram & Data	.50

MILLER #511 Coil Kit List Price $20.00

SPECIAL I.F. TRANSFORMERS



For communications receivers, converters and special applications, we maintain a stock of special purpose transformers. The following types are typical of the varieties available.

BEAT FREQUENCY OSCILLATORS

Cathode tapped transformers with adjustment knob at top of aluminum shield.

Dimensions: 1-⅜" square x 3-¼" high.

Cat. No.	Frequency	KC Range	List Price
512-C5	455	450-475 KC	$2.25
512-W5	1500	1400-1600 KC	2.25
512-X5	3000	2900-3100 KC	2.25
512-Y5	5000	4900-5100 KC	2.25

REGENERATIVE I.F. TRANSFORMERS

Double tuned transformers with a tapped secondary for cathode regenerative feedback.

Dimensions: 1-⅜" square x 3-¼" high.

Cat. No.	Frequency	KC Range	List Price
		AIR CORE TYPES	
512-RC	455	450-475 KC	$2.00
512-RW	1500	1400-1600 KC	2.00
512-RX	3000	2900-3100 KC	2.00
		IRON CORE TYPES	
612-RC	455	450-475	$2.50
612-RW	1500	1400-1600	2.50

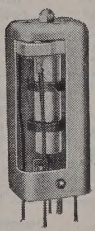
CONVERTER OUTPUT TRANSFORMERS

Used to couple high frequency converters to existing radio receivers and using the receiver as an intermediate frequency amplifier.

Dimensions: 1-⅜" square x 3-¼" high.

Cat. No.	Frequency	KC Range	List Price
512-QT	525	500-550 KC	$2.00
512-WT	1500	1400-1600 KC	2.00
512-XT	3000	2900-3100 KC	2.00
512-YT	5000	4500-5500 KC	2.00

IRON CORE TRANSFORMERS

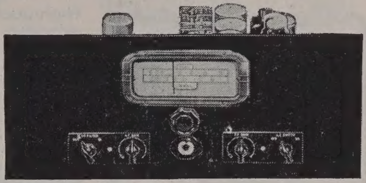


These iron core transformers provide higher gain and selectivity than the conventional air core transformers of similar size. The mica compression trimmers, adjustable from the top of the shield, have been heat cycled for capacity stability. Gain and selectivity of a single stage using iron core transformers is often equal to two stages of air core transformers.

Dimensions: 1-⅜" square x 3-¼" high.

Cat. No.	Use	Freq.	KC Range	List Price
612-H1	Input	262	250-275	$2.50
612-H2	Interstage	262	250-275	2.50
612-H3	Full Wave	262	250-275	2.50
612-H4	Half Wave	262	250-275	2.50
612-C1		455	450-475	2.50
612-C2		455	450-475	2.50
612-C3		455	450-475	2.50
612-C4		455	450-475	2.50
612-W1		1500	1400-1600	2.50
612-W2		1500	1400-1600	2.50
612-W3		1500	1400-1600	2.50
612-W4		1500	1400-1600	2.50

HIGH FIDELITY TUNER KIT



Essential parts for the construction of a band-pass T.R.F. broadcast receiver which, with a good amplifier and speaker system will enable you to really appreciate some of the fine high fidelity programs being broadcast by the better stations. Band width is 20 KC and a 10KC adjacent channel filter is included with the kit. Form #11941 gives complete details, it's yours for the asking.

The Coil Kit consists of the following:

Cat. No.	Quantity	Item	List Price
472-UA	1	Untuned Ant. Coil	$1.75
242-RF	2	Interstage Coils	3.00
242-BP	2	Band-Pass Coils	2.50
472-UT	1	Untuned Det. Coil	2.25
EL-56	2	Coupling Coils	2.00
EL-58	1	10 KC Filter	6.00
2104	1	4-Gang Condenser	15.00
570-CD		Circuit Diagram & Data	.25

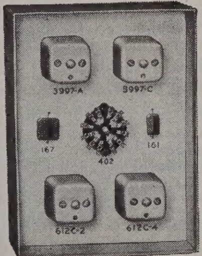
MILLER #EL-575 Coil Kits List Pr. $32.75

The foundation Kit consists of:

Cat. No.	Quantity	Item	List Price
EL-570	1	Coil Kit	$32.75
570-T	1	Tuner Chassis	12.00
570-TB	1	Chassis Bottom	3.00
152	1	Slide Rule Dial	6.00
570-P2	1	Relay Rack Panel	6.00
440	1	Terminal Plate	.50
3093	1	Dial Knob	.75
570-EP	1 Pr.	Engraved Plates	4.00

MILLER #EL-575 Foundation Kit
List Price $65.00

SKIP BAND COIL KIT



This new 2-Band coil kit covers the standard Broadcast band and the popular international short wave band. Shielded coils are used throughout. High frequency trimmers are incorporated in the coils. Requires a 2-gang 365 mmfd. tuning condenser.

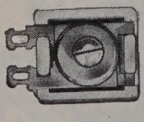
Frequency range: 540-1500/5500-18,000 KC

The kit contains the following:

Cat. No.	Quantity	Item	List Price
3997-A	1	Antenna Coil	$3.50
3999-C	1	Oscillator Coil	3.50
612-C2	1	455 KC Input I.F.	2.75
612-C4	1	455 KC Output I.F.	2.75
402	1	Band Selector Switch	2.50
161	1	400 mmfd. Osc. Pad	.60
167	1	.01 mfd. Osc. Pad	2.25
3997-CD	1	Circuit Diagram	.50

MILLER #3997 Coil Kit List Price $18.35

ADJUSTABLE PADDER CONDENSERS



These adjustable oscillator padder condensers are of the finest quality mica-compression type with ceramic body. Capacity adjustable from both top and bottom of condenser.

Dimensions: ⅞" x 1" x ⅜" thick.

Cat. No.	Capacity Range	List Price
160-A	360-1000 mmfd.	$.75
160-B	50- 400 mmfd.	.75

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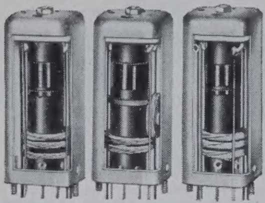
Miller

TWO BAND COILS



High quality 2-band shielded coils provided with built-in high frequency trimmers, accessible from the top of the shield. Solenoid and universal windings on XXX grade bakelite tubing, thoroughly impregnated against moisture, make these coils suitable for marine and tropical use as well as for general home receiver use. For use with standard 365 mmfd. tuning condenser.

Dimensions: 1-3/8" square x 3" high.

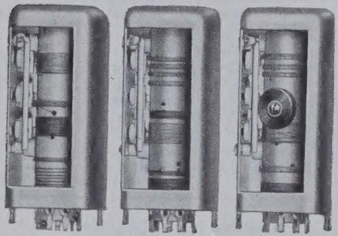
BROADCAST & MARINE
540-1600/1600-4500 KC

Cat. No.	Use	I.F. Freq.	Osc. Pad	List Price
3996-A	Antenna			$3.50
3996-RF	Interstage			3.50
3996-C	2-coil Oscillator	455 KC	400 mmfd.	3.50
3998-C	Tapped Oscillator		1000 mmfd.	

BROADCAST & SHORT WAVE
540-1600/5500-18,000 KC

Cat. No.	Use	I.F. Freq.	Osc. Pad	List Price
3997-A	Antenna			$3.50
3997-RF	Interstage			3.50
3997-C	2-coil Oscillator	455 KC	400 mmfd.	3.50
3999-C	Tapped Oscillator		5000 mmfd.	

THREE BAND COILS



Communications receiver type coils especially designed for fine quality custom built entertainment receivers and commercial marine and aircraft use. These coils are all wound on XXX grade bakelite tubing and thoroughly impregnated against moisture. Individual high frequency trimmers for each band are adjustable from the side of the aluminum shield. All coil terminals are connected to solder lugh at the bottom of the coil form for under chassis wiring.

Dimensions: 2" square x 4-1/4" high.

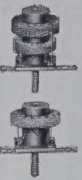
ALL WAVE COILS 540 KC to 18. MC

Cat. No.	Use	I.F. Freq.	Osc. Pad	List Price
626-A	Antenna			$5.50
626-RF	Interstage			5.50
626-C	2-coil Oscillator	455 KC	400, 1600	5.50
625-C	Tapped Oscillator		5000 mmfd.	

AIRCRAFT & MARINE COILS
140-425/540-1600/2500-7000 KC

Cat. No.	Use	I.F. Freq.	Osc. Pad	List Price
628-A	Antenna			$5.50
628-RF	Interstage			5.50
628-C	2-coil Oscillator	455 KC	120, 400	5.50
629-C	Tapped Oscillator		1600 mmfd.	

DOWELL TYPE COILS



Single section Litz wound secondary coils wound on 1/2" Dia. lo-loss ceramic dowels, these coils are provided with solder lugs on a bakelite terminal plate and with a #6-32 threaded stud for single hole chassis mounting. For use with standard 365 mmfd. tuning condenser.

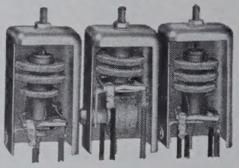
Dimensions: 3/4" square base x 1" high.
(ABP & RF types 2-1/8" high)

Cat. No.	Use	Freq. Rrange	List Price
5480-A	Antenna	540-1600	$1.00
5480-RF	Interstage	540-1600	1.25
5480-BP	Band-Pass	540-1600	1.50
5480-K	2-coil Oscillator	540-1600*	1.00
5480-H	2-coil Oscillator	540-1600**	1.00
5480-C	2-coil Oscillator	540-1600***	1.00
5481-K	Tapped Oscillator	540-1600*	1.00
5481-H	Tapped Oscillator	540-1600**	1.00
5481-C	Tapped Oscillator	540-1600***	1.00

NOTE:
*** For 175 KC I.F. with 1000 mmfd. series pad**
**** For 262 KC I.F. with 600 mmfd. series pad**
***** For 455 KC I.F. with 400 mmfd. series pad**

MIDGET R.F. COILS

(Adjustable Inductance)



This series of compact shielded coils is provided with an adjustable powdered iron core permitting approximately plus or minus 30% secondary inductance deviation from nominal values. Particularly recommended for aircraft, marine and mobile equipment and general custom receiver construction. Core is adjustable from top of aluminum shield. Coils are designed for use with standard 365 mmfd. tuning condenser.

Dimensions: 1-1/8" square x 2" high. (All Types)

LONG WAVE BAND 140-425 KC

Cat. No.	Use	I.F. Freq.	Osc. Pad	List Price
X-320-A	Antenna			$2.50
X-320-RF	Interstage			2.50
X-320-M	2-coil Oscillator	132 KC	400 mmfd.	2.00
X-320-C	2-coil Oscillator	455 KC	120 mmfd.	2.00
X-321-M	Tapped Oscillator	132 KC	400 mmfd.	2.00
X-321-C	Tapped Oscillator	455 KC	120 mmfd.	2.00

BROADCAST BAND 540-1700 KC

Cat. No.	Use	I.F. Freq.	Osc. Pad	List Price
A-320-A	Antenna			$1.75
A-320-RF	Interstage			1.75
A-320-M	2-coil Oscillator	132 KC	1600 mmfd.	1.75
A-320-C	2-coil Oscillator	455 KC	400 mmfd.	1.75
A-321-M	Tapped Oscillator	132 KC	1600 mmfd.	1.75
A-321-C	Tapped Oscillator	455 KC	400 mmfd.	1.75

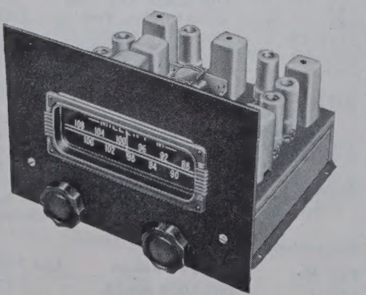
MARINE & AIRCRAFT BAND 2100-6300 KC

Cat. No.	Use	I.F. Freq.	Osc. Pad	List Price
B-320-A	Antenna			$1.75
B-320-RF	Interstage			1.75
B-320-M	2-coil Oscillator	132 KC	6000 mmfd.	1.75
B-320-C	2-coil Oscillator	455 KC	1600 mmfd.	1.75
B-321-M	Tapped Oscillator	132 KC	6000 mmfd.	1.75
B-321-C	Tapped Oscillator	455 KC	1600 mmfd.	1.75

SHORT WAVE BAND 6.0-18.MC

Cat. No.	Use	I.F. Freq.	Osc. Pad	List Price
C-320-A	Antenna			$1.75
C-320-RF	Interstage			1.75
C-320-C	2-coil Oscillator	455 KC	5000 mmfd.	1.75
C-321-C	Tapped Oscillator	455 KC	5000 mmfd.	1.75

F. M. TUNER KIT



This Kit contains the R.F. components to construct the finest FM tuner for home and professional use. Uses 8 miniature tubes in a circuit using cascade limiters ahead of the discriminator. Requires separate power supply and audio amplifier. The copper plated chassis measures only 7-1/2" deep x 8" wide x 2" high. All Miller Parts in the Kit may be purchased separately, if desired.

Frequency Range: 88-108 MC. The Kit contains the following:

Cat. No.	Quantity	Item	List Price
1451	3	10.7 MC I.F.	$6.00
1452	1	10.7 MC Disc.	3.00
1454	1	Antenna Coil	2.00
1455	1	Interstage Coil	2.00
1456	1	Oscillator Coil	2.00
1457	1	Filament Choke	.70
1458	1	Chassis & connectors	8.00
1459	1	Slide Rule Dial	7.00
1460	3	3 x 500 mmfd. cond.	4.50
1461	1	FM Tuning Condenser	5.50
420	1	Terminal Plate	.30
440	1	Terminal Plate	.50
3093	2	Tuning Knobs	1.50
Circuit Diagram Instructions & Hardware			1.00
MILLER #1450 FM. Tuner Kit			List Price $44.00

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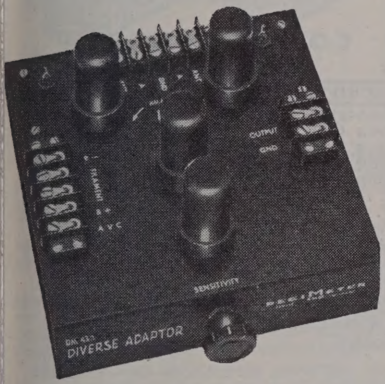
DECIMETER

Progressive Products



The DM-430 Diverse Adaptor

The DM-430 brings the known benefits of diversity reception to the ham rig AT LOW COST. The Diverse Adaptor is connected to two antennas of different characteristics, and automatically and instantly selects the best antenna for best reception. The DM-430 minimizes the deep fading which often occurs in HF communications by using two antennas spaced a wavelength or more apart, or of different directional properties or polarization. The DM-430 is ideal for any communications receiver, and is used without tuning.

Range of 3 to 30 Megacycles
Neon bulb indication of antenna being used
For AM and FM phone signals and frequency-shift keying
For either or both balanced or unbalanced antennas

Net price assembled $29.50
Kit 14.95

For further information write for Bulletin RM-12

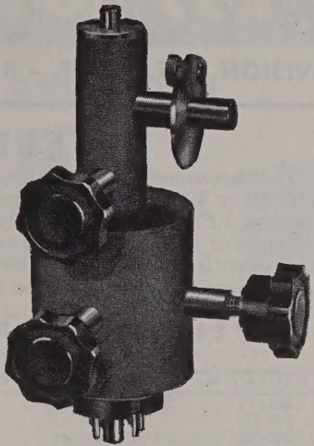
The DM-103W "Slipstick" Wavemeter

The Slipstick gives quick, accurate frequency readings on oscillators, receivers, or transmitters in the UHF field. It is a sturdy, every-day tool for the engineer and experimenter. Use of the 103W is easy—the Slipstick is coupled to the oscillator, receiver or transmitter by inserting its tip into the rf field, or the antenna circuit.

Enormous range—
90 to 3000 MC
Rapid, direct-reading scale
2% accuracy or better; sturdy construction
Polystyrene insulation for permanence and low loss

Net price $16.50

For further information write for Bulletin RM-13



A New Tool for Research—

A New Band for Amateurs

The DM-240A Oscillator leads the way to practical receivers and transmitters on 13 CM. It is made to feed RG-8/U cable directly and uses a 2C40 tube. Precise adjustments control tuning, feedback, and output coupling. Supplied complete with all hardware, instructions, and suggested circuits.

Brass construction with heavy silver plating to assure low rf losses
High precision manufacture for concentric contacts
Tuning range of 2000 to 2500 MC
One watt output

Net price $19.50
(less tube)

For further information write for Bulletin RM-15

Decals for Electronics . . . the modern way of labeling equipment

The world's largest assortment of Decals for Electronics contains over 200 different title plates, dial plates, alphabets and numerals, high-voltage signs in red, call letters in black and gold, and television terms. The Decals are printed in neat, opaque letters on a clear, tough backing. Top surface has a tough protective coating which provides high resistance to wear. Superior adhesive qualities of Decimeter Decals, and the toughness of the backing material, bonds the Decal in place so tightly that danger of peeling or chipping is eliminated.

DECALS for ELECTRONICS
Help yourself to
USE DECALS FOR Convenience – Safety – Appearance

Water-type "slip-off" decals
Adhere to any clean surface
Very economical to use
Improves appearance and safety of equipment
Self-service display assortment for jobbers

For further information write for Bulletin RM-14

DECIMETER
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STANWYCK COILS **Mfrd. by STANWYCK WINDING CO.**

TELEVISION - I.F. - ANT. - R.F. - F.M. - OSCILLATOR COILS

TELEVISION COILS

S-949

These components when used in a properly designed circuit can provide a gain of approximately 10,000 × in the picture I.F. amplifier with overall response as illustrated. The sound I.F. system can supply a gain of approximately 7,000 × from the converter grid to the grid of the last I.F. tube and a discriminator slope sensitivity of approximately 0.08 volts/kc. with 1.0 volt signal level at the last I.F. amplifier tube grid. The overall sound I.F. and discriminator response is linear over 150 mc.

TELEVISION REPLACEMENT COMPONENTS

R.C.A. REPLACEMENTS

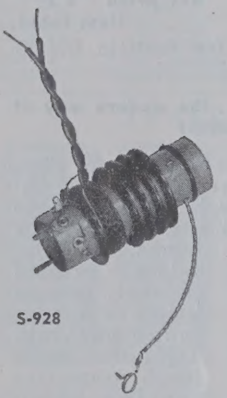
R.C.A. PART No.	STANWYCK PART No.	DESCRIPTION	LIST PRICE
211-T1	S-948	9 K.V. Horizontal H.V. Output (Flyback)	$9.00
203-L1	S-943	Video Peaking Coil	.55
203-L2	S-944	Video Peaking Coil	.55
203-L3	S-945	Video Peaking Coil	.55
203-L4	S-946	Video Peaking Coil	.55
202-K2	S-949	1st Pix I.F.	2.70
202-K3	S-950	2nd Pix I.F.	1.90
202-L1	S-951	3rd and 4th Pix I.F.	.70
202-K4	S-952	Cathode Trap	2.[illegible]0
201-K1	S-953	Sound I.F.	1.90
203-K1	S-954	Sound Disc.	2.[illegible]0
202-K1	S-955	Converter Transformer	2.40
204-L1	S-956	Filament Choke	.20
201-R1	S-957	Horizontal Width Control	.75
201-R3	S-958	Linearity Control	.80
208-T8	S-959	Syncrolop	2.50
203-R1	S-966	Syncoguide	2.00

DuMONT REPLACEMENT

Stanwyck No. S-934 — DuMont High Voltage Pulse Oscillator Transformer	$9.50

REPLACEMENTS FOR MOTOROLA - TELETONE - HALLICRAFTERS AND OTHER TRANSFORMLESS TELEVISION RECEIVERS

Stanwyck No. S-928 — 4.5 K.V. (4500-Volt) R.F. Power Supply Transformer	$ 7.50
Stanwyck No. S-930 — 10 K.V. (10,000-Volt) R.F. Power Supply Transformer	10.50



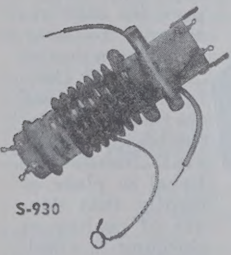
S-928

TRANSVISION REPLACEMENTS

TRANSVISION PART No.	STANWYCK PART No.	DESCRIPTION	LIST PRICE
308	S-948	9 K.V. Horizontal H.V. Output (Flyback)	$9.00
16	S-903	250 µh Video Peaking Coils	.65
17	S-901	73 µh Video Peaking Coils	.65
174	S-931	1st Pix I.F.	2.25
174	S-932	3rd Pix I.F.	2.25
175	S-913	2nd Pix I.F.	2.70
176	S-933	4th Pix I.F.	2.25
177 & 318	S-916	Sound I.F.	2.50
317	S-917	Sound Disc.	2.75
319	S-900	500 µh Video Peaking Coils	.65
365	S-961	Slug Coil	.75

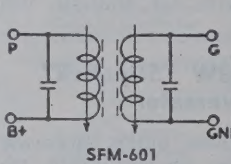
SOUND TRAP

Recommended for use in any make Television Receiver to remove sound interference in the picture channel. Stanwyck No. S-919 $0.75

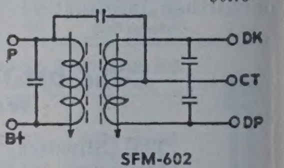


S-930

S-958 LINEARITY CONTROL — Directly interchangeable with R.C.A. No. 201-R3, this linearity control has extremely wide inductance variation and can be set to provide a linear operating condition in the horizontal deflection circuit. List Price, $0.80

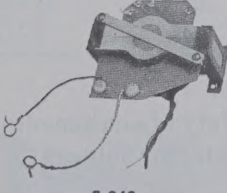


SFM-601



SFM-602

HIGH VOLTAGE COILS



S-948

S-928 4.5 Kv. POWER TRANSFORMER—A 4.5 Kv. R.F. power transformer of high efficiency for use in electrostatic deflection circuits employing a 7" tube. **List Price, $7.50**

S-930 10 Kv. R.F. POWER TRANSFORMER—A 10 Kv. R.F. power transformer thoroughly vacuum impregnated for efficient operation. Mechanically designed for "corona-less" performance at full rated output. **List Price, $10.50**

S-948 HIGH VOLTAGE FLYBACK—This horizontal output transformer is similar to the R.C.A. No. 211-T1. Used in electromagnetic deflection circuit, it provides approximately 9 Kv. for excellent picture brilliancy in a 10" or 12" tube. **List Price, $9.00**

S-968 HORIZONTAL OUTPUT TRANSFORMER similar to R.C.A. No. 211-T3 (Wired same as S-948). **List Price, $9.00**

F.M. COILS

S-605 RATIO DETECTOR 10.7 mc.—To meet the critical demands for a sensitive and unusually stable F.M. detector, the S-605 was developed. Embodying every characteristic of a high quality product, this detector will outperform similar products. A peak to peak band width of 350 kc. with linearity exceeding plus or minus 125 kc. results in unusual quality of audio reproduction. High "Q" iron cores, stable ceramic capacitors plus ceramic construction throughout result in the ultimate for fine F.M. reproduction. **List Price, $3.85**

S-613 MIDGET F.M. RATIO DETECTOR—A 10.7 megacycle midget ratio detector for miniature F.M. set design. Although small in size, its performance is comparable to the larger type. Permeability tuned from top and bottom. **List Price, $2.55**

S-601 F.M. DISCRIMINATOR—Identical to I.F. electrically and mechanically. The electrically centered secondary results in perfect symmetry between positive and negative peaks. High output and excellent discrimination are obtained. A high quality transformer for production or replacement. **List Price, $2.65**

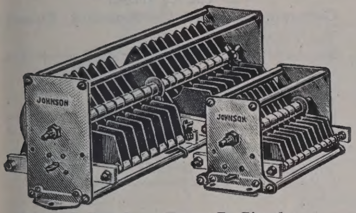
S-609 F.M. CHOKE—An excelent parasitic in the oscillator plate circuit. **List Price, $0.40**

S-614 MIDGET F.M. I.F.—High performance in gain and band width is obtained with this high quality F.M. miniature I.F. Symmetrical wave shape is a result of correct L/C Ratio. High "Q" threaded iron cores and high "Q" silver mica capacitors make this a much desired I.F. for modern F.M. set design. **List Price, $2.10**

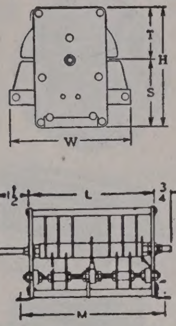
E. F. JOHNSON Company WASECA, MINNESOTA

VARIABLE CONDENSERS

TYPES C AND D



Type C Dual   Type D Single



Type	T	S	W	H
C	$2\frac{5}{16}$	$3\frac{3}{32}$	5½	$5\frac{13}{32}$
D	$1\frac{27}{32}$	$2\frac{5}{32}$	4¼	4

JOHNSON C and D condensers are sturdily constructed to give trouble-free operation under the most severe service. Only the finest materials are employed yet these units are lower in price than any other quality condensers.

All dual models have center rotor connections, to insure balanced operation at ultra-high frequencies. Heavy laminated phosphor bronze contact springs insure low resistance circuits.

Important features include: Heaviest aluminum plates of any similar condenser, .051'' thick—Steatite insulation—Large laminated rotor brushes—Center rotor contacts on all dual condensers—Heavy 5/16'' diameter aluminum tie rods for frame strength and rigidity—¼'' cadmium-plated steel shafts.

Supplied with single hole mounting brackets which fit either top or bottom of end plate so that stators may be mounted to top or bottom as preferred.

Panel space, Type C, 5½'' wide x 5⅜'' high panel space, Type D, 4¼'' wide x 4'' high.

Mounting (M) dimension, on both C and D Types, ⅞'' more than L dimension.

TYPE C SINGLE SECTION

Cat. No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
250C70	**$16.50**	252	34	.175''	24	$6\frac{13}{16}$
500C70	**23.50**	496	56	.175''	47	$12\frac{3}{16}$
250C90	**19.50**	245	45	.250''	31	$12\frac{3}{16}$
350C90	**23.00**	337	63	.250''	43	$14\frac{27}{32}$
50C110	**11.75**	51	19	.350''	8	$4\frac{25}{32}$
100C110	**15.00**	103	30	.350''	17	$8\frac{19}{32}$
250C110	**23.25**	251	66	.350''	41	$18\frac{9}{32}$
50C130	**13.00**	51	24	.500''	10	$7\frac{11}{16}$
100C130	**17.00**	102	42	.500''	21	$13\frac{11}{32}$

TYPE C DUAL SECTION

Cat. No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
200CD45	**20.50**	204	21	.125''	15	$8\frac{19}{32}$
300CD45	**24.00**	290	26	.125''	21	$10\frac{5}{16}$
200CD70	**23.50**	198	27	.175''	19	$12\frac{3}{16}$
300CD70	**31.00**	305	37	.175''	29	$16\frac{25}{32}$
150CD90	**25.00**	147	30	.250''	19	$14\frac{27}{32}$
200CD90	**29.00**	196	38	.250''	25	$18\frac{9}{32}$
50CD110	**17.50**	50	18	.350''	8	$10\frac{5}{16}$
65CD110	**19.25**	66	21	.350''	11	$12\frac{3}{16}$
100CD110	**24.50**	103	32	.350''	17	$16\frac{25}{32}$
50CD130	**20.00**	51	24	.500''	10	$14\frac{27}{32}$

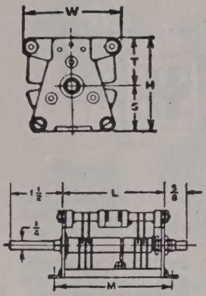
TYPE D SINGLE SECTION

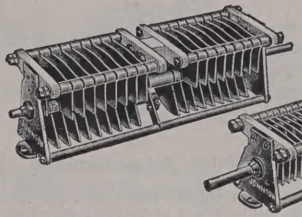
Cat. No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
50D35	**8.00**	49	12	.080''	5	$2\frac{29}{32}$
100D35	**8.75**	99	14	.080''	8	$2\frac{29}{32}$
150D35	**9.75**	151	18	.080''	12	$2\frac{29}{32}$
250D35	**11.25**	252	24	.080''	20	$4\frac{25}{32}$
350D35	**12.50**	343	27	.080''	27	$5\frac{13}{16}$
500D35	**14.75**	496	36	.080''	39	$6\frac{25}{32}$
100D45	**9.50**	104	19	.125''	12	$4\frac{25}{32}$
150D45	**11.00**	146	23	.125''	17	$4\frac{25}{32}$
50D70	**8.75**	51	17	.175''	7	$2\frac{29}{32}$
70D70	**9.75**	72	18	.175''	11	$4\frac{25}{32}$
100D70	**10.75**	98	23	.175''	15	$4\frac{25}{32}$
150D70	**12.50**	151	31	.175''	23	$6\frac{13}{16}$
250D70	**15.50**	244	45	.175''	37	$10\frac{5}{16}$
350D70	**19.00**	351	62	.175''	53	$13\frac{11}{32}$
50D90	**10.00**	53	20	.250''	10	$4\frac{25}{32}$
70D90	**11.00**	73	25	.250''	14	$5\frac{13}{16}$
100D90	**12.00**	99	30	.250''	19	$7\frac{11}{16}$
150D90	**14.25**	149	43	.250''	29	$10\frac{5}{16}$
250D90	**18.75**	249	68	.250''	49	15⅞

TYPE D DUAL SECTION

Cat. No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
100DD35	**11.75**	95	13	.080''	8	$4\frac{25}{32}$
150DD35	**13.25**	147	15	.080''	12	$5\frac{13}{16}$
200DD35	**15.75**	202	19	.080''	16	$7\frac{11}{16}$
300DD35	**18.75**	291	24	.080''	23	$9\frac{15}{32}$
500DD35	**25.50**	496	38	.080''	39	$13\frac{11}{32}$
150DD45	**16.25**	155	24	.125''	18	$9\frac{15}{32}$
200DD45	**18.50**	198	27	.125''	23	$12\frac{3}{16}$
50DD70	**12.50**	52	15	.175''	8	$5\frac{13}{16}$
70DD70	**14.25**	72	17	.175''	11	$7\frac{11}{16}$
100DD70	**16.00**	97	22	.175''	15	$9\frac{15}{32}$
150DD70	**20.75**	151	31	.175''	23	$13\frac{11}{32}$
200DD70	**23.75**	199	39	.175''	30	$16\frac{25}{32}$
50DD90	**14.50**	52	19	.250''	10	$9\frac{15}{32}$
100DD90	**19.50**	97	30	.250''	19	$14\frac{27}{32}$

TYPES E AND F





Type E Dual   Type F Single

Type	T	S	W	H
E	$1\frac{5}{16}$	$1\frac{9}{32}$	2⅝	$2\frac{19}{32}$
F	$1\frac{1}{32}$	$\frac{31}{32}$	$2\frac{1}{16}$	2

Designed as rugged, compact units for medium and low power transmitters, type E and F condensers are in a class by themselves. They have more capacity per cubic inch and occupy less panel space for their rating than any other condenser on the market. Their rapid adoption by manufacturers of high grade equipment and discriminating amateurs is ample proof of their excellence.

Points of superiority: Heavy aluminum plates, .032'' thick, with rounded edges for maximum voltage rating—Heavy aluminum tie rods ¼'' diameter for frame strength and rigidity—Steatite insulation—Stator mounted above to reduce capacity to ground—heavy phosphor bronze contact springs, cadmium plated—Center contact on dual models—Chassis or panel mounting—Stainless steel shafts.

In addition to mounting foot shown, removable single hole brackets are furnished so that condenser may be inverted from position shown, or other components mounted above.

Panel space, Type E, 2⅝'' wide x $2\frac{19}{32}$'' high panel space, Type F, $2\frac{1}{16}$'' wide x 2'' high. Mounting (M) dimension, on both E and F Types, $\frac{7}{16}$'' more than L dimension.

TYPE E SINGLE SECTION

Cat. No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
250E20	**$ 6.20**	244	12	.045''	23	$2\frac{25}{32}$
350E20	**7.00**	353	15	.045''	33	$3\frac{17}{32}$
500E20	**8.10**	488	19	.045''	45	$4\frac{15}{32}$
35E30	**4.75**	39	8	.075''	6	$1\frac{23}{32}$
50E30	**4.95**	52	9	.075''	8	$1\frac{15}{16}$
70E30	**5.25**	73	9	.075''	11	$2\frac{5}{32}$
100E30	**5.60**	100	11	.075''	15	$2\frac{9}{16}$
150E30	**6.30**	154	14	.075''	23	$3\frac{7}{16}$
250E30	**7.50**	251	20	.075''	37	$4\frac{15}{16}$
350E30	**8.90**	347	25	.075''	51	$6\frac{7}{16}$
35E45	**5.15**	38	9	.125''	9	$2\frac{5}{16}$
50E45	**5.50**	53	11	.125''	12	$2\frac{31}{32}$
70E45	**5.85**	74	13	.125''	17	$3\frac{9}{16}$
100E45	**6.35**	101	16	.125''	23	$4\frac{17}{32}$
150E45	**7.35**	145	20	.125''	33	$6\frac{3}{32}$
250E45	**9.35**	241	32	.125''	55	$9\frac{9}{16}$

TYPE E DUAL SECTION

Cat. No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
200ED20	**9.60**	200	10	.045''	19	5⅛
300ED20	**11.20**	312	13	.045''	29	$6\frac{21}{32}$
50ED30	**7.85**	52	8	.075''	8	$4\frac{3}{32}$
70ED30	**8.35**	72	8	.075''	11	$4\frac{17}{32}$
100ED30	**9.15**	99	10	.075''	15	5⅜
150ED30	**10.50**	153	13	.075''	23	$7\frac{1}{16}$
200ED30	**11.75**	196	15	.075''	29	8⅜
50ED45	**8.35**	52	10	.125''	12	$6\frac{5}{32}$
70ED45	**9.40**	74	12	.125''	17	$7\frac{7}{16}$
100ED45	**10.85**	100	15	.125''	23	$9\frac{9}{32}$

TYPE F SINGLE SECTION

Cat. No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
35F20	**4.50**	35	7	.045''	6	$1\frac{15}{32}$
50F20	**4.70**	54	8	.045''	9	1⅝
70F20	**4.90**	66	8	.045''	11	$1\frac{25}{32}$
100F20	**5.35**	106	10	.045''	17	2¼
150F20	**6.05**	154	12	.045''	25	2⅞
250F20	**7.25**	252	17	.045''	41	$4\frac{3}{32}$
35F30	**4.80**	36	8	.075''	9	1⅞
50F30	**5.10**	52	9	.075''	13	$2\frac{5}{16}$
70F30	**5.45**	67	11	.075''	17	$2\frac{23}{32}$
100F30	**6.10**	99	14	.075''	25	$3\frac{19}{32}$
150F30	**7.15**	148	18	.075''	37	4⅞

TYPE F DUAL SECTION

Cat. No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
50FD20	**7.65**	53	7	.045''	9	3½
70FD20	**8.15**	66	7	.045''	11	$3\frac{27}{32}$
100FD20	**8.95**	104	9	.045''	17	$4\frac{23}{32}$
150FD20	**10.30**	153	11	.045''	25	6
200FD20	**11.55**	202	14	.045''	33	$7\frac{7}{32}$
50FD30	**8.30**	51	8	.075''	13	$4\frac{27}{32}$
70FD30	**9.30**	66	10	.075''	17	$5\frac{23}{32}$
100FD30	**10.75**	99	13	.075''	25	$7\frac{7}{16}$

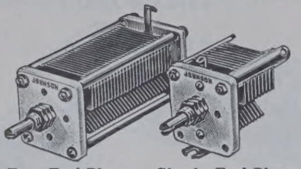
DEPARTURES FROM STANDARD

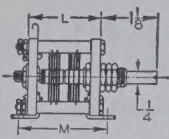
Special plate spacings, capacities, shaft extensions, insulation, mounting brackets, terminals, etc., can be furnished to specifications for commercial applications.

CONDENSERS FOR HIGHER VOLTAGES

The JOHNSON line includes heavy duty pressurized or air dielectric fixed and variable condensers for high voltage commercial applications. Data sheets furnished on request.

TYPE H CONDENSER





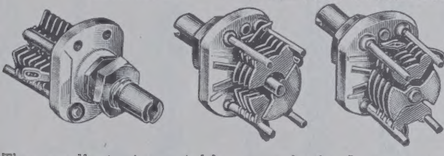
The Type H condenser was designed for aircraft transmitters and combines a minimum of weight and size with simple but rugged construction. Capacities and spacings are provided for low and medium power stages. Use of steatite for end plates avoids any possibility of "short circuit loops" and permits panel mounting with both rotor and stator insulated from ground. Has aluminum plates .020" thick. End plate 1½" square. Capacity measurements are taken with condenser in position shown above.

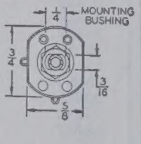
Mounting (M) dimension is 5/16" more than the L dimension.

TYPE H SINGLE SECTION

Cat. No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
Single End Plate						
25H15	$2.70	25	4	.030"	6	11/16
35H15	2.80	35	4	.030"	8	13/16
50H15	2.95	49	4	.030"	11	7/8
70H15	3.20	69	6	.030"	15	1 3/16
100H15	3.50	97	7	.030"	21	1½
Double End Plate						
150H15	5.00	146	9	.030"	31	2 13/32
250H15	6.60	242	13	.030"	51	3 13/32
25H30	4.10	28	7	.080"	13	2 3/16
35H30	4.50	37	8	.080"	17	2 19/32
50H30	5.05	54	11	.080"	25	3 13/32
70H30	5.75	74	13	.080"	35	4 13/32
DUAL SECTION						
35HD15	4.70	31	6	.030"	7	1 11/16
50HD15	5.05	51	7	.030"	11	2 3/32
70HD15	5.55	71	8	.030"	15	2½
100HD15	6.25	99	10	.030"	21	3 3/32
35HD30	6.05	38	12	.080"	17	4 13/32
50HD30	7.15	55	15	.080"	25	6

MINIATURE AIR VARIABLE CONDENSERS





The smallest air variables ever built. A necessity in all types of high frequency equipment. Available in single, differential and butterfly types. Single hole mounting flats on mounting bushing to prevent turning. Split sleeve rotor bearings — no shaft wobble. Steatite end frames.

Cat. No.	List Price	Capacity Max.	Capacity Min.	Number Plates	L
Single					
5M11	$1.45	5.1	1.5	5	39/64"
9M11	1.55	8.7	1.7	9	23/32"
15M11	1.75	14.6	2.1	15	29/32"
20M11	2.00	19.7	2.6	21	1 5/64"
Differential					
6MA11	$2.10	5.6	1.8	7	39/64"
9MA11	2.30	9.3	2.0	13	23/32"
15MA11	2.60	14.8	2.3	22	29/32"
19MA11	3.00	19.3	2.7	31	1 5/64"
Butterfly					
3MB11	$2.10	3.3	1.7	7	39/64"
5MB11	2.30	5.3	2.1	13	23/32"
9MB11	2.60	8.5	2.7	22	29/32"
11MB11	2.90	11.0	3.2	31	1 5/64"

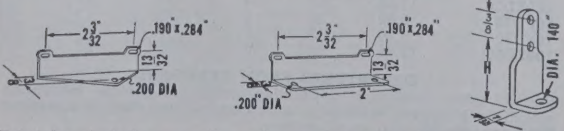
L: Length Behind Panel

Voltage breakdown is 1250 V. peak. Nickel-plated finish.

Panel mounting space is ¾" by ⅝". Mounting hole ¼". Slotted for screw driver adjustment or takes a 3/16" knob. Improved terminal provides dual low inductance path to both stator supports, eliminates possibility of loosening plates when soldering, avoids binding stresses on stator supports caused by wiring.

See Page J-35 for knob for these condensers.

MOUNTING BRACKETS FOR C, D, E AND F CONDENSERS



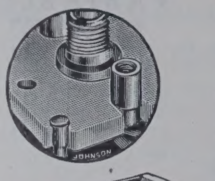
Extra brackets for mounting other components above condenser.

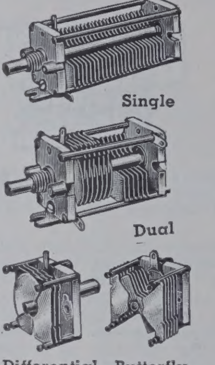
Cat. No.	List
115-100—Single Hole Bracket for C or D condenser	$0.15
115-101—Two Hole Bracket for C or D condenser	.15
115-102—Single Hole Bracket for E condenser	.10
115-103—Single Hole Bracket for F condenser	.10

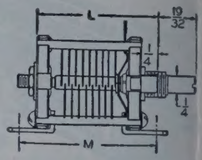
NEW JOHNSON TYPE L VARIABLES

(167 Series)

Ceramic Soldered for Stability, Strength







With the introduction of this new line of air variables, JOHNSON brings many important design advantages never before available.

Outstanding of these is the use of perfected ceramic soldering which assures absolute — and permanent — rigidity and strength, absolute — and permanent — maintenance of capacities!

There are no eyelets, nuts or screws to work loose, causing stator wobble and fluctuations in capacity. JOHNSON ceramic soldering leaves a bond which is stronger than the rugged steatite end plates themselves. There's nothing to come loose, because the stator terminals, mounting posts and rotor bearings are ceramic soldered!

Silent operation on the highest frequencies is assured with a split sleeve tension bearing that also prevents fluctuations in capacity.

These new variables are ideal for peak efficiency even under the severest conditions, such as portable — mobile operation.

Two sets of stator contacts are provided for connecting components to either side of condenser without appreciably increasing inductance of the circuit. New bright alloy plating is used. It has high corrosion resistance and possesses lower electrical resistance than other common platings.

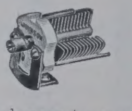
Mounting (M) dimension is ¼" more than the L dimension.

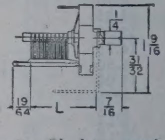
● Other capacities and spacings available on special order ●

TYPE L SINGLE SECTION

Cat. No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
Single End Plate						
10L15	$2.40	11	2.8	.030"	3	15/16
25L15	2.55	27	3.5	.030"	7	1 9/64
50L15	2.80	51	4.6	.030"	13	1 7/16
75L15	3.00	75	5.7	.030"	19	1¾
Double End Plate (Also Available in .080" Spacing)						
100L15	4.85	99	6.8	.030"	25	2 7/32
200L15	6.10	202	11.6	.030"	51	3 33/64
Dual Section (Also Available in .080" Spacing)						
25LD15	4.70	27	3.5	.030"	14	1 13/16
50LD15	5.45	51	4.6	.030"	26	2 27/64
100LD15	6.55	99	6.8	.030"	50	3⅝
Differential (Also Available in .080" Spacing)						
10LA15	2.90	11	2.8	.030"	4	15/16
25LA15	3.10	27	3.5	.030"	10	1 9/64
50LA15	3.50	51	4.6	.030"	19	1 7/16
Butterfly						
10LB15	3.35	10.5	2.8	.030"	7	1 3/64
25LB15	3.80	26	4.3	.030"	18	1 7/16
50LB15	4.40	51	6.5	.030"	34	1 15/16

TYPE J CONDENSER





The Type J condenser is a midget with big condenser characteristics. It has wider spacing than most small types, yet occupies little more space and is ideal for oscillator and low power stages. The spacing is .025" and universal type mounting brackets make possible a variety of mountings including chassis, panel, or inside tube socket type inductors. Steatite end plate is 1⅛" wide.

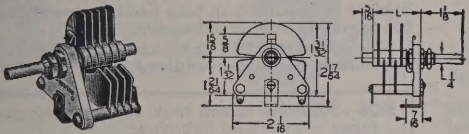
Cat. No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
7J12	$1.95	8	2.6	.025"	3	19/32
15J12	2.10	17	3.3	.025"	6	23/32
25J12	2.30	29	3.6	.025"	10	7/8
50J12	2.70	52	4.9	.025"	19	1¼
75J12	3.15	73	6	.025"	26	1 17/32
100J12	3.75	102	7	.025"	36	1 31/32

EXPLANATION OF TYPE NUMBERS

The first part of the type number indicates the capacity per section in mmfd. The following letter indicates the frame size or type. A second letter D indicates a two section type. The final number multiplied by 100 is the approximate peak breakdown voltage. Capacity measurements of the E and F types are made with the condensers in the position shown in the above illustration. The C and D types are measured in inverted position.

E. F. JOHNSON Company WASECA, MINNESOTA

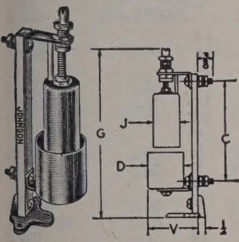
TYPE G CONDENSER



The Type G condenser is extremely popular as a neutralizing condenser for medium and low power stages. It is also widely used for grid and plate tuning at high and ultra-high frequencies. A wide range of capacities and spacing make it adaptable to many applications. It has a single end plate of steatite and low minimum capacity. .032" rounded aluminum plates, universal mounting bracket locking nut, and front and rear shaft extension are among outstanding features.

Cat. No.	List Price	Cap. per Sect. Max.	Cap. per Sect. Min.	Spacing	Number Plates	L
25G20	$3.40	27	4	.045"	5	29/32
50G20	3.75	52	5	.045"	9	1 5/32
8G45	3.25	7.7	3.6	.125"	3	7/8
13G45	3.45	13	4.7	.125"	5	1 5/32
23G45	3.75	23	6.4	.125"	9	1 13/16
6G70	3.75	5.7	3.5	.225"	3	1 1/16
12G70	4.25	12	6	.225"	7	2 5/8

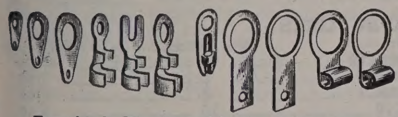
TYPE N CONDENSER



Small mounting space requirements, extremely high voltage rating in proportion to size, fine adjustment with uniform voltage breakdown rating throughout the full capacity range, and low cost, make these neutralizing condensers ideal for the modern transmitter. "Plates" are aluminum cups supported on a steatite frame with cast aluminum mounting bracket. Because of the design these condensers will withstand much higher voltage than conventional flat plate condensers of the same spacing. The N375 has been improved and now features a bushing for the guide shaft for greater stability and a beaded lower cup for high voltage rating. Peak R.F. Breakdown Ratings at 2 Mc.; N125 8,500, N250 11,500, N375 14,500.

Cat. No.	List Price	Capacity Max.	Capacity Min.	D	C	G	V	Spacing
N125	$6.50	11.0	1.1	1 3/8	3 1/8	6 13/32	1 15/16	.125"
N250	7.50	10.6	1.4	1 47/64	3 3/4	7 17/32	2 9/32	.250"
N375	9.50	10.7	1.7	2 3/8	5 19/32	8 23/32	2 15/16	.375"

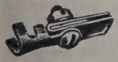
TINNED COPPER SOLDERING TERMINALS

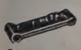

Terminals Illustrated in the Order Listed

Available in eleven sizes, JOHNSON soldering terminals meet the requirements of most applications. Composed of copper for low resistance, they are tinned to permit easy soldering.

Cat. No.	List Price Per C	Size Hole	Length
110-880	$0.40	6-32	9/16"
110-881	.75	1/4"	13/16"
110-882	1.50	3/8"	1"
110-883	2.75	10-32	15/16"
110-884	2.75	10-32	1"
110-885	4.00	1/4"	1 1/16"
110-886	1.90	.180"	7/8"
110-887	2.75	25/64"	1 9/32"
110-888	2.75	33/64"	1 9/32"
110-889	4.25	25/64"	1 1/32"
110-890	4.25	33/64"	1 1/32"

INDUCTOR CLIPS

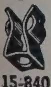

235-804


235-860

Clip No. 235-804 is plated phosphor bronze and is designed for making connections to the JOHNSON edgewise wound or similar inductors. No. 235-860 will take wire from No. 20 to No. 10 without danger of tilting and shorting adjacent turns.

Cat. No.	List Price	Type
235-804	$0.30	LC4
235-860	.15	860

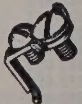
FUSE CLIP


115-840

This cadmium plated phosphor bronze clip provides sure grip for 3/8" diameter fuse or resistor. Mounts with No. 8 screw.

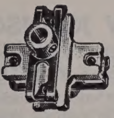
SCREW TERMINAL

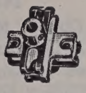
A convenient and substantial clip for use as antenna and ground connections and power terminals. Furnished complete with 2 screws.

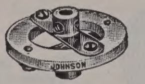

110-112

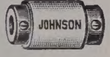
Cat. No. 115-840..**List Price $0.03**
Cat. No. 110-112..**List Price .07**

COUPLINGS


104-251


104-250


104-262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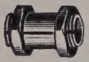
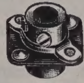
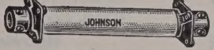
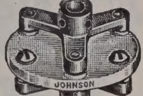
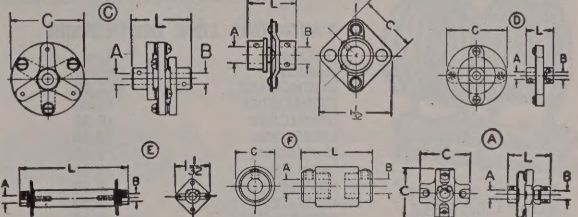

104-258


104-264


104-259


104-261



All JOHNSON insulated shaft couplings are characterized by best steatite insulation properly proportioned for electrical and mechanical strength, by accurate metal parts heavily plated, by advanced design, and by skillful manufacture.

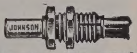
The phosphor bronze springs of the -250 and -251 series couplings provide flexibility without backlash and adjust to minor shaft misalignments. Rigid types -252, -262 and -261 meet the requirements of accurate shaft alignment and high torque.

The -259 and -2593 are bar type couplings recommended for high voltages or very high frequencies.

The -264 is a small bakelite insulated flexible coupling for DC or low voltage RF applications.

Cat. No.	List Price	Modulated Peak Volt.	Dim. Dwg.	Dimension C	Dimension L	Dimension A	Dimension B
104-250	$1.00	4000	A	1 5/16	1 1/8	1/4	1/4
104-2503	1.10	4000	A	1 5/16	1 3/16	1/4	3/8
104-251	1.40	5000	A	2 1/8	1 15/32	3/8	3/8
104-251A	1.40	5000	A	2 1/8	1 15/32	1/4	1/4
104-251B	1.40	5000	A	2 1/8	1 15/32	1/4	3/8
104-252	.90	1000	F	11/16	1 1/4	1/4	1/4
104-258	.35			1/2	3/4	1/4	1/4
104-259	1.50	8000	E		3 3/8	1/4	1/4
104-2593	1.45	5000	E		2 3/8	1/4	1/4
104-261	4.25	7500	C	2 1/2	1 15/16	3/8	3/8
104-262	.85	5000	D	2	29/32	1/4	1/4
104 264	.60	400	B	1 1/32	23/32	1/4	1/4

PANEL BEARINGS

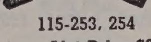


115-255, 256, 2562

Nickel plated brass for 1/4" shaft and up to 3/8" panels. Also with 3" and 6" nickel-plated brass shafts.

Cat. No. 115-255 Panel bearing only ....**List Price $0.20**
Cat. No. 115-256 Bearing and 3" shaft...................**List Price .40**
Cat. No. 115-2562 Bearing and 6" shaft...................**List Price .60**

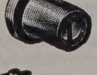
FLEXIBLE SHAFTS


115-253, 254

Phosphor bronze, non-rusting with 1/4" hubs. Permit out of line or up to 90 degree angular control.

Cat. No. 115-253 3" flexible shaft ....**List Price $0.50**
Cat. No. 115-254 6" flexible shaft ....**List Price .70**

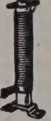
BAKELITE KNOB

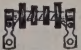


A new and extremely versatile knob for screwdriver or hand operation. Has set-screw for attachment. 13/16" long, skirt 3/4" diameter.

Cat. No. 116-214-1 for 1/4" shaft ....**List Price $0.50**
Cat. No. 116-214-2 for 3/16" shaft ....**List Price .50**

RADIO FREQUENCY CHOKES


762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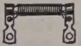
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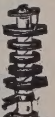
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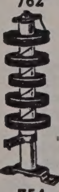
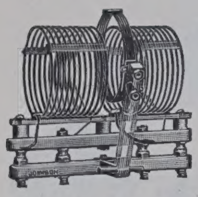

754

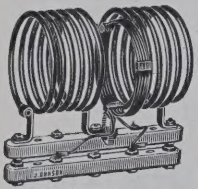
Uniformly flat in response, JOHNSON R.F. chokes are equally effective over the entire range for which they are designed. Coils are of enamelled silk-covered wire impregnated with high grade R.F. lacquer, and are wound on steatite cores. Current ratings are of continuous service and may be increased for intermittent use.

Cat. No.	List Price	Frequency	Current Rating	Lgth.
102-750	$1.75	1.7 to 30 mc	150 ma	1 1/2
102-752	2.50	1.7 to 30 mc	500 ma	2 7/8
102-754	3.00	1.7 to 30 mc	750 ma	4 5/16
101-760	.60	Ultra-high	250 ma	1 1/2
101-762	1.15	Ultra-high	1500 ma	2 7/8

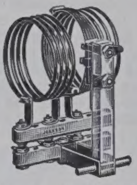
NEW JOHNSON AIR-WOUND HAM INDUCTORS



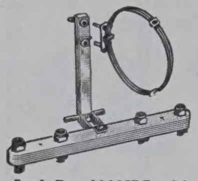
Inductor 1000HCS40
Link 1000SL5



Inductor 500HCF20
Link 150/500FL5



Inductor 150H/LCS14
Link 150/500SL5



Jack Bar 1000JBS with 1000SLA Arm Assembly and 1000SL5 Link

Jack Bars
1000JBS, 500JBS, 150JBS

A Coil to Match Your Tube —
A Link to Match Your Line

There are two models for most bands for use with either high voltage low current, or low voltage high current tubes.

With these new JOHNSON Ham Inductors and "plug-in" Swinging Link Assemblies the amateur can instantly match coil to tube — link to line. These outstanding inductors are also available in semi-fixed models.

Heavier Windings on All Models

Efficiency is further increased because coil windings are a wire-size larger than on most available inductors — resulting in less heating, lower loss and consequently higher efficiency.

The new JOHNSON Inductors and "plug-in" Link Assemblies fit all conventional inductor assemblies.

HCS—Inductors match high voltage, low current tubes — swinging link type.
LCS—Inductors match low voltage, high current tubes — swinging link type.
HCF—Inductors match high voltage, low current tubes — semi-fixed link.
LCF—Inductors match low voltage, high current tubes — semi-fixed link.

SWINGING LINK INDUCTORS Catalog Number	List Price	SEMI-FIXED LINK INDUCTORS Catalog Number	List Price	Wire Size	Cap.* mmfds.
1000HCS160	$11.50	———	—	10	99
1000LCS160	11.50	———	—	10	140
1000HCS80	10.25	1000HCF80	$9.90	10	46
1000LCS80	10.25	1000LCF80	9.90	10	73
1000HCS40	9.25	1000HCF40	8.90	10	24
1000LCS40	9.25	1000LCF40	8.90	8	55
1000HCS20	8.50	1000HCF20	8.50	8	19
1000LCS20	8.50	1000LCF20	8.15	.250**	26
1000H/LCS14	8.00	1000H/LCF14	7.65	.250**	19
1000H/LCS10	7.50	1000H/LCF10	7.15	.250**	18
500HCS160	6.25	———	—	14	100
500LCS160	6.25	———	—	14	148
500HCS80	5.75	500HCF80	5.60	14	45
500LCS80	5.75	500LCF80	5.60	12	76
500HCS40	5.25	500HCF40	5.10	12	27
500LCS40	5.25	500LCF40	5.10	10	50
500HCS20	4.50	500HCF20	4.35	6	25
500LCS20	4.50	500LCF20	4.35	6	37
500H/LCS14	3.50	500H/LCF14	3.35	6	19
500H/LCS10	3.25	500H/LCF10	3.10	6	19
500H/LCS6	3.25	500H/LCF6	3.10	6	18
150HCS160	5.50	———	—	18	102
150LCS160	5.50	———	—	16	151
150HCS80	5.00	150HCF80	4.85	16	51
150LCS80	5.00	150LCF80	4.85	16	68
150HCS40	4.50	150HCF40	4.35	14	28
150LCS40	4.50	150LCF40	4.35	12	57
150HCS20	4.00	150HCF20	3.85	12	21
150LCS20	4.00	150LCF20	3.85	12	32
150H/LCS14	3.25	150H/LCF14	3.10	8	19
150H/LCS10	3.00	150H/LCF10	2.85	8	19
150H/LCS6	3.00	150H/LCF6	2.85	8	16

*Total circuit capacity required to effect resonance at low frequency end of band. Actual condenser capacity will be smaller by the sum of the tube output and wiring capacities, generally between 5 and 20 mmfd.
**.250 diameter copper tubing.

JACK BAR ASSEMBLIES

Cat. No.		List Price
Cat. No. 150JBS	150 Watt Jack Bar	**List Price** $1.45
Cat. No. 500JBS	500 Watt Jack Bar	**List Price** 2.00
Cat. No. 1000JBS	1000 Watt Jack Bar	**List Price** 3.00

SWINGING LINK ARM ASSEMBLIES

Cat. No.	List Price
150/500SLA—Arm Assembly for 150/500 Watt Inductors	$1.70
1000SLA—Arm Assembly for 1000 Watt Inductors	2.10

BRACKETS

Cat. No.	List Price
150/500FLB—150/500 Watt Bracket for Semi-Fixed Link Inductor	$0.45
1000FLB—1000 Watt Bracket for Semi-Fixed Link Inductor	.80

"PLUG-IN" LINKS

Cat. No.	No. Turns	List Price
150/500SL12	12	$3.00
150/500SL5	5	1.90
150/500SL2	2	1.60
1000SL10	10	3.10
1000SL5	5	2.40
1000SL2	2	1.80

SEMI-FIXED LINKS

Cat. No.	No. Turns	List Price
150/500FL12	12	$2.20
150/500FL5	5	1.40
150/500FL2	2	1.20
1000FL10	10	2.10
1000FL5	5	1.60
1000FL2	2	1.30

119-838
119-839
119-840
119-841

119-843

119-852
119-854

119-850
119-851

TUBE CAP CONNECTORS

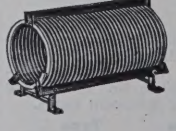
Collet types, numbers 119-838 through 119-841 are recommended for heavy current industrial uses. The outside diameter is ⅞" and connector may be tightened with spanner wrench listed below. The 119-843 is a part of the 124-212 socket for 833A tubes and is recommended for other tubes having .567" diameter caps and requiring radiator type connectors for high R.F. currents. The flexible strap is 5⅛" long and ⅝" wide.

Cat. No.	List Price	Tube Cap Dia.
119-838	$1.35	.375
119-839	1.40	.437
119-840	1.50	.567
119-841	1.75	.676
119-843	1.50	.567
119-846	.35	.125

Cat. No.	List Price	Tube Cap Dia.
119-848	$0.16	.070
119-849	.12	.048
119-850	1.80 C	.250
119-851	1.80 C	.360
119-852	.06	.360
119-854	.12	.566

115-838 Spanner wrench for use with Nos. 119-838 through -841 **List Price $1.25**

EDGEWISE WOUND "HI-Q" INDUCTORS

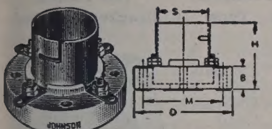


Design improvements and mycalex insulation are new features in this inductor of plated edge-wound copper strip. They are widely used in commercial equipment, and will safely handle more than 1000 watts in continuous service. Other sizes and types of inductors are manufactured for commercial broadcast and industrial electronic applications. More information available on request.

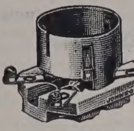
Cat. No.	List Price	Inductance µh	Winding L x ID
232-610	$8.50	31	7 13/16" x 2½"
232-611	6.50	13	4 1/16" x 2½"
232-619	6.00	19	3⅛" x 4"
232-620	9.50	84	8 5/16" x 4"
232-622	7.50	41	6 7/16" x 3¼"
232-623	5.50	8	2 3/16" x 3¼"
232-624	7.00	20	6" x 3¼"
232-626	6.60	10	4¾" x 2½"
232-627	5.20	2.8	1 7/16" x 2½"
232-628	6.30	4.4	4⅝" x 2½"

E. F. JOHNSON Company WASECA, MINNESOTA

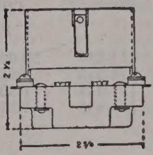
TUBE SOCKETS



123-209
-210, -211, -216



123-206



No. 123-206 industrial bayonet socket with rugged metal shell for extremely high voltage applications. Will accommodate 8008, 5C22, FG104, GL146 and other tubes with similar bases. Has steatite insulation, silver plated beryllium copper contacts, screw terminals and three heavy springs in shell insure tube being held securely in place.

Nos. -209, -210, -211 and -216 all have heavy phosphor bronze, side wiping type contacts, metal shells and white, glazed porcelain bases.

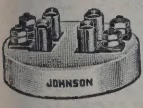
No. -209 is similar to No. -210, but provides greater spacing between contacts and shell, for higher voltages, No. -211, the standard "50 watt" socket has double filament contacts for carrying heavy currents.

No. -216 is for tubes having a GIANT 5 pin bayonet base such as the 803, RK28, etc.

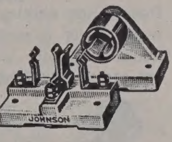
"S" dimension -209, -210 series 1.386", -211 series 1.886", -216 series 2.198".

Suffix letters "SB" identify sockets with beryllium copper contacts and steatite bases.

Cat. No.	List Price	D	H	M	B	Base
123-206	$3.00	2⅝ x 3⅞	2½	2¾	⅞	Four-Pin Super Jumbo
123-209	1.50	2 13/16	1 27/32	2 5/16	11/16	Medium Four-Pin Bayonet
123-209SB	2.50	2 13/16	1 27/32	2 5/16	11/16	
123-210	1.50	2½	1⅞	2 1/16	21/32	
123-211	1.85	3⅜	2 9/32	2 13/16	23/32	Standard Jumbo Four-Pin
123-211SB	3.50	3⅜	2 9/32	2 13/16	23/32	
123-216	3.00	3¾	2 7/16	3⅛	25/32	Giant Five-Pin Bayonet
123-216SB	5.15	3¾	2 7/16	3⅛	25/32	



124-213



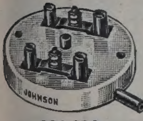
124-215

No. -213 takes Eimac 152TL and 304TL. Contacts arranged for either series or parallel filaments.

No. -214 takes Eimac 1500TH and similar tubes. Has air jet tube for cooling filament tube seals.

No. -215 is for "250 watt" tubes such as 204A, 849, etc. The plate terminal has a "safety cup" which prevents accidental dislodgement of the tube.

Cat. No.	List Price	Base
124-213	$2.00	"Eimac"
124-214	2.75	"Eimac"
124-215	4.25	"250 Watt"



124-214

133-278

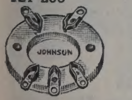
120-277B

MINIATURE SOCKETS

Cat. No.	Description	List Price
120-267	Miniature socket, all ceramic............	$0.50
120-277B	Miniature socket with shield base......	.75
133-277S	Miniature socket, shield base only..	.15
133-278A	1⅜" shield for 277 B or S..................	.20
133-278B	1¾" shield for 277 B or S..................	.20

120-267

121-265

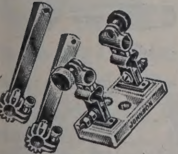


ACORN SOCKETS

The -265 was designed for "acorn" tubes. Contacts silver-plated beryllium copper, base grade L-4 Steatite

Cat. No	List Price	Mtg. Cen.
121-265	$1.10 ...	1 3/16

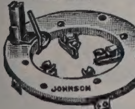
SPECIAL SOCKETS



124-212

The No. -212 socket for RCA833 or 833A. Base of steatite. Filament clamps incorporate "springs" which minimize strains on the glass tube seals and prevent breakage. Plate leads include laminated phosphor bronze strips for flexibility. Regularly supplied with 5⅛" plate leads. Other lengths available on special order.

Cat. No. 124-212..............................List Price $10.00



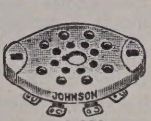
122-234

No. -234 for Western Electric 5D21, 705A, 715A, 715B includes heavy steatite base and special locking device for retaining tube in socket.

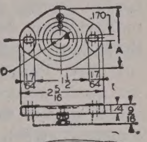
Cat. No. 122-234..............................List Price $3.00

WAFER SOCKETS

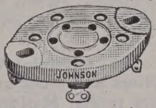
JOHNSON wafer sockets are insulated with grade L 4 steatite or better, top and sides glazed, underside impregnated in conformance with latest Army Navy specifications. Contacts are brass with steel spring, cadmium plated and are mounted against phenolic washers in molded recesses to prevent movement. Rivets are countersunk and mounting holes bossed to permit sub-panel mounting. Locating grooves facilitate tube insertion.



122-228

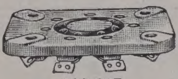


122-217	$0.75	7-pin small
122-224	.60	4-pin
122-225	.65	5-pin
122-226	.70	6-pin
122-227	.75	7-pin med.
122-228	.80	Octal



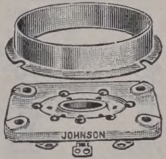
122-217, -224, -225, -226, -227

No. -237 is a 7-pin large steatite wafer socket for transmitting tubes having a GIANT 7-pin base such as the HK257, and RCA 813.

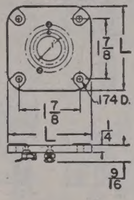


122-237

No. -247 is a 7-pin steatite wafer socket for transmitting tubes such as the 826. It is furnished with etched aluminum base shield

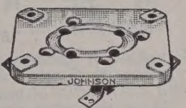


122-247



The 122-244 is a 4-pin wafer socket of steatite insulation, for transmitting tubes having a **Super Jumbo** base such as the 8008. Brass clip contacts and reinforcing steel springs are cadmium-plated and are designed for high currents. Four mounting holes spaced 1⅞" between centers.

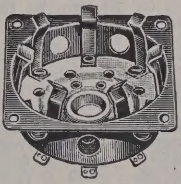
Cat. No.	List Price	Dimension L
122-237	$1.10	2⅝
122-244	2.00	2⅝
122-247	1.25	2⅝



122-244

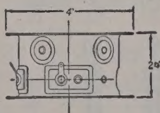
The 122-101 is a 7 pin steatite wafer socket of special design incorporating a base shield, retainer springs and provision for mounting button mica capacitors directly to the socket. Socket is specially designed for UHF use with tubes such as the 826, 829 and 832. Contacts and spring are silver plated and recessed to prevent movement. Grid terminals are designed so connecting wires may be isolated from other circuits and permit small grid coils to be mounted on the terminal ends. Four mounting holes are equally spaced 2.312 inches between centers.

Cat. No. 122-101......................List Price $3.00

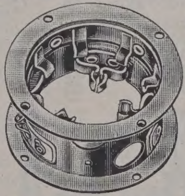


122-101

The 122-102 is designed for high frequencies. Accommodates Eimac 4X-500A tube. Mounting holes in both top and bottom rims. Widely used for coaxial circuits, with coaxial line mounted directly on the tube socket. Terminals so arranged to provide by-pass capacity to ground through the insulation. Mounting holes are provided for adding by-pass condensers for additional capacity. Socket is 2⅛" high and 4" in diameter.



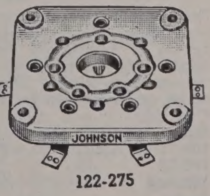
Cat. No.	List Price
122-102	$18.00



122-102

The 122-275 is a 5 pin steatite wafer socket for transmitting tubes having a GIANT 5 pin base such as the 4-125A and RK48. Contacts are of a superior construction, brass clip and steel spring, both cadmium plated, and are designed for high currents. Adequate ventilation for tubes is provided by five ¼" holes spaced between contacts. Four mounting holes are equally spaced 2¼" between centers.

Cat. No. 122-275 ....List Price $1.75



122-275

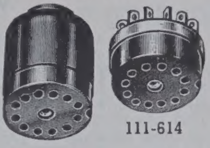
THE JOHNSON TUBE SOCKET GUIDE IS AVAILABLE UPON REQUEST.

MULTIPLE WIRE CONNECTORS

JOHNSON cable connectors provide a most efficient means of quickly connecting or disconnecting multiple electrical circuits in low-voltage control, audio and instrument service. Contacts accommodate No. 16 stranded wire, or No. 14 solid. Minimum surface creepage path for 12 contact types $\frac{1}{16}$'', for 7 contact types $\frac{3}{32}$''. Body material of molded black bakelite, back shells are brass dull black finished, shell liners are fibre. Plug and receptacle polarized for quick accurate insertion. The cadmium plated steel mounting yokes fit standard switch boxes and cover plates and are supplied with necessary hardware.

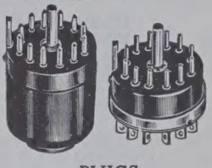
The multiple Wire connectors, tip plugs and jacks appearing on this page are former Mallory-Yaxley products.

RECEPTACLES



111-615 Cord Type

111-614 Chassis Type

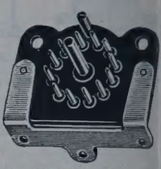


PLUGS

111-625 111-617

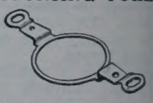
Catalog Number	List Price	No. of Contacts	Connector Type
RECEPTACLES			
111-614	$2.00	12	Chassis
111-615	2.30	12	Cord
111-644	1.00	7	Chassis
111-645	1.25	7	Cord
PLUGS			
111-617	2.10	12	Chassis
111-625	2.40	12	Cord
111-631	1.45	7	Chassis
111-635	1.70	7	Cord
PIN PLATE BRACKET MOUNTED			
111-682	1.60	12	
MOUNTING YOKE			
111-6002	.25		for 7 wire connectors
111-6003	.25		for 12 wire connectors

PIN PLATE Bracket Mounted



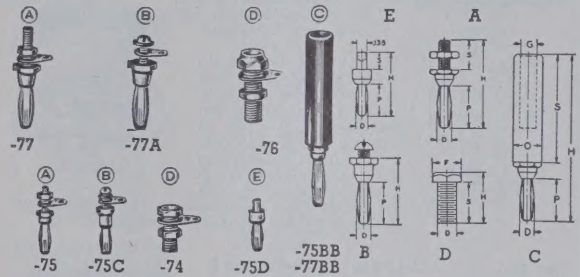
111-682

MOUNTING YOKES



111-6002, -6003

PLUGS AND JACKS



"BANANA SPRING" TYPE

Nickel-silver springs and high grade nickel plated brass screw machine parts with accurate threads and milled nuts. Studs extend full length of springs for added support.

75D is designed for riveting. Spring is beryllium copper.

75BB has 1⅜'' black plastic handle; 75BR same but red.

77BB has 1¾'' black plastic handle; 77BR same but red.

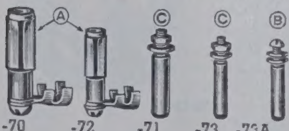
75 or 75A can be furnished with beryllium copper spring on special order, and all plugs can be furnished with nickel, cadmium or silver plating if required.

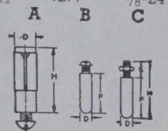
108-7451 is a red plastic insulated jack similar to the 108-74 and furnished with fibre washers. 108-7452 same but black.

If washers used for insulated mounting fits $\frac{5}{16}$'' holes, $\frac{9}{32}$'' maximum panel thickness.

Cat. No. Plugs	List Price	Illus. Dwg.	S	P	D	H	G	O	Thread
108.75	$0.12	A	⅜	.53	.170	1.115			6-32
108-75A	.13	A	¾	.53	.170	1.490			6-32
108-75BB	.40	C	1⅜	.53	.170	2.115	.215	$\frac{7}{16}$	
108-75BR	.40	C	1⅜	.53	.170	2.115	.215	$\frac{7}{16}$	
108-75C	.13	B		.53	.170	.94			6-32
108-75D	.10	E	$\frac{7}{32}$	.40	.155	.81			
108-77	.30	A	⅝	.74	.300	1.77			¼-28
108-77A	.35	B	⅝	.74	.300	1.15			10-32
108-77BB	.50	C	1¾	.74	.300	2.90	$\frac{5}{16}$	⅝	
108-77BR	.50	C	1¾	.74	.300	2.90	$\frac{5}{16}$	⅝	

Jacks	List Price	Illus. Dwg.	F	D	S	H	B	Thread
108-74	.11	D	⅜	¼	$\frac{7}{32}$	⅝	.166	¼-28
108-7451	.25		$\frac{7}{16}$	¼	½	$\frac{21}{32}$	.166	¼-28
108-7452	.25		$\frac{7}{16}$	¼	½	$\frac{21}{32}$	.166	¼-28
108-76	.35	D	$\frac{9}{16}$	⅜	$\frac{15}{16}$	1$\frac{9}{32}$	.277	⅜-24





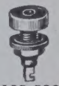
"SPRING SLEEVE" TYPE

These jacks have maximum current carrying capacity, minimum resistance, great mechanical strength, and snug fit. Wiping action of spring on insertion insures good electrical contact. Tension is maintained by phosphor bronze "spring sleeves." two sizes available. Furnished regularly nickel plated, but cadmium or silver can be supplied on special order.

Cat. No. Plugs	List Price	D	S	P	H	Thread
106-71	$0.25	.375	½	1⅛	1⅝	¼-28 screw
106-73	.15	.250	⅜	$\frac{15}{16}$	$\frac{15}{16}$	10-32 screw
106-73A	.15	.250		1$\frac{5}{16}$		10-32 tapped
Jacks						
106-70	.50	½			1½	¼-20 screw
106-72	.35	⅜			1⅛	10-32 screw

PLASTIC HEAD TIP JACKS

REMOVABLE ROUND HEAD TIP JACK



105-520

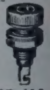
Removable plastic heads in choice of colors listed. Supplied with fibre shoulder bushing and nickel plated hex nut. Standard finish is nickel plate on body. Mounts in ⅜'' hole. Maximum panel thickness $\frac{5}{32}$'' where insulating washers are used, ¼'' where omitted. ¼''-32 thread.

Cat. No.	List Price	Color
105-520	$0.20	Red
105-521	.20	Black
105-522	.20	Dark Green
105-524	.20	Brown
105-525	.20	Light Blue
105-526	.20	Orange
105-527	.20	Yellow
105-528	.20	Light Green
105-529	.20	Dark Blue
105-530	.20	Ivory

MOLDED ROUND HEAD TIP JACK

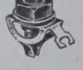
Description similar to removable head type except that brass body is molded integral with head, and additional phenolic washer is furnished. $\frac{5}{16}$''-40 thread.

105-418 Red **List Price $.30** **105-419** Black **List Price $.30**



105-418

INSULATED COMBINATION JACK



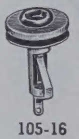
105-420

Supplied with shoulder bushing, phenolic washer and one piece contact and nut. Maximum chassis thickness ⅛''. Mounts in ⅜'' diameter hole. Provides insulated jack for phonetip plugs and No. 75 series "Banana Spring" plugs.

No. 105-420 Red **List Price $0.30** **No. 105-421** Black **List Price $0.30**

METAL HEAD TIP JACKS

Large Round Head

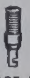


105-16

Supplied with fibre shoulder bushing, phenolic washer and hex nut. Mounts in ½'' hole if shoulder bushing is used. $\frac{3}{16}$'' maximum panel thickness. Contact is phosphor bronze cadmium plated.

105-16 List Price $0.50

Headless Tip Jack



105-1

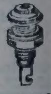
Metal parts brass. Body nickel plated. ¼-32'' thread.

105-1 List Price $0.10

Small Round Head

$\frac{5}{16}$-40'' thread. Supplied with fiber bushing to fit ⅜'' panel hole. $\frac{11}{32}$'' maximum panel thickness.

No. 105-416
List Price $0.20

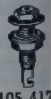


105-416

Small Hex Head

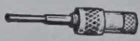
Similar to 105-416 except has hex head and ¼-32'' thread. Supplied with fiber bushing to fit ⅜'' panel hole.

No. 105-417
List Price $0.15



105-417

Long Solderless Tip Plug

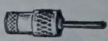


105-15

For use with tip jacks Nos. 105-16, and 105-420.

No. 105-15..............**List Price $0.20**
No. 105-14—Solderless Tip Plug Long Sharpened Point
List Price $0.22

Short Solderless Tip Plug

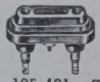


105-415

For use with tip jacks Nos. 105-416, 105-417, 105-418, and 105-529.

No. 105-415..............**List Price $0.18**

TWIN TIP JACKS



105-401

Mounting holes ⅞'' centers. Molded black phenolic.

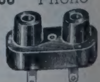
Cat. No.	List Price	Marking
105-401	$0.60	Blank
105-4012	.60	Speaker
105-4015	.60	Phono

SHORTING TYPE TWIN TIP JACKS

Circuit closes automatically when tips are removed.

No. 105-432—Black
List Price $0.60

No. 105-433—Red
List Price $0.60



105-432

E. F. JOHNSON Company WASECA, MINNESOTA

INSULATORS AND BUSHINGS

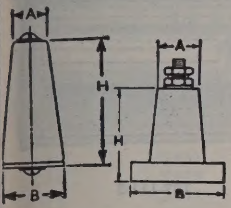
JOHNSON insulators were introduced in the early twenties, and soon established the sort of dominance that occurs occasionally when one line offers more in choice of style and size; in advanced but practical design; and in mass production economy than others. This position has been maintained through the years by careful attention to the product, the line, and the needs of the user.

JOHNSON insulators are specifically designed for high frequencies. Insulating materials were selected after exhaustive laboratory tests. Superior grade, low absorption, well glazed electrical porcelain, and Grade L 4 or better steatite are used.

Of the insulators appearing under the headings "Steatite" all but the 500 series and the 135-55 are offered in this finer material for the first time. Their dielectric losses are but a fraction of those for the same parts in porcelain, and they are particularly recommended for high frequency work.

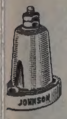
In addition to fine quality insulating materials the JOHNSON line distinguishes itself with perfection of ceramic design logcial proportions; clean-cut, accurate molding; and high grade nickel-plated brass hardware, with milled (not stamped) nuts.

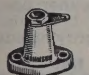
STAND-OFF AND CONE INSULATORS

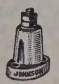


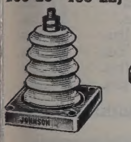
The stand-off insulators feature heavy, breakage-resistant bases and adequate "glaze grooves" around mounting screw holes. Numbers 135-65, 135-66, 135-67 and 135-68 have unbreakable, drawn and etched aluminum bases.

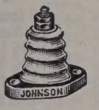
The No. 500 cone insulator series are steatite for better high frequency insulation. Threads are tapped directly into the ceramic. Furnished complete with machine screws, brass and cushion washers.

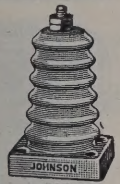

135-20

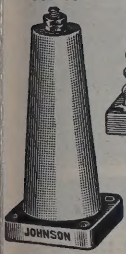

135-22J

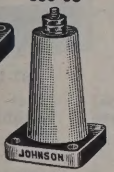

135-22


135-68


135-65


135-62
135-60

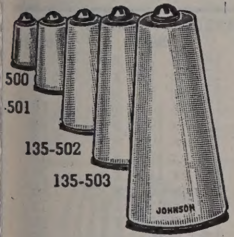

135-67


135-66

STAND-OFF INSULATORS

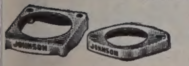
Cat. No.	List Price	Dimensions A	B	M*	H	Hard-ware
				Steatite		
135-20	**$0.22**	¾	1¾	1 5/16	1 9/16	10-32
135-20J	**.27**	¾	1¾	1 5/16	1 9/16	74 Jack
135-22	**.18**	15/32	1 5/32	1 3/16	1	8-32
135-22J	**.23**	15/32	1 5/32	1 3/16	1	74 Jack
135-24	**.14**	⅜	1	11/16	⅝	6-32
				Porcelain		
135-60	**.90**	1 3/16	2½	1⅞	4½	¼-20
135-62	**.50**	⅞	1⅞	1⅜	2¾	¼-20
				Metal Base Types		
135-65	**.30**	⅝	1⅞	1½	1⅜	10-32
135-65J	**.35**	⅝	1⅞	1½	1⅜	74 Jack
135-66	**.70**	15/16	1¾	1⅜	2¾	¼-20
135-66J	**.90**	15/16	1¾	1⅜	2¾	76 Jack
135-67	**.85**	1 1/16	2¼	1¾	4½	¼-20
135-67J	**1.10**	1 1/16	2¼	1¾	4½	76 Jack
135-68	**.40**	23/32	1¾	1⅜	2	10-32
135-68J	**.50**	23/32	1¾	1⅜	2	74 Jack

* Mounting centers.


500
501
135-502
135-503
135-504

STEATITE CONE INSULATORS

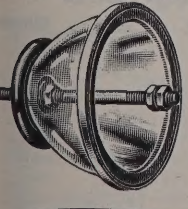
135-500	**.30**	7/16	⅝		⅝	6-32
135-501	**.35**	½	¾		1	8-32
135-502	**.65**	½	1		1½	8-32
135-503	**.75**	⅝	1⅛		2	10-32
135-504	**1.45**	¾	1½		3	10-32


135-866, -867 135-865

METAL BASES

Aluminum bases for replacement on 135-65, -66, -67 and -68 insulators.

Cat. No.	List Price	For Use With
135-865	**$0.12**	135-65
135-866	**.15**	135-66, 135-68
135-867	**.20**	135-67



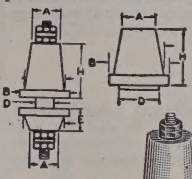
135-15-1

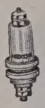
FEED-THRU BOWL

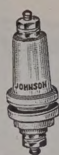
Glass bowl 7" diam. by 4⅜" deep. Flange 7¾" O.D.

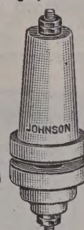
Furnished with cork gaskets. 135-15-1 is single with 10¼" stud. 135-15-3 is double with 16" stud. 135-15-7 is double with 24" stud.

Cat. No.	List Price	
135-15-1	**$17.00**	Single bowl
135-15-3	**30.00**	Double bowl
135-15-7	**31.00**	Double bowl




135-44


135-42


135-40

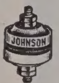
THRU-PANEL INSULATORS AND BUSHINGS

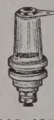
In the thru-panel and bushing series special attention has been given to obtaining high mechanical strength through heavier construction and at the same time increasing the breakdown voltage. Flat mounting surfaces with cushion washers eliminate breakage. Bottom pieces have long internal and external portions for higher breakdown voltage rating, and grooved surfaces to increase leakage path. Jack types have terminals permitting connection above as well as below the panel.

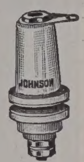
JOHNSON lead-in bushings are designed to have even greater mechanical strength and long leakage path in proportion to size. Numbers 135-53 and 135-54 are supplied as single porcelain parts including cushion washers.

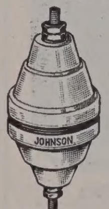
Nos. 135-50 and 135-55 are steatite and have a special interlocking feature which permits mounting on thin panels without extra spacing washers.

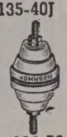
Nos. 20, 20J, 22, 22J and 24 are now also steatite with heavily plated brass hardware.

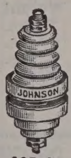

135-55

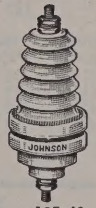

135-42J


135-40J


135-52


135-50


135-45

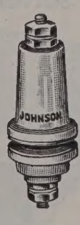

135-48

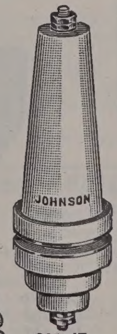
THRU-PANEL INSULATORS

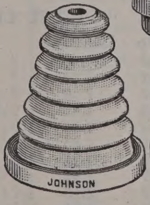
Cat. No.	List Price	Dimensions A	B	D	E	H	Hard-ware
				Steatite			
135-40	**$0.35**	19/32	15/16	7/16	½	1¼	10-32
135-40J	**.45**	19/32	15/16	7/16	½	1¼	74 Jack
135-42	**.30**	½	¾	.400	⅜	⅞	10-32
135-42J	**.40**	½	¾	.400	⅜	⅞	74 Jack
135-44	**.25**	⅜	⅝	.305	5/16	⅝	6-32
				Porcelain			
135-45	**.45**	⅝	1¼	½	11/16	1⅜	10-32
135-45J	**.60**	⅝	1¼	½	11/16	1⅜	74 Jack
135-46	**1.00**	15/16	1⅝	11/16	1	2¾	¼-20
135-46J	**1.25**	15/16	1⅝	11/16	1	2¾	76 Jack
135-47	**1.40**	1 1/16	2⅛	31/32	1½	4½	¼-20
135-47J	**1.65**	1 1/16	2⅛	31/32	1½	4½	76 Jack
135-48	**.65**	23/32	1⅝	11/16	⅞	2	10-32
135-48J	**.80**	23/32	1⅝	11/16	⅞	2	74 Jack

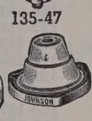
LEAD-IN BUSHINGS

				Steatite			
135-50	**.35**	⅜	¾	15/32		½	6-32
135-51	**.50**	⅝	1¼	27/32		13/16	10-32
135-52	**.80**	⅞	1¾	1 7/32		1⅛	¼-20
135-55	**.30**	½	¾	15/32		¼	6-32
				Porcelain			
135-53	**.30**	1 1/16	2½	1 27/32		1¾	
135-54	**.75**	1	3½	2 11/16		4	


135-46


135-47

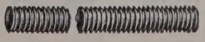

135-54


135-53

MOUNTING FLANGES

Stamped aluminum Mounting Flanges for Lead-in Bushings 135-53 and 135-54.

Cat. No.	For Bushing No.	List Price
135-90	**135-53**	**$0.35**
135-91	**135-54**	**.70**


115-240, -241, -242

THREADED BRASS ROD

Intended primarily for use with lead-in bushings 135-53 and 135-54. Accurately cut threads, heavy nickel plating, complete with 4 washers and 4 nuts, ¼" diameter, ¼-20 thread. It has many other uses in radio construction.

Cat. No.	List Price	Length
115-240	**$0.50**	8"
115-241	**.60**	10"
115-242	**.70**	15"

RADIO CABINETS

A Host of Features
Aluminum for Lightness
Steel for Strength

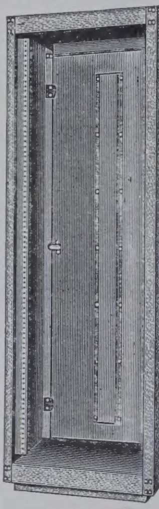
These new JOHNSON cabinets represent the first real advance in cabinet design since the introduction of the first Amateur relay panel cabinet years ago. JOHNSON'S extensive "know-how" and production facilities developed during more than ten years of experience building commercial cabinets for Broadcast Phasing Equipment and Transmitters, is now being applied to the design and manufacture of these superb Amateur cabinets.

FLOOR MODELS — REAR DOOR ONLY

They feature unique adjustable rails for standard relay panels. These rails may be moved forward or backward to suit the user making vertical chassis construction practical by allowing additional room at the front for mounting some components so they project forward. Later a DeLuxe door will be available to allow full use of this feature. Present cabinets are arranged so that the door may be added at any time. Both vertical panel construction and front doors are widely used commercially, and now for the first time these features are offered to the Amateur at Amateur prices.

Other exclusive features include recessed toe spaces at front and sides; inside ventilation with inlets in the bottom of the cabinet and outlets in the top, allowing cabinets to be placed directly against other objects without restricting the air circulation; and reversible rear door (may be installed to hinge either way) with positive handle lock.

Side panels and rear doors are constructed of heavy (.051") aluminum for lightness, and sturdy steel frames, tops and bottoms for strength. Rails for panels tapped for 10-32 screws and will accommodate either Amateur or Western Electric notching. Shipped knocked-down for your convenience and to save you freight charges; easily assembled in a few minutes with screws and nuts, no self-tapping screws. Available in either fine black wrinkle outside and flat satin black inside or a beautiful silver gray (no purple) outside with a matching flat gray inside.



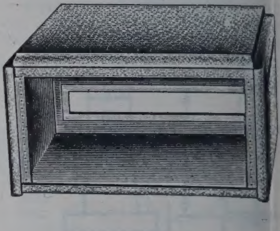
197-103-3

Cat. No.	List Price	Color	Overall Height	Panel Space	Net Weight	Ship. Weight
197-103-3	$80.00	Gray	68"	61¼"	65 lbs.	77 lbs.
197-103-4	80.00	Black	68"	61¼"	65 lbs.	77 lbs.
197-102-3	57.50	Gray	48¾"	42"	56 lbs.	67 lbs.
197-102-4	57.50	Black	48¾"	42"	56 lbs.	67 lbs.

Size: 22" wide by 17½" deep.
Panel Width: 19"

TABLE MODELS — TOP DOOR ONLY

More than mere cabinets, these JOHNSON units are superbly engineered as fine pieces of equipment. Built for a life-time of hard usage and handsomely styled to be in keeping with the most expensive apparatus. All aluminum construction for lightness, heavy .064" metal for strength. Rails for attaching panel are double thickness, tapped for 10-32 screws and on universal centers for either Amateur or Western Electric notched panels. Gracefully rounded top and front corners add to appearance and rugged mechanical strength. Opening at the bottom rear for attachment of plugs and cables to the chassis, also provides ventilation which is completed through inside baffles in the sides near the top.



197-111-3

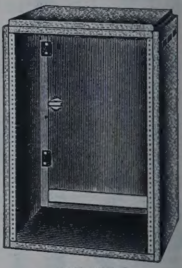
Shipped knocked-down for your convenience and to save you freight charges, easily assembled in a few minutes with screws and nuts, not self-tapping screws. Available in either fine black wrinkle outside and flat satin black inside or a beautiful silver gray ((not purple) outside with a matching flat gray inside.

Cat. No.	List Price	Color	Overall Height	Panel Space	Net Weight	Ship. Weight
197-111-3	$17.50	Gray	11¼"	8¾"	10 lbs.	13 lbs.
197-111-4	17.50	Black	11¼"	8¾"	10 lbs.	13 lbs.
197-110-3	19.00	Gray	13"	10½"	10¾ lbs.	14 lbs.
197-110-4	19.00	Black	13"	10½"	10¾ lbs.	14 lbs.
197-112-3	21.00	Gray	14¾"	12¼"	11½ lbs.	14 lbs.
197-112-4	21.00	Black	14¾"	12¼"	11½ lbs.	14 lbs.

Size: 21" wide by 15" deep. **Panel Width:** 19".

TABLE MODELS — BOTH TOP AND REAR DOOR

Same, identical description as the three smaller sizes except for the addition of the rear door. This door is equipped with a positive flush snap-catch and may be installed to hinge from either side. Cabinet is much more rugged than ordinary types with rear doors. Includes top door also.

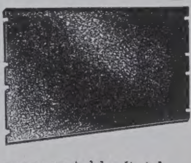


197-115-3

Cat. No.	List Price	Color	Overall Height	Panel Space	Net Weight	Ship. Weight
197-115-3	$32.50	Gray	28¾"	26¼"	18½ lbs.	23 lbs.
197-115-4	32.50	Black	28¾"	26¼"	18½ lbs.	23 lbs.

Size: 21" wide by 15" deep. **Panel Width:** 19".

RELAY RACK PANELS

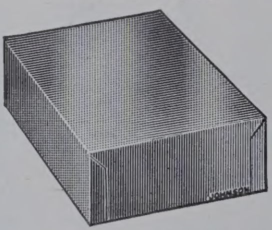


⅛" thick aluminum for lightness and easy working, W. E. notching. 19" long to fit standard relay racks or cabinets. Strength adequate for heaviest equipment. Beautiful, fine black or silver gray wrinkle finish.

Same colors can be furnished in ⅛" thick steel on special orders. Write for prices and delivery.

Black Cat. No.	Gray Cat. No.	List Price	Height
196-161-4	196-161-3	$0.90	1¾"
196-162-4	196-162-3	1.55	3½"
196-163-4	196-163-3	2.20	5¼"
196-164-4	196-164-3	2.85	7"
196-165-4	196-165-3	3.55	8¾"
196-166-4	196-166-3	4.25	10½"
196-167-4	196-167-3	4.95	12¼"
196-168-4	196-168-3	5.65	14"
196-169-4	196-169-3	6.35	15¾"
196-170-4	196-170-3	7.05	17½"
196-171-4	196-171-3	7.75	19¼"
196-172-4	196-172-3	8.45	21"

NEW DIE-CUT CHASSIS AND BOTTOM PLATES



STEEL CHASSIS

Cat. No.	List Price	Size	Gauge
195-150	$1.35	7 x 5 x 2	20
195-151	1.45	7 x 7 x 2	20
195-152	1.50	9 x 7 x 2	20
195-153	1.45	9½ x 5½ x 2	20
195-154	1.65	10 x 5 x 3	20
195-155	1.85	10 x 8 x 2½	20
195-156	1.75	11 x 7 x 2	20
195-157	1.90	12 x 7 x 3	20
195-159	2.15	12 x 10 x 3	20
195-160	1.75	13 x 7 x 2	20
195-161	1.65	13 x 7 x 3	20
195-163	2.50	14 x 10 x 3	18
195-164	2.25	15 x 7 x 3	18
195-166	2.10	17 x 4 x 3	18
195-167	$2.40	17 x 7 x 3	18
195-168	2.20	17 x 8 x 2	18
195-169	2.55	17 x 8 x 3	18
195-170	2.40	17 x 10 x 2	18
195-171	2.75	17 x 10 x 3	18
195-172	3.15	17 x 10 x 4	18
195-173	3.55	17 x 10 x 5	18
195-174	2.70	17 x 11 x 2	18
195-175	2.95	17 x 11 x 3	18
195-176	3.00	17 x 12 x 2	16
195-177	3.40	17 x 12 x 3	16
195-178	3.85	17 x 12 x 4	16
195-179	3.25	17 x 13 x 2	16
195-180	3.75	17 x 13 x 3	16
195-181	4.25	17 x 13 x 4	16
195-182	4.60	17 x 13 x 5	16

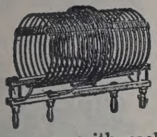
STEEL BOTTOM PLATES

Cat. No.	List Price	Size	Gauge
195-250	$0.70	5 x 7	20
195-251	.75	7 x 7	20
195-252	.80	9 x 7	20
195-257	.85	12 x 7	20
195-258	1.00	12 x 8	20
195-259	1.05	12 x 10	20
195-260	.90	13 x 7	20
195-267	1.00	17 x 7	20
195-268	1.05	17 x 8	20
195-270	1.25	17 x 10	20
195-274	1.30	17 x 11	20
195-276	1.35	17 x 12	20
195-279	1.60	17 x 13	20

AIR INDUCTORS

B&W BARKER & WILLIAMSON • UPPER DARBY, PA.

ANTENNA INDUCTORS TYPES TA AND HDA



Wound with tinned copper wire for ease in tapping feeders to coils. Equipped with fixed center links for coupling to either fixed or variable linked final tank circuits through a low impedance line. Two tinned clips come with each coil. TYPE TA COILS for power input up to 500 watts. TYPE HDA COILS for power inputs of one kilowatt.

SPECIFICATIONS

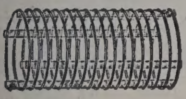
Band	Stock No.	Type	Capacity to Res. L.F. End of Band mmfd.	Net Price
		TA TYPES		
10	3601	10TA	20	$2.89
15	3602	15TA	23	2.96
20	3603	20TA	23	2.96
40	3604	40TA	34	3.30
80	3605	80TA	50	3.65

Stock No. 3321 Jack Bar Assembly for TA Inductors.

Band	Stock No.	Type	Capacity to Res. L.F. End of Band mmfd.	Net Price
		HDA TYPES		
10	3607	10HDA	20	5.85
15	3608	15HDA	20	6.54
20	3609	20HDA	20	6.54
40	3610	40HDA	20	6.88
80	3611	80HDA	34	7.56

Stock No. 3721 Jack Bar Assembly for HDA Inductors.

B & W MINIDUCTORS

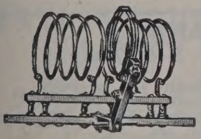


For use in limited space—can be cut to size. Amazingly high Q characteristic. Useful for tank circuit coils, R-F chokes, high-frequency I-F transformers, loading coils, etc.

SPECIFICATIONS

Catalog No.	Diameter	Turns per Inch	Length	Net Price
3001	½″	4	2″	$0.31
3002	½″	8	2″	.31
3003	½″	16	2″	.31
3004	½″	32	2″	.31
3005	⅝″	4	2″	.37
3006	⅝″	8	2″	.37
3007	⅝″	16	2″	37
3008	⅝″	32	2″	.37
3009	¾″	4	3″	.44
3010	¾″	8	3″	.44
3011	¾″	16	3″	.44
3012	¾″	32	3″	.44
3013	1″	4	3″	.50
3014	1″	8	3″	.50
3015	1″	16	3″	.50
3016	1″	32	3″	.50

TYPE TVH INDUCTORS



For Powers up to 500 Watts Input

A special group of units with eight contact plug bars which gives greater flexibility than otherwise possible.

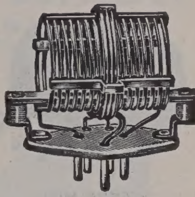
SPECIFICATIONS

Band	Stock No.	Type	*Capacity to Res. L.F. End of Band mmfd.	Net Price
10	3501	10TVH	11	$3.93
15	3502	15TVH	23	3.93
20	3503	20TVH	23	3.93
40	3504	40TVH	28	3.93
80	3505	80TVH	49	3.93

Stock No. 3507—Jack Bar Assembly for Type TVH Inductor **5.16**

*Actual condenser capacity will be smaller by the sum of the tube output and wiring capacities, generally between 5 and 20 mmfd.

JUNIOR INDUCTORS



For Powers Up to 75 Watts Input

Fitted with standard five-prong steatite base. Small size for compact construction. May be used in the oscillator, buffer or final amplifier stage with input powers up to 75 watts and plate voltages up to 850. Three different assemblies provided, any of which may be used in capacity-coupled circuits by omitting connection to the links.

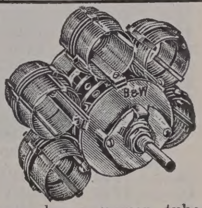
AMATEUR NET .... **$1.38 ea.**

SPECIFICATIONS

Band	Stock No.	Type	*Capacity to Res. L.F. End of Band mmfd.
		End Linked Models	
5	3100	5JEL	15
10	3101	10JEL	22
15	3102	15JEL	22
20	3103	20JEL	34
40	3104	40JEL	47
80	3105	80JEL	60
		Center Linked Models	
5	3107	5JCL	15
10	3108	10JCL	16
15	3109	15JCL	16
20	3110	20JCL	16
40	3111	40JCL	33
80	3112	80JCL	53
		Variable Link Models	
5	3114	5JVL	15
10	3115	10JVL	22
15	3116	15JVL	27
20	3117	20JVL	21
40	3118	40JVL	31
80	3119	80JVL	46

*Actual condenser capacity will be smaller by the sum of the tube output and wiring capacities, generally between 5 and 20 mmfd.

B & W TURRET ASSEMBLIES



Makes possible fast, positive band switching. Unique switching assembly allows unused coils to be shorted, thus eliminating absorption effects. All units cover 80, 40, 20, 15 and 10 meter bands.

B & W 75 WATT 2A "BAND HOPPERS" Uses same coil design as B & W Juniors. Unusually compact panel controlled unit. It may be used for interstage coupling between two beam power tubes or between beam power tubes and triodes.

Stock No. 3121 .... **Amateur Net $4.81**

B & W 75-WATT TURRETS—provide a means for link coupling single ended or push-pull low power stages. Complete assembly is mounted on a positive action switch arranged for panel mounting through a single ⅜″ hole. Turrets may be used with tubes operating at voltages up to 850.

Stock No. 3810—Type JTCL—Center linked, center tapped coils. **Amateur Net $9.38**

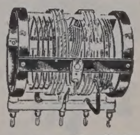
Stock No. 3811—Type JTEL—End linked, untapped coils. **Amateur Net $9.38**

B & W 150-WATT TURRETS—Supplied in both center and end link models for both single- and double-ended circuits. Operation is by a positive action switch arranged for panel mounting through a single ⅜″ hole. Turrets may be used with tubes operating at voltages up to 1000 volts.

Stock No. 3812—Type BCL—Center linked, center tapped coils. **Amateur Net $11.69**

Stock No. 3813—Type BEL—End linked, untapped coils. **Amateur Net $11.69**

3400 SERIES INDUCTORS



FOR POWERS UP TO 500 WATTS

Give the utmost in sturdy construction and electrical flexibility. Same as those supplied by B & W to the armed forces during the war. Each coil has an individual internal center coupling, adjustable over 360°—permitting precise impedance matching up to 600 ohms, thus providing flexibility far in excess of any installation requirements.

Amateur Net $7.50 each

SPECIFICATIONS

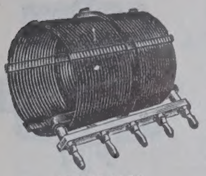
Band	Stock No.	*Capacity to Res. L.F. End of Band mmfd.
10	3401	24
15	3402	25
20	3403	30
40	3404	30
80	3405	50

Stock No. 3321—Steatite Jack Bar Assembly.

*Actual condenser capacity will be smaller by the sum of the tube output and wiring capacities, generally between 5 and 20 mmfd.

AIR INDUCTORS

BARKER & WILLIAMSON • UPPER DARBY, PA.



TYPE HD1
(Fixed Link)

- MINIMUM DIELECTRIC IN THE FIELD OF THE COIL
- EXTREMELY LOW LOSSES
- RUGGED CONSTRUCTION
- EXCELLENT APPEARANCE
- LOW COST

Each AIR INDUCTOR is a completely finished unit. All coils are equipped with banana type plugs . . . Type "B" is for use in oscillator and buffer—doubler stages developing up to 100 Watts power. Type "T" is especially suited for high powered neutralized buffer and final tank stages where powers of 500 Watts are developed. Type "HD" is for maximum power — handles a Kilowatt with ease.

SPECIFICATIONS

TYPE B

MODELS WITHOUT LINK—CENTER TAPPED

Band	Stock No.	Type	Net Price
5	3200	5B	$1.38
10	3201	10B	1.38
15	3202	15B	1.45
20	3203	20B	1.45
40	3204	40B	1.79
80	3205	80B	2.14

END LINK MODELS—WITHOUT TAP

Band	Stock No.	Type	Net Price
5	3207	5BEL	2.41
10	3208	10BEL	2.41
15	3209	15BEL	2.48
20	3210	20BEL	2.48
40	3211	40BEL	2.83
80	3212	80BEL	3.16

CENTER LINK MODELS—CENTER TAPPED

Band	Stock No.	Type	Net Price
5	3214	5BCL	2.41
10	3215	10BCL	2.41
15	3216	15BCL	2.48
20	3217	20BCL	2.48
40	3218	40BCL	2.83
80	3219	80BCL	3.16

VARIABLE LINK MODELS—CENTER TAPPED

Band	Stock No.	Type	Net Price
5	3221	5BVL	1.93
10	3222	10BVL	1.93
15	3223	15BVL	2.00
20	3224	20BVL	2.00
40	8225	40BVL	2.28
80	3226	80BVL	2.61

Stock No. 3228—Steatite Jack Bar Assembly for end or center link type B Inductors, old Type A56. **Stock No. 3229**—Jack Bar and Swinging Link for BVL Inductors.

TYPE T

Band	Stock No.	Type	Net Price
10	3301	10T	1.51
15	3302	15T	1.59
20	3303	20T	1.59
40	3304	40T	1.93
80	3305	80T	2.28

CENTER LINKED MODELS—CENTER TAPPED

Band	Stock No.	Type	Net Price
10	3308	10TCL	$2.89
15	3309	15TCL	2.96
20	3310	20TCL	2.96
40	3311	40TCL	3.30
80	3312	80TCL	3.65

VARIABLE LINKED—CENTER TAPPED

Band	Stock No.	Type	Net Price
10	3315	10TVL	2.20
15	3316	15TVL	2.28
20	3317	20TVL	2.28
40	3318	40TVL	2.61
80	3319	80TVL	2.96

Stock No. 3321—Steatite Jack Bar Assembly for end or center link Type T Inductors, old Type A54. **Stock No. 3322**—Base Assy. and Swinging Link for TVL Inductors.

TYPE HD

MODELS WITHOUT LINK—CENTER TAPPED

Band	Stock No.	Type	Net Price
10	3701	10HD	3.10
15	3702	15HD	3.79
20	3703	20HD	3.79
40	3704	40HD	4.13
80	3705	80HD	4.81

CENTER LINKED MODELS—CENTER TAPPED

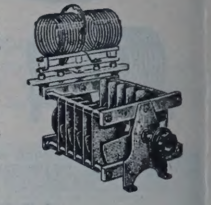
Band	Stock No.	Type	Net Price
10	3708	10HDCL	5.85
15	3709	15HDCL	6.54
20	3710	20HDCL	6.54
40	3711	40HDCL	6.88
80	3712	80HDCL	7.56

VARIABLE LINKED MODELS—CENTER TAPPED

Band	Stock No.	Type	Net Price
10	3715	10HDVL	4.48
15	3716	15HDVL	5.16
20	3717	20HDVL	5.16
40	3718	40HDVL	5.50
80	3719	80HDVL	6.19

Stock No. 3721—Jack Bar Assembly for HD and HDCL Inductors. **Stock No. 3722**—Base Assembly and SL for HDVL Inductors.

TYPE CX CONDENSER



Superior design! Only half the length of conventional units. Perfect electrical and mechanical symmetry. Designed for built-in neutralization. Integral mounting of B & W coils reduces lead lengths and resulting lead inductance to an absolute minimum.

Stock No. 3722-1—Type HD Jack Bar and SL assembly mounted on any type of condenser.
Stock No. 3721-1—Type HD or HDL Jack Bar mounted on condenser.
Stock No. 3507-1—Type TVH Jack Bar and SL mounted on condenser.
Stock No. 3930-1—Single Vacuum Condenser mount.
Stock No. 3930-2—Twin Vacuum Condenser mount.

NEUTRALIZING PLATES AVAILABLE IN FOUR TYPES, DESIGNATED N1, N2, N3, and N4.

N1—will neutralize the HY114, HK24, RK31, HK54, TW75, and similar tubes.
N2—will neutralize the 75T, 35T, 808, RK35, 852, and similar tubes.
N3—will neutralize the 801, T-TZ20, T-TZ40, RK18, HK154, 811, 812, T55, 100TH, [illegible]0TH, 806, 810, and similar tubes.
N4—will neutralize the 833, T200, 805, GL152, 838, 203A, RK52, and similar tubes

"A" TYPE—.500" AIRGAP

Type	Capacity Per Section Max.	Capacity Per Section Min.	Capacity Sections in Series Max.	Capacity Sections in Series Min.	Net Price
CX11A	11	8	8	6	$12.52
CX20A	20	11	13	8	15.32
CX30A	30	14	18	10	17.59
CX40A	40	18	23	12	19.81
CX49A	49	21	28	14	22.08
CX59A	59	24	33	16	24.29
CX68A	68	27	38	18	26.50
CX77A	77	30	43	20	28.78
CX87A	87	34	48	22	30.99
CX96A	96	37	53	24	33.20
CX105A	105	40	58	26	35.47
CX115A	115	43	62	29	37.69
CX124A	124	46	68	30	39.[illegible]

"B" TYPE—.375" AIRGAP

Type	Capacity Per Section Max.	Capacity Per Section Min.	Capacity Sections in Series Max.	Capacity Sections in Series Min.	Net Price
CX11B	11	8	9	6	12.17
CX22B	22	11	15	8	14.91
CX34B	34	14	21	10	17.18
CX45B	45	17	28	12	19.34
CX58B	58	20	33	13	21.49
CX70B	70	23	38	15	23.71
CX82B	82	26	45	17	25.80
CX94B	94	29	50	19	28.08
CX106B	106	32	56	20	30.17
CX118B	118	36	62	22	32.33
CX130B	130	39	68	24	34.60
CX141B	141	42	74	26	36.76
CX153B	153	45	80	27	38.91

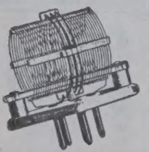
"C" TYPE—.250" AIRGAP

Type	Capacity Per Section Max.	Capacity Per Section Min.	Capacity Sections in Series Max.	Capacity Sections in Series Min.	Net Price
CX13C	13	8	10	6	11.88
CX30C	30	11	18	8	14.56
CX45C	46	13	26	9	16.72
CX62C	62	16	34	11	18.81
CX78C	78	19	42	12	20.97
CX95C	95	22	50	14	23.13
CX111C	111	25	59	15	25.16
CX127C	127	28	67	17	27.32
CX143C	143	31	75	18	29.42
CX159C	159	33	83	20	31.46
CX175C	175	36	91	21	33.73
CX192C	192	39	100	23	35.82
CX208C	208	42	110	24	37.86

Standard plate thickness in all models, 1/16". • Available on special order, 3/32" plates at 10% additional. • Special features. • Explanation: The type of each condenser designates its capacity and plate spacing as follows: CX100 indicates 100 mmfd. per section. • Letters A, B, C, or D denotes plate spacing: A—.500", B—.375", C—250", D—.187". Following N# denotes Neutralizing plates.

"BABY" AIR INDUCTORS

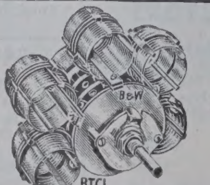
(25 WATT RATING)



Just the thing for crowded layouts, portables, field transmitters! The smallest, most efficient, most practical 25-Watt coils ever available to amateurs. "BABIES" measure only 1½" x 1¼", are made by a special B&W process which insures perfect air-spacing, maximum strength, fine appearance and ultra-high efficiency with an absolute minimum of insulating material. Available in five types, from 10 to 160 meters. Conservatively rated. Universal 5-prong Alsimag 196 bases. ....**Net Any Type $1.04**

Straight Coil	Center Tapped	End Linked	Center Linked	Inductance	*Capacity
80M	MC	MEL	MCL	40	50
40M	MC	MEL	MCL	14	35
20M	MC	MEL	MCL	3.5	35
15M	MC	MEL	MCL	2.7	35
10M	MC	MEL	MCL	1.1	30

*Total effective capacity required to effect resonance on low frequency end of specified band.



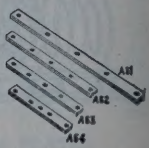
BTCL

"BABY" TURRETS

35-WATT RATING

These compact 5-band switching units cover amateur bands from 10 to 80 meters. They may be tuned in all types of service with any of the 50 mmfd. midget condensers. Their sturdy construction and unique design assure permanent coil alignment and maximum efficiency with a minimum number of tubes. Four types—BTM, straight untapped BTCT, center tapped; BTEL, end linked and BTCL, center linked—provide vastly improved band-switching efficiency in low-power transmitters and exciter stages. **Net, Any Type** **$8.44**

B & W PLUG AND JACK BARS



Made of high quality steatite. Ample size to insure excellent strength. They provide experimenter with the same units that are used in B & W inductors. Can also be used as spreaders for feeders and other parts of the antenna system.

SPECIFICATIONS

Stock No.	Type	Length	Width	Thickness	Mounting Dimension	Used on Series	Net Price
3914	Plug	3½"	½"	⅜"		B	$0.20
3915	Jack	4½"	⅝"	⅜"	4⅛"	B	.60
3916	Plug	5½"	½"	⅜"		T	.30
3917	Jack	7"	¾"	⅜"	6½"	T	1.00
3918	Plug	6½"	$\frac{9}{16}$"	⅜"		TVH	.60
3919	Jack	8¼"	$\frac{11}{16}$"	⅜"	7¾"	TVH	1.10
3920	Plug	8¼"	¾"	⅜"		HD	1.10
3921	Jack	10¾"	1"	½"	9⅝"	HD	1.25

B&W TEST EQUIPMENT
BARKER & WILLIAMSON • UPPER DARBY, PA.

B & W NEW PLUG-IN LINKS

FOR IMPEDANCE MATCHING

Adaptable to all B & W Swinging Link assemblies, these B & W plug-in links solve the quick change problem. Just pull out one coil and plug in another with the required number of turns. Old link arm easily replaced with new plug-in type.

◀ Type 3550 for small inductors
Type 3750 for ▶ large inductors

ORDERING NUMBERS FOR B & W PLUG-IN LINKS

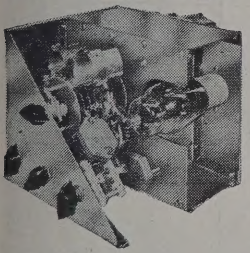
For Types TVH, TVL, BVL Swinging Link Assemblies	Ordering No.	Price	For Type HDV Swinging Link Assemblies	Ordering No.	Price
Arm Only	3550	$ .70	Arm Only	3750	$1.40
Arm and Hinge	3565	1.00	Arm and Hinge	3765	1.80

PLUG-IN LINK COILS

	Ordering No.	Price		Ordering No.	Price
1 turn	3551	$ .60	1 turn	3751	$1.25
3 turns	3553	.60	3 turns	3753	1.25
6 turns	3556	.60	6 turns	3756	1.25
10 turns	3560	.95	10 turns	3760	1.75

Above are standard. Other turns available on request.

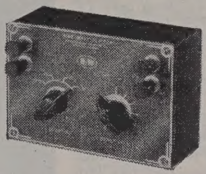
B & W FREQUENCY MULTIPLIER



Price: $85.00 Amateur Net. Complete with tubes. Dimensions: 6½" x 7" x 9¾".

This B & W all-band frequency multiplier solves the difficult problem of developing frequency step-up stages. Packaged unit covers 80-40-20-15-11 and 10 meter bands. Just flip a switch on the attractive reverse etched aluminum panel plate, to get the required band. Operates on either VFO or Crystal input and not less than 25 watt output.

B&W SINE WAVE CLIPPER
Model 250

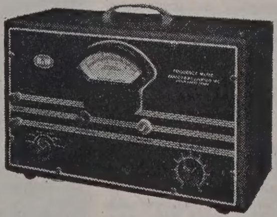


Equipped with a pair of input terminals, a pair of output terminals, an output volume control and a selector switch.

Net Price: $10.00.
Dimensions: 2" x 4" x 5½".

SPEEDS ACCURATE ANALYSIS OF AUDIO CIRCUITS. SIMPLIFIES SELECTIONS OF COMPONENTS. SAVES VALUABLE TIME. Here's an instrument that will do most of the jobs usually assigned to a square wave generator costing about 10 times as much! The B & W Sine Wave Clipper provides a test signal particularly useful in examining the transient and frequency response of audio circuits. Designed to be driven by an audio oscillator, the clipper provides a clipped sine wave — hence the name "Sine Wave Clipper." Used in engineering work, repairs, or with equipment under development, it will quickly pay for itself many times over.

B&W FREQUENCY METER
Model 300



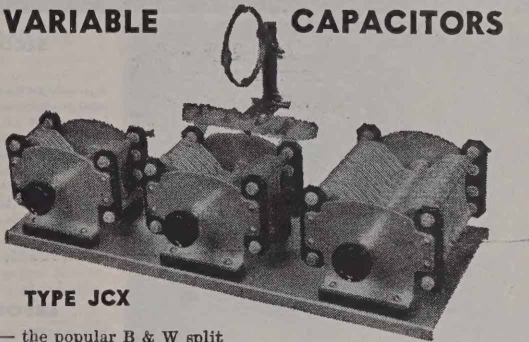
Net Price: $105.00.
Dimensions: 13¾" x 7¼" x 9½".

An accurate and convenient means of making direct measurements of unknown audio frequencies up to 30,000 cycles. Integral power supply. Extremely useful for routine checking of audio oscillators or tone generators. Housed in an attractive black crackle finished steel cabinet with carrying handle and rubber feet.

FEATURES

Frequency Range: 20 to 30,000 cycles in 6 ranges.
Sensitivity: minimum .5 volts input.
Wave Form: will operate on any wave form with peak ratios of less than 8 to 1.
Calibration: when referenced against 60 cycle line frequency, all other frequencies will fall within 2%.

B & W NEW, SMALL BUTTERFLY VARIABLE CAPACITORS



TYPE JCX

Now — the popular B & W split stator, butterfly type of variable condenser construction has been adapted to small, compact units for general ham and other uses!

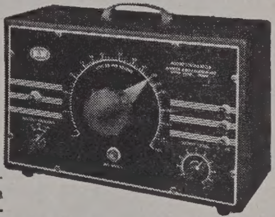
Having just 25% of the frontal area of CX types, these new B & W JCX Variable Capacitors are ideal for medium powered triode or tetrode stage plate circuit applications.

Featuring stainless steel shafts, heavy rounded aluminum plates and high quality insulating materials, the B & W Midget Butterfly will be a welcome addition for the amateur who is looking for peak efficiency in low and medium power transmitter stages.

"E" TYPE .125" AIRGAP

Type	Catalog Stock No.	Capacity Section in Series Max.	Capacity Section in Series Min.	Capacity Per Section Max.	Capacity Per Section Min.	Mounting Length	Net Price
JCX100E	100	50	15	99	23	5½	$9.00
JCX50E	101	25	10	42	13	3⅜	6.75
JCX25E	102	16	8	25	10	2¾	5.50

B&W AUDIO OSCILLATOR
Model 200



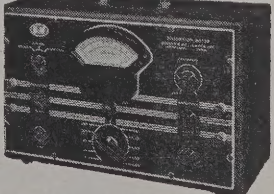
Net Price: $115.00.
Dimensions: 13¾" x 7¼" x 9½".

Ideal for use in distortion measurements, frequency measurements or in any application where a stable, accurately calibrated source of frequencies between 30 and 30,000 cycles is required. No zero reset or line calibration is required. Self-contained power supply. Housed in an attractive black crackle finished steel cabinet with carrying handle and rubber feet. Panel is of $\frac{1}{16}$" reverse etched aluminum.

FEATURES

Voltage Output:
12.5 volts open circuit.
11 volts output on 500 ohm load.
Wave Form: RMS harmonics at 5 volts output on 500 ohm load, less than 1%. On open circuit (10,000 ohms up) approximately .5% on all frequencies between 50 and 15,000 cycles.
Frequency Response: better than ±1 D.B. from 30 to 30,000 cycles.
Stability: better than 1%.
Calibration: ±2.5%.

B&W DISTORTION METER
Model 400



Net Price: $140.00.
Dimensions: 13¾" x 7¼" x 9½".

A sensitive instrument having a wide range of applications in the audio frequency measurements field. Ideal for measuring low level audio voltage and determining noise and harmonic content of same. Variable frequency selective filter provides a single frequency suppression circuit for the frequency range of 50 to 15,000 cycles. Small size, light weight and outstanding performance make this instrument an ideal unit for either laboratory or field work.

FEATURES

1. **Frequency Range:**
   (a) Distortion meter. For fundamentals from 50 to 15,000 cycles, measuring harmonics up to 45,000 cycles.
   (b) As voltmeter and D.V. meter from 30 to 30,000 cycles.
2. **Sensitivity:**
   (a) Noise and distortion measurements, minimum input .3 volts.
   (b) Voltmeter, full scale readings of .3, .1, .03, .01, .003 volts.
3. **Calibration:**
   For distortion measurements: ±10%.
   For noise measurements: ±1 D.B.
   For voltage measurements: ±5%.

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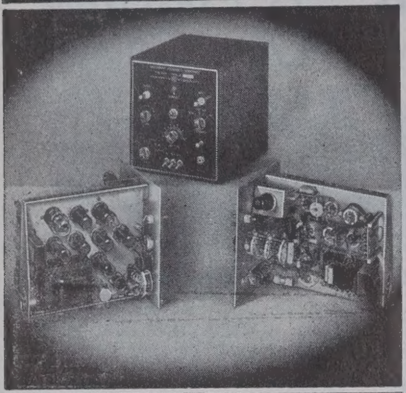
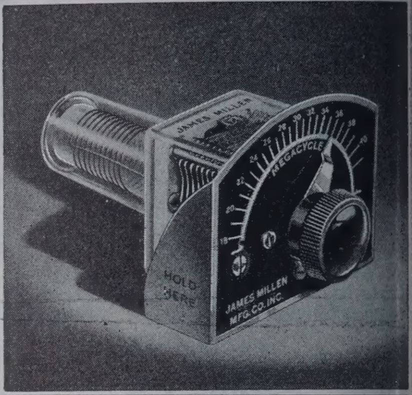




SECONDARY FREQUENCY STANDARD

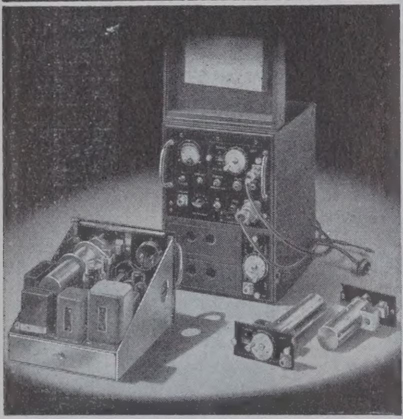
A precision frequency standard for both laboratory and production uses, adjustable output, provided at intervals of 10, 25, 100 and 1000 kc, with magnitude useful to 50 mc. Harmonic amplifier with tuned plate circuit and panel range switch. 800 cycle modulator with panel control switch. In addition to oscillators, multivibrators, modulators and amplifiers, a built-in detector with phone jack and gain control is incorporated. Self-contained power supply.

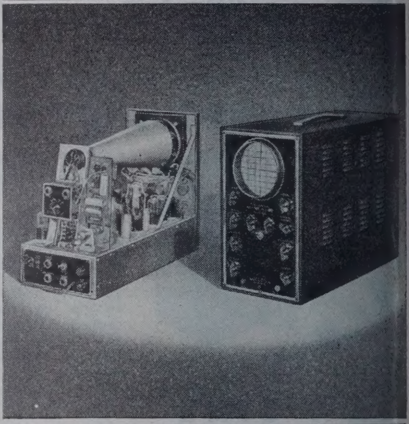
Model 90505, with tubes............ $155.00

ABSORPTION WAVEMETERS

The 90600 series of absorption wavemeters are available in several styles and many different ranges. Most popular is kit of four units, covering range of 3.0 to 140 mc.

Model 90600...................... $18.00





FREQUENCY CALIBRATORS

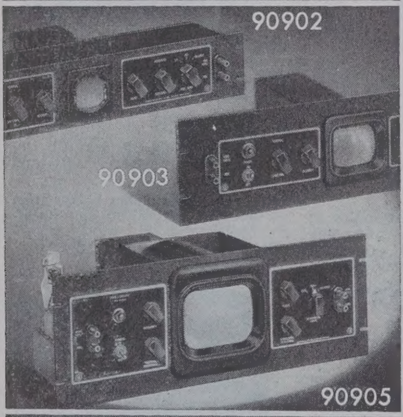
The cavity type frequency calibrator covers a range of 200 to 700 mc., with a maximum error of not over 0.25%. This range is covered by two plug-in cavity type tuning units, which may be easily interchanged. The calibrator consists of an accurately calibrated cavity-type tuning unit, a crystal detector, a two-stage video amplifier and a peak reading VT voltmeter.

Model 90630, with tubes............ $375.00

LABORATORY SYNCHROSCOPES

The 5″ laboratory synchroscopes are available with and without detector-video strips.

Model P-4-2, with tubes.............	$350.00
Model P-4E-2, with tubes............	445.00



MINIATURE SYNCHROSCOPE

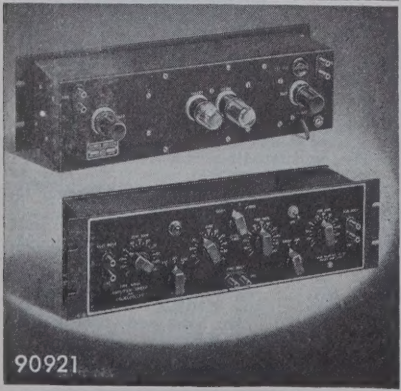
The compact design of the No. 90952, measuring only 7½″ x 5⅝″ x 13″, and weighing only 17 lbs., makes available for the first time a truly DESIGNED FOR APPLICATION "field service" Synchroscope.

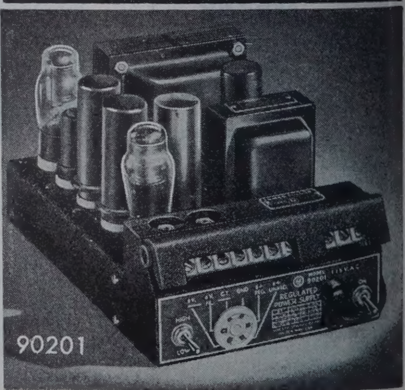
No. 90952, with tubes.............. $375.00

CATHODE RAY OSCILLOSCOPES

The No. 90902, No. 90903 and No. 90905 Rack Panel Oscilloscopes, for two, three and five inch tubes, respectively, are inexpensive *basic units* comprising power supply, brilliancy and centering controls, safety features, magnetic shielding, switches, etc. As a transmitter monitor, no additional equipment or accessories are required. The well-known trapezoidal monitoring patterns are secured by feeding modulated carrier voltage from a pickup loop directly to vertical plates of the cathode ray tube and audio modulating voltage to horizontal plates. By the addition of such units as sweeps, pulse generators, amplifiers, servo sweeps, etc., all of which can be conveniently and neatly constructed on companion rack panels, the original basic 'scope unit may be expanded to serve any conceivable industrial or laboratory application.

No. 90902, less tubes...............	$ 42.50
No. 90903, less tubes..............	49.50
No. 90905, less tubes...............	100.00





'SCOPE AMPLIFIER—SWEEP UNIT

Vertical and horizontal amplifiers along with hard-tube, saw tooth sweep generator. Complete with power supply mounted on a standard 5¼″ rack panel.

No. 90921, with tubes.............. $75.00

REGULATED POWER SUPPLIES

A compact, uncased, regulated power supply, either for table use in the laboratory or for incorporation as an integral part of larger equipments. 50 watts, with regulated voltage from 0 to 200 volts.

Model 90201, less tubes............. $100.00

Net

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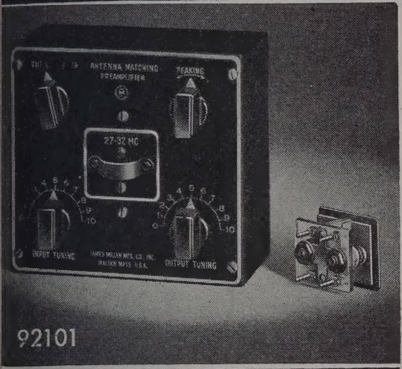
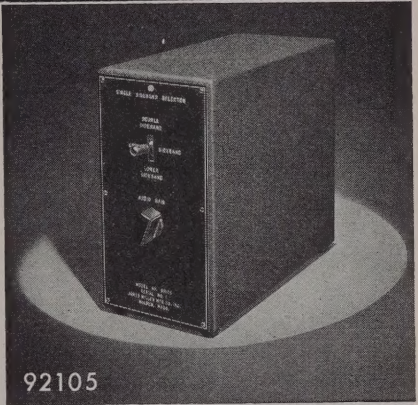




R9'er MATCHING PREAMPLIFIER

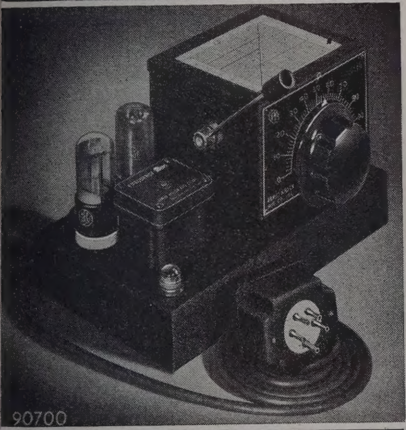
The Millen 92101 is an electronic impedance matching device and a broad-band preamplifier combined into a single unit, designed primarily for operation on 6 and 10 meters. Coils for 20 meter band also available.

No. 92101, less tubes................ $24.75

SINGLE SIDEBAND SELECTOR

The No. 92105 is designed to permit Single Sideband Selection with existing receivers. Full technical details in April 1948 QST. Produced in cooperation and under exclusive U. S. patent license (2,364,863 and others) with the J. L. A. McLaughlin Research Laboratories.

No. 92105, with tubes and crystals..... $75.00



FREQUENCY SHIFTER

A favorite frequency shifter, plugs in, in place of crystal, for instant finger-tip control of carrier frequency. Low drift, chirpless keying, vibration immune, big band spread, accurate calibration.

Model 90700, with tubes........... $42.50

VARIABLE FREQUENCY OSCILLATOR

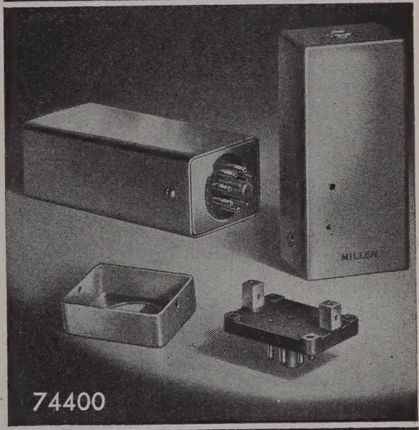
The No. 90711 is a complete transmitter control unit with 6SK7 temperature-compensated, electron coupled oscillator of exceptional stability and low drift, a 6SK7 broad-band buffer or frequency doubler, a 6A67 tuned amplifier which tracks with the oscillator tuning, and a regulated power supply. Output sufficient to drive an 807 is available on 160, 80 and 40 meters and reduced output is available on 20 meters. Close frequency setting is obtained by means of the vernier control arm at the right of the dial. Since the output is isolated from the oscillator by two stages, zero frequency shift occurs when the output load is varied from open circuit to short circuit. The entire unit is unusually solidly built so that no frequency shift occurs due to vibration. The keying is clean and free from all annoying chirp, quick drift, jump, and similar difficulties often encountered in keying variable frequency oscillators.

No. 90711, with tubes............... $89.75

50 WATT TRANSMITTER

Based on an original Handbook design, this flexible unit is ideal for either low power amateur band transmitter use or as an exciter for high power PA stages.

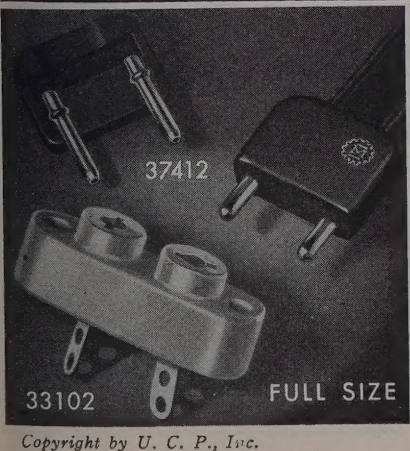
Model 90800, less tubes............ $42.50



OCTAL BASE AND SHIELD

Low loss phenolic base with octal socket plug and aluminum shield can $1\frac{7}{16} \times 1\frac{7}{8} \times 3\frac{15}{16}$.

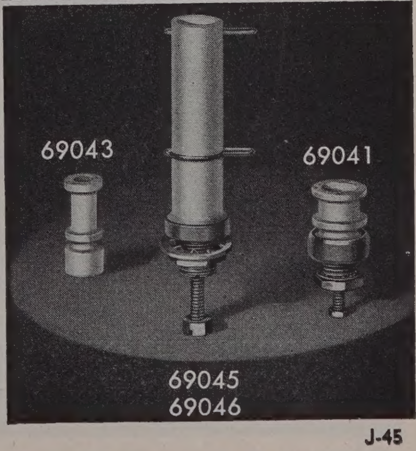
No. 74400......................... $.75



TRANSMISSION LINE PLUG

An inexpensive, compact, and efficient polyethylene unit for use with the 300 ohm ribbon type polyethylene transmission lines. Fits into standard Millen No. 33102 (crystal) socket. Pin spacing $\frac{1}{2}$", diameter .095".

No. 37412......................... $.21



PERMEABILITY TUNED CERAMIC FORMS

In addition to the popular shielded plug-in permeability tuned forms, 74000 series, the 69040 series of ceramic permeability tuned unshielded forms are available as standard stock items. Winding diameters and lengths of winding space are $\frac{13}{32} \times \frac{7}{32}$ for 69041–2; $\frac{1}{4} \times \frac{3}{8}$ for 69043–7–8; $\frac{1}{2} \times 1\frac{1}{16}$ for 69045–6; $\frac{3}{16} \times \frac{3}{16}$ for 69044.

No. 69041—(Copper Slug)............	$.75
No. 69042—(Iron Core)...............	.75
No. 69043—(Iron Core)...............	.75
No. 69044—(Copper Slug)............	.75
No. 69045—(Copper Slug)............	.90
No. 69046—(Iron Core)...............	.90
No. 69047—(Copper Slug)............	.90
No. 69048—(Iron Core)...............	.90

Net

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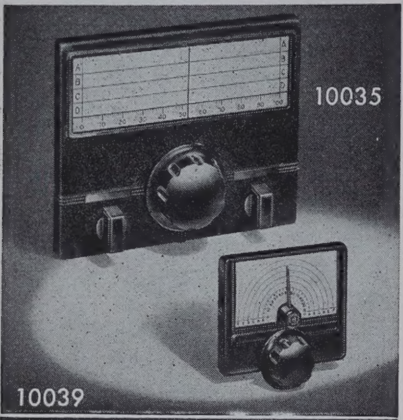
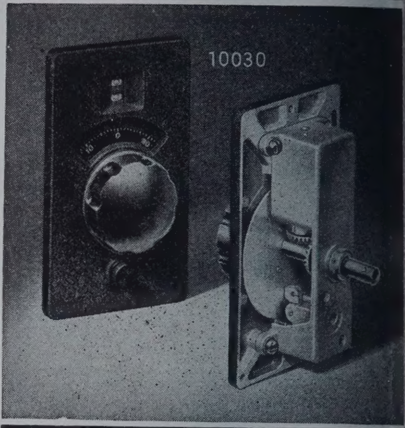

10035

10039

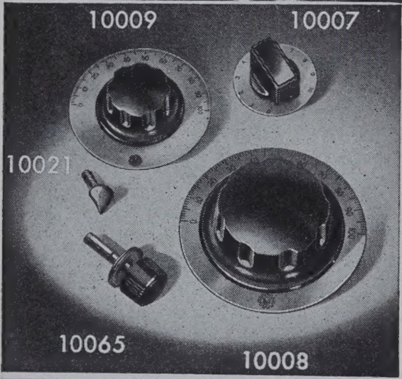

10030

INSTRUMENT DIALS

The No. 10030 is an extremely sturdy instrument type indicator. Control shaft has 1 to 1 ratio. Veeder type counter is direct reading in 99 revolutions and vernier scale permits readings to 1 part in 100 of a single revolution. Has built-in dial lock and ¼" drive shaft coupling. May be used with multi-revolution transmitter controls, etc., or through gear reduction mechanism for control of fractional revolution capacitors, etc., in receivers or laboratory instruments.

The No. 10035 illuminated panel dial has 12 to 1 ratio; size, 8½" x 6½". Small No. 10039 has 8 to 1 ratio; size, 4" x 3¼". Both are of compact mechanical design, easy to mount and have totally self-contained mechanism, thus eliminating back of panel interference. Provision for mounting and marking auxiliary controls, such as switches, potentiometers, etc., provided on the No. 10035. Standard finish, either size, flat black art metal.

No. 10039	$ 2.70
No. 10035	6.00
No. 10030	25.00


10009

10007

10021

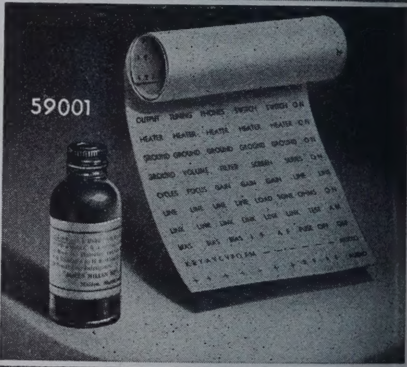
10065

10008

DIALS AND KNOBS

Just a few of the many stock types of small dials and knobs are illustrated herewith. 10007 is 1⅝" diameter, 10009 is 2½" and 10008 is 3½".

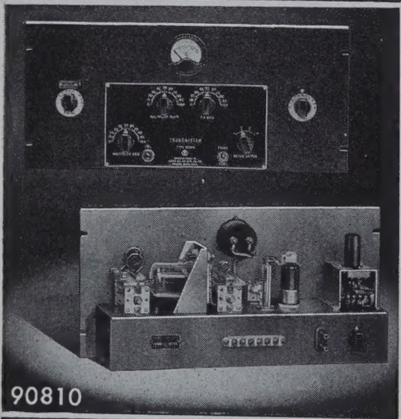
No. 10007	$ .60
No. 10008	1.00
No. 10009	.85
No. 10021	.15
No. 10065	.45


59001

PANEL MARKING TRANSFERS

The panel marking transfers have ⅛" block letters. Special solution furnished. Must not be used with water. Equally satisfactory on smooth or wrinkle finished panels or chassis. Ample supply of every popular word or marking required for amateur or commercial equipment.

No. 59001, white letters	$1.25
No. 59002, black letters	1.25


90810

HIGH FREQUENCY TRANSMITTER

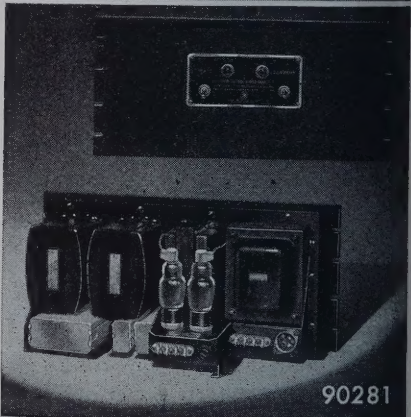
The No. 90810 crystal control transmitter provides 75 watt output (higher output may be obtained by the use of forced cooling) on the 20, 10–11, 6 and 2 meter amateur bands. Provisions are made for quick band shift by means of the new 48000 series high frequency plug-in coils.

No. 90810, less tubes and crystals	$69.75

HIGH FREQUENCY RF AMPLIFIER

A physically small unit capable of a power output of 70 to 85 watts on 'phone or 87 to 110 watts on C-W on 20, 15, 11, 10, 6 or 2 meter amateur bands. Provision is made for quick band shift by means of the new No. 48000 series VHF plug-in coils. The No. 90811 unit uses either an 829-B or 3E29.

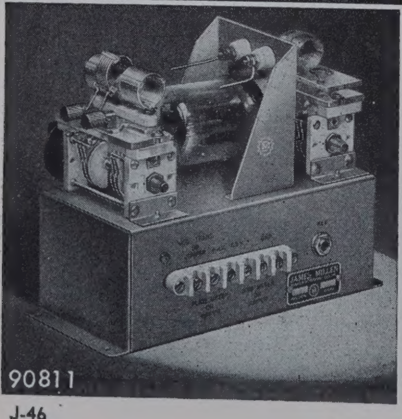
No. 90811 with 10 meter band coils, less tube	$33.00

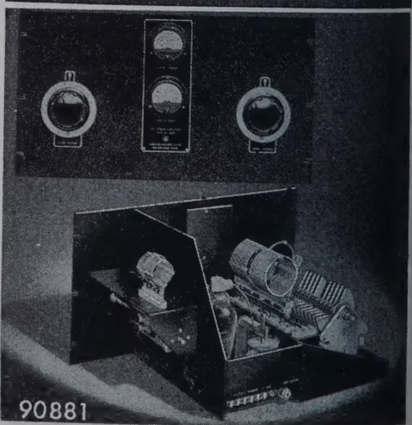

90281

HIGH VOLTAGE POWER SUPPLY

The No. 90281 high voltage power supply has a d.c. output of 700 volts, with maximum current of 250 ma. In addition, a.c. filament power of 6.3 volts at 4 amperes is also available so that this power supply is an ideal unit for use with transmitters, such as the Millen No. 90800, as well as general laboratory purposes. The power supply uses two No. 816 rectifiers and has a two section pi filter with 10 henry General Electric chokes and a 2-2-10 mfd. bank of 1000 volt General Electric Pyranol capacitors. The panel is standard 8¾" x 19" rack mounting.

No. 90281, less tubes	$84.50


90811


90881

RF POWER AMPLIFIER

This 500 watt amplifier may be used as the basis of a high power amateur transmitter or as a means for increasing the power output of an existing transmitter. As shipped from the factory, the No. 90881 RF power amplifier is wired for use with the popular RCA or G.E. "812" type tubes, but adequate instructions are furnished for readjusting for operation with such other popular amateur style transmitting tubes as Taylor TZ40, Eimac 35T, etc. The amplifier is of unusually sturdy mechanical construction, on a 10½" relay rack panel. Plug-in inductors are furnished for operation on 10, 20, 40 or 80 meter amateur bands. The standard Millen No. 90800 exciter unit is an ideal driver for the new No. 90881 RF power amplifier.

No. 90881, with one set of coils, but less tubes	$89.50

Net

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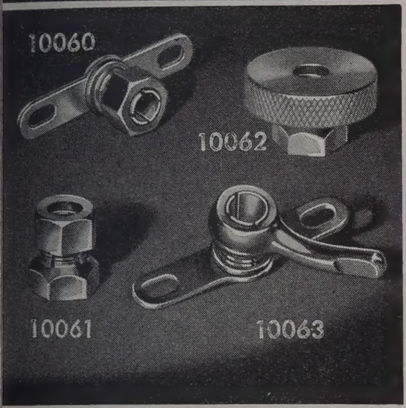
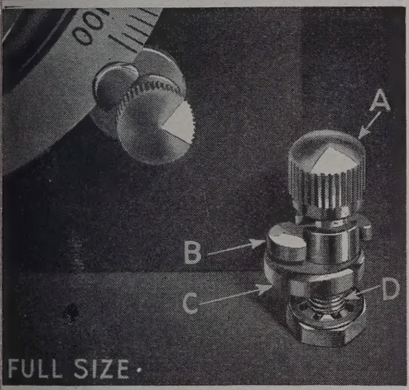
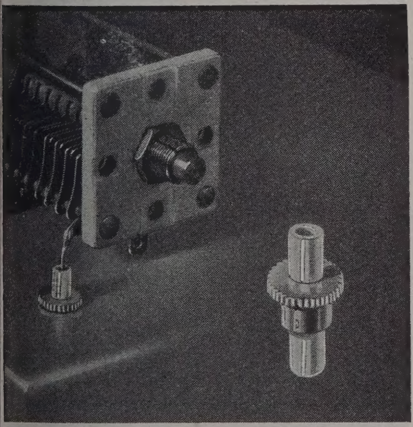
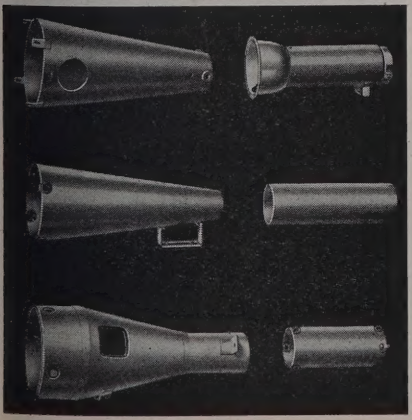








SHAFT LOCKS

In addition to the original No. 10060 and No. 10061 "DESIGNED FOR APPLICATION" shaft locks, we can also furnish such variations as the No. 10062 and No. 10063 for easy thumb operation as illustrated above. The No. 10061 instantly converts any plain "¼ shaft" volume control, condenser, etc. from "plain" to "shaft locked" type. Each to mount in place of regular mounting nut.

No. 10060	$.36
No. 10061	.36
No. 10062	.45
No. 10063	.45

TRANSMITTING TANK COILS

A full line—all popular wattages for all bands. Send for special catalog.

DIAL LOCK

Compact, easy to mount, positive in action, does not alter dial setting in operation! Rotation of knob "A" depresses finger "B" and "C" without imparting any rotary motion to Dial. Single hole mounted.

No. 10050	$.45

RIGHT ANGLE DRIVE

Extremely compact, with provisions for many methods of mounting. Ideal for operating potentiometers, switches, etc., that must be located, for short leads, in remote parts of chassis.

No. 10012	$3.75

THRU-BUSHING

Efficient, compact, easy to use and neat appearing. Fits ¼″ hole in chassis. Held in place with a drop of solder or a "nick" from a crimping tool.

No. 32150	$.05

FLEXIBLE COUPLINGS

The No. 39000 series of Millen "Designed for Application" flexible coupling units include, in addition to improved versions of the conventional types, also such exclusive original designs as the No. 39001 insulated universal joint and the No. 39006 "slide-action" coupling (in both steatite and bakelite insulation).

The No. 39006 "slide-action" coupling permits longitudinal shaft motion, eccentric shaft motion and out-of-line operation, as well as angular drive without backlash.

The No. 39005 is similar to the No. 39001, but is not insulated and is designed for applications where relatively high torque is required. The steatite insulated No. 39001 has a special anti-backlash pivot and socket grip feature. All of the above illustrated units are for ¼″ shaft and are standard production type units.

No. 39001	$.42
No. 39002	.42
No. 39003	.21
No. 39005	.42
No. 39006	.42

CATHODE RAY TUBE SHIELDS

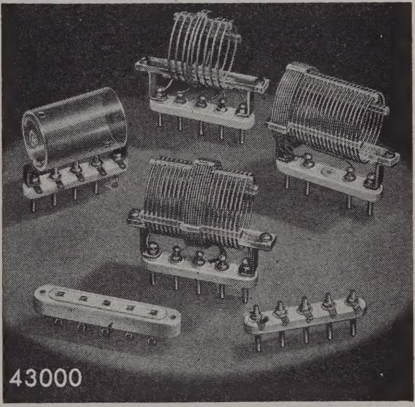
For many years we have specialized in the design and manufacture of magnetic metal shields of nicoloi and mumetal for cathode ray tubes in our own complete equipment, as well as for applications of all other principal complete equipment manufacturers. Stock types as well as special designs to customers' specifications promptly available.

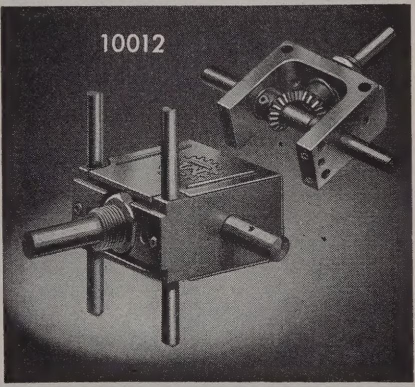
No. 80045—Nicoloi for 5″ tube	$10.50
No. 80043—Nicoloi for 3″ tube	6.00
No. 80042—Nicoloi for 2″ tube	5.25

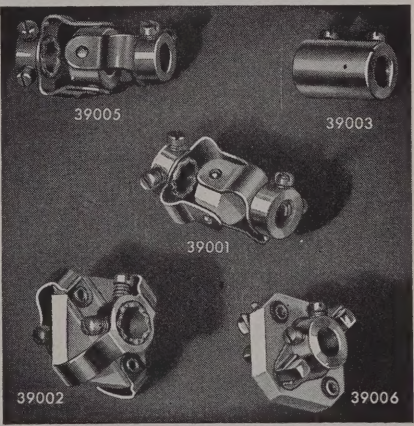
BEZELS FOR CATHODE RAY TUBES

Five inch bezel is of cast aluminum with black wrinkle finish. Complete with neoprene cushion, green lucite filter scale and four screws for quick detachment from panel when inserting tube.

No. 80075—5″	$7.50
No. 80073—3″	3.90
No. 80072—2″	1.25







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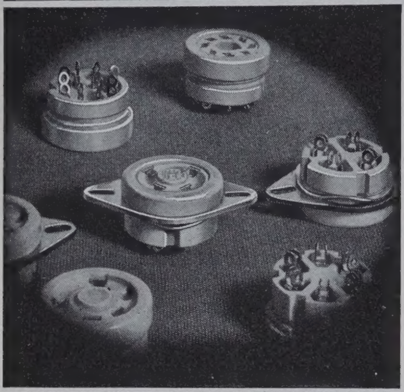
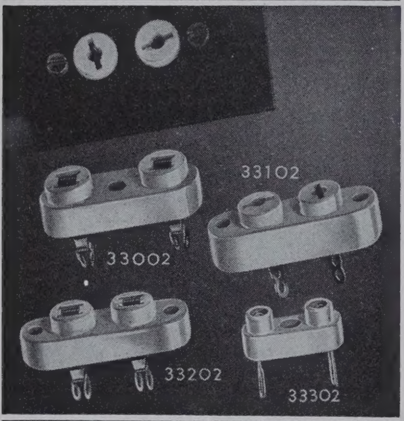
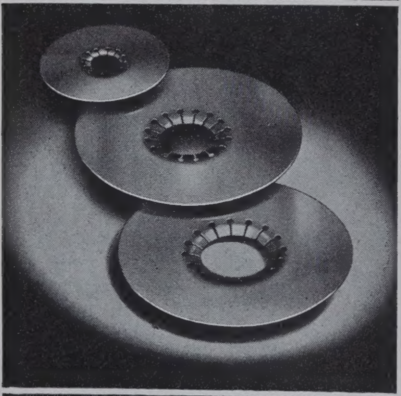
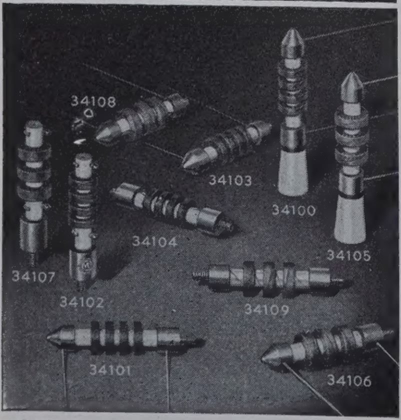








TUBE SOCKETS DESIGNED FOR APPLICATION

MODERN SOCKETS for MODERN TUBES! Long Flashover path to chassis permits use with transmitting tubes, 866 rectifiers, etc. Long leakage path between contacts. Contacts are type proven by hundreds of millions already in government, commercial and broadcast service, to be extremely dependable. Sockets may be mounted either with or without metal flange. Mounts in standard size chassis hole. All types have barrier between contacts and chassis. All but octal and crystal sockets also have barriers between individual contacts in addition.

The No. 33888 shield is for use with the 33008 octal socket. By its use, the electrostatic isolation of the grid and plate circuits of single-ended metal tubes can be increased to secure greater stability and gain.

The 33087 tube clamp is easy to use, easy to install, effective in function. Available in special sizes for all types of tubes. Single hole mounting. Spring steel, cadmium plated.

Cavity Socket Contact Discs, 33446 are for use with the "Lighthouse" ultra high frequency tube. This set consists of three different size unhardened beryllium copper multi-finger contact discs. Heat treating instructions forwarded with each kit for hardening after spinning or forming to frequency requirements.

Voltage regulator dual contact bayonet socket, 33991 black Bakelite insulation and 33992 with low loss high leakage mica filled Bakelite insulation.

No. 33004	$ .30
No. 33005	.30
No. 33006	.30
No. 33007	.34
No. 33008	.30
No. 33888	.18
No. 33087	.30
No. 33002	.30
No. 33102	.30
No. 33202	.30
No. 33302	.21
No. 33446*	5.00
No. 33991	.45
No. 33992	.55

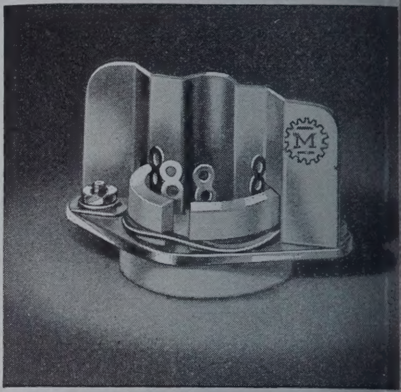
* For set of 3. Single discs $2.00 each.

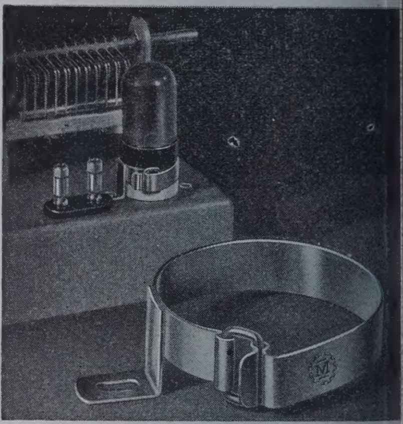
RF CHOKES

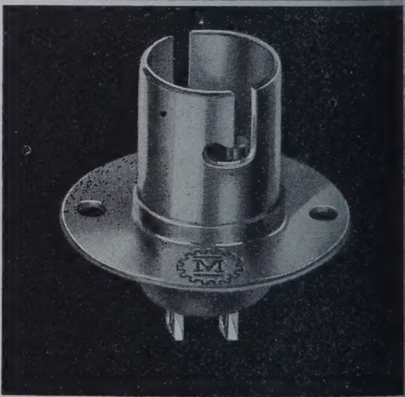
Many have copied, few have equalled, and none have surpassed the genuine original design Millen Designed for Application series of midget RF Chokes. The more popular styles now in constant production are illustrated herewith. Special styles and variations to meet unusual requirements quickly furnished.

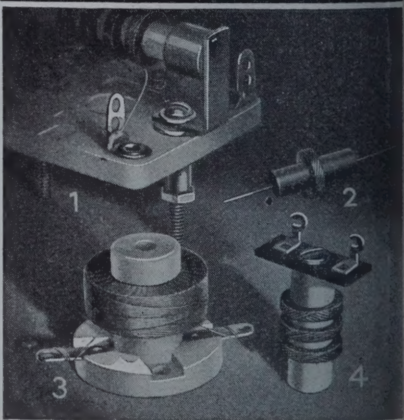
General Specifications: 2.5 mH, 250 mA for types 34100, 34101, 34102, 34103, 34104, and 1 mH, 300 mA for types 34105, 34106, 34107, 34108, 34109.

No. 34100	$.42
No. 34101	.36
No. 34102	.42
No. 34103	.36
No. 34104	.42









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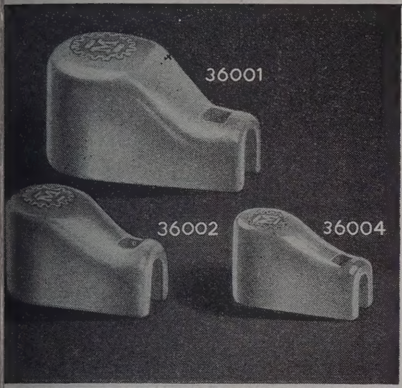
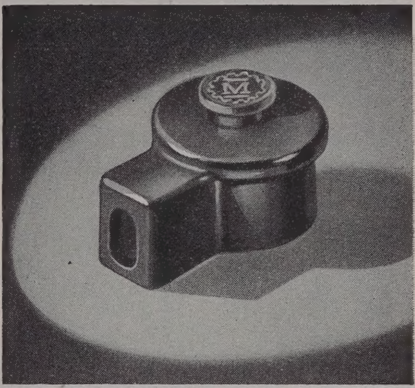




CERAMIC PLATE OR GRID CAPS

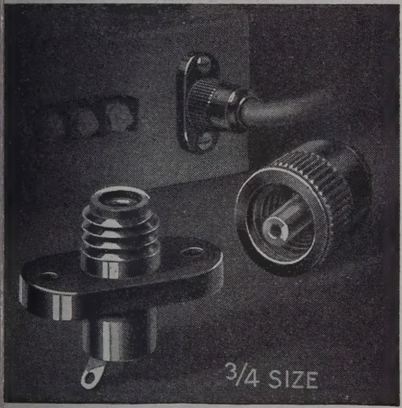
Soldering lug and contact one-piece. Lug ears annealed and solder dipped to facilitate easy combination "mechanical plus soldered" connection of cable.

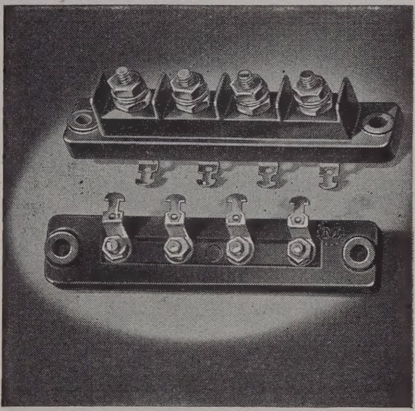
No. 36001—9/16"	$.21
No. 36002—⅜"	.21
No. 36004—¼"	.21

SNAP LOCK PLATE CAP

For Mobile, Industrial and other applications where tighter than normal grip with multiple finger 360° low resistance contact is required. Contact self-locking when cap is pressed into position. Insulated snap button at top releases contact grip for easy removal without damage to tube.

No. 36011—9/16"	$.60
No. 36012—⅜"	.60





SAFETY TERMINAL

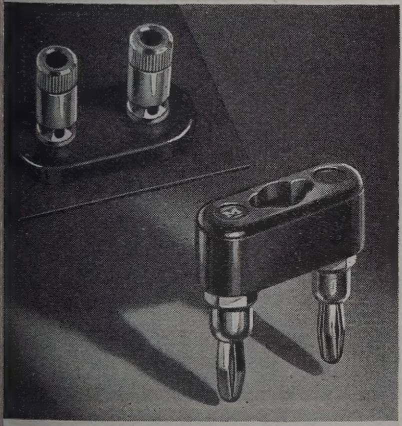
Combination high voltage terminal and thru-bushing. Tapered contact pin fits firmly into conical socket providing large area, low resistance connection. Pin is swivel mounted in cap to prevent twisting of lead wire.

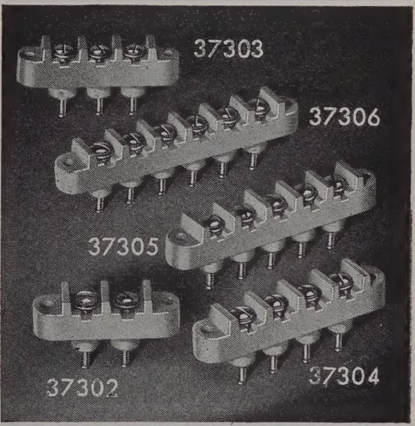
No. 37001, Black or Red	$.40
No. 37501, Low loss	.55

TERMINAL STRIP

A sturdy four-terminal strip of molded black Textolite. Barriers between contacts. "Non turning" studs, threaded 8/32 each end.

No. 37104	$.60





POSTS, PLATES and PLUGS

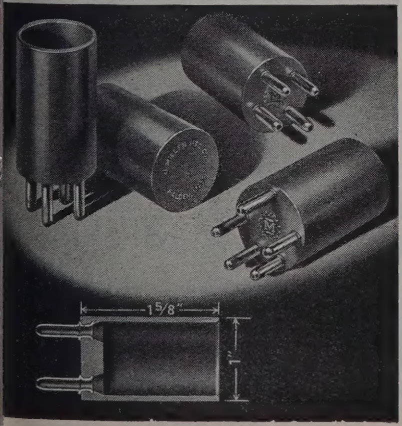
Designed for Application! Compact, easy to use. Made in black and red regular bakelite as well as low loss brown mica filled bakelite or steatite for R.F. uses. Posts have captive head.

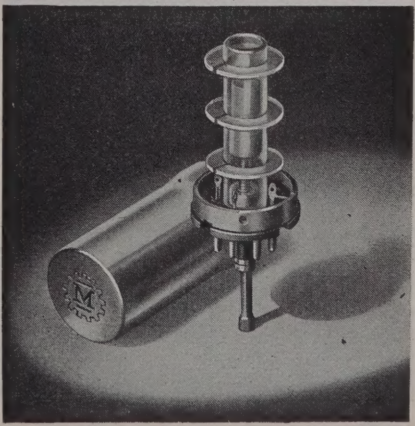
No. 37202 Plates (pr.)	$.30
No. 37212 Plugs	.70
No. 37222 Posts (pr.)	.40

STEATITE TERMINAL STRIPS

Terminal and lug are one piece. Lugs are Navy turret type and are free floating so as not to strain steatite during wide temperature variations. Easy to mount with series of round holes for integral chassis bushings.

No. 37302	$ .60
No. 37303	.70
No. 37304	.80
No. 37305	.90
No. 37306	1.00





MIDGET COIL FORMS

Made of low loss mica filled brown bakelite. Guide funnel makes for easy threading of leads through pins.

No. 45000	$.35
No. 45004	.45
No. 45005	.45

TUNABLE COIL FORM

Standard octal base of low loss mica-filled bakelite, polystyrene ½" diameter coil form, heavy aluminum shield, iron tuning slug of high frequency type, suitable for use up to 35 mc. Adjusting screw protrudes through center hole of standard octal socket.

No. 74001, with iron core	$1.85
No. 74002, less iron core	1.50

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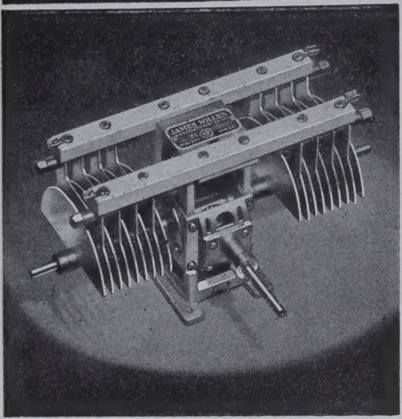
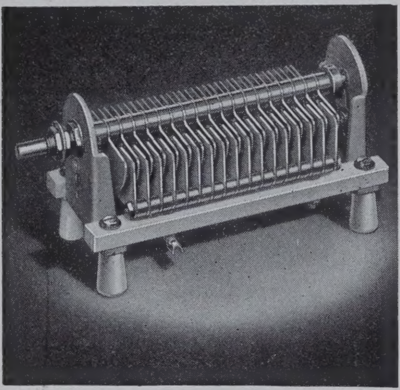
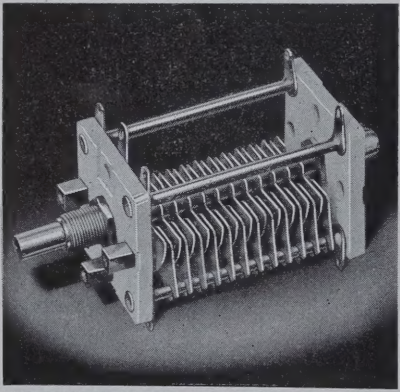
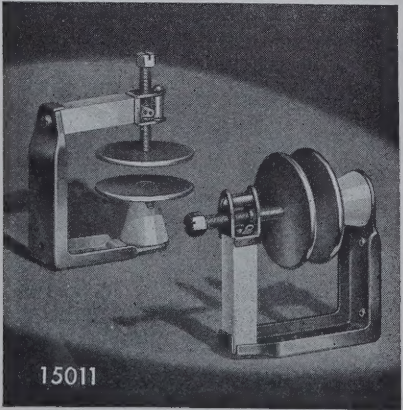








15011

04000 and 11000 SERIES TRANSMITTING CONDENSERS

A new member of the "Designed for Application" series of transmitting variable air capacitors is the 04000 series with peak voltage ratings of 3000, 6000, and 9000 volts. Right angle drive, 1–1 ratio. Adjustable drive shaft angle for either vertical or sloping panels. Sturdy construction, thick, round-edged, polished aluminum plates with 1¾" radius. Constant impedance, heavy current, multiple finger rotor contactor of new design. Available in all normal capacities.

The 11000 series has 16/1 ratio center drive and fixed angle drive shaft.

Code	*Volts*	*Capacity*	*Price*
11035	3000	35	$ 6.90
11050	3000	50	7.14
11070	3000	70	7.80
04050	6000	50	16.00
04060	9000	60	18.00
04100	6000	90	18.00
04200	3000	205	20.00

12000 and 16000 SERIES TRANSMITTING CONDENSERS

Rigid heavy channeled aluminum end plates Isolantite insulation, polished or plain edges. One piece rotor contact spring and connection lug. Compact, easy to mount with connector lugs in convenient locations. Same plate sizes as 11000 series above.

The 16000 series has same plate sizes as 04000 series. Also has constant impedance, heavy current, multiple finger rotor contactor of new design. Both 12000 and 16000 series available in single and double sections and many capacities and plate spacing.

THE 28000–29000 SERIES VARIABLE AIR CAPACITORS

"Designed for Application," double bearings, steatite end plates, cadmium or silver plated brass plates. Single or double section .022" or .066" air gap. End plate size: 19/16" x 11/16". Rotor plate radius: ¾". Shaft lock, rear shaft extension, special mounting brackets, etc., to meet your requirements. The 28000 series has semi-circular rotor plate shape. The 29000 series has approximately straight frequency line rotor plate shape. Prices quoted on request. Many stock sizes.

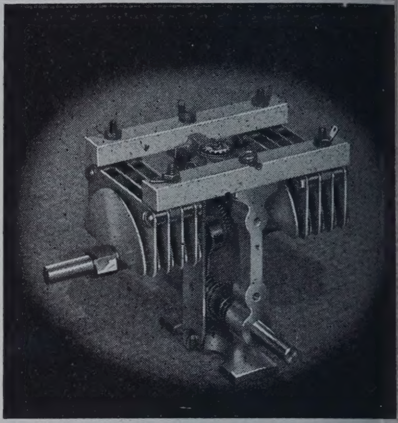
NEUTRALIZING CAPACITOR

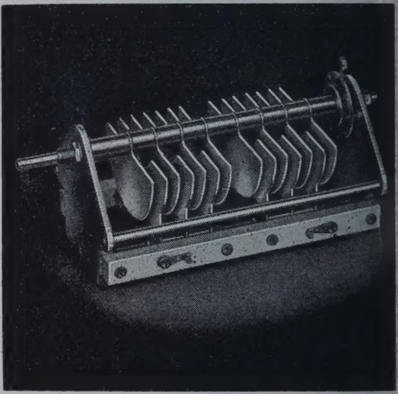
Designed originally for use in our own No. 90881 Power Amplifier, the No. 15011 disc neutralizing capacitor has such unique features as rigid channel frame, horizontal or vertical mounting, fine thread over-size lead screw with stop to prevent shorting and rotor lock. Heavy rounded-edged polished aluminum plates are 2" diameter. Glazed Steatite insulation.

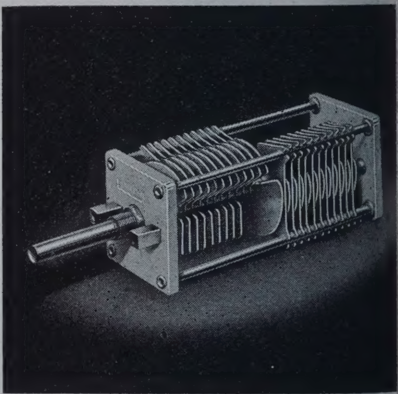
No. 15011 .... $3.15

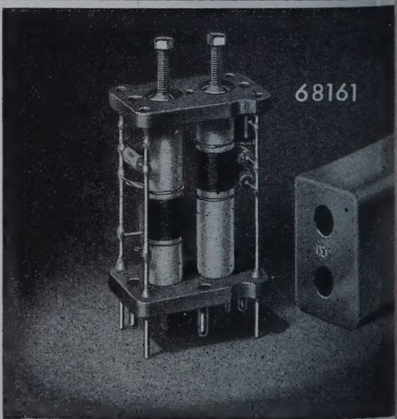
I.F. TRANSFORMERS

The Millen "Designed for Application" line of I.F. transformers includes air condenser tuned, and permeability tuned types for all applications. Standard stock units are for 456, 1600 and 5000 kc. B.F.O. also available.









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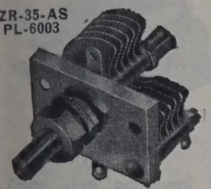
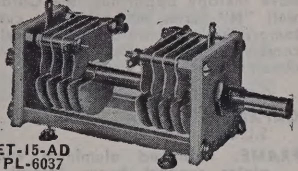
STANDARDS OF COMPARISON

TRIM-AIR MIDGET CAPACITORS

Combine essential sturdiness with the flexibility obtained only in a spacer-built rotor and stator type of assembly.


ZR-35-AS
PL-6003


ET-15-AD
PL-6037

GENERAL SPECIFICATIONS:

CAPACITY CHARACTERISTIC: S.L.C.

FRAME: End Plates of 5/32" thick Isolantite.

SHAFT: ¼" diameter, nickel plated brass.

PLATES: .020" thick aluminum, specially treated to remove burrs.

FINISH: Spacers, bushing nuts and screws nickel plated brass.

MOUNTING: Singles require one ⅜" hole in panel; Duals provided with four No. 4-36 screws in square brass tie rods. Trim-Air mounting posts or brackets fit both single and dual types. Singles are fitted with tapered nuts acting on split bushing for locking rotor shaft for fixed tune. Duals have rear shaft extension for coupling to other units and have a removable intersection shield, on airgaps of .020 and .030.

Note: Single section Trim-Airs normally stocked with full length shaft for knob or dial. Stub shaft equivalents, with slot for screw driver adjustment only, available to order. "ZS" type singles have .040" thick plates with rounded buffed edges.

SINGLE TRIM-AIR CONDENSERS (Long Shaft Construction)

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length	List Price
PL 6016	ZU-75-AS	75	2.7	15	.020	1⅜	$2.50
PL 6017	ZU-100-AS	100	3	19	.020	1½	2.55
PL 6018	ZU-140-AS	140	5	27	.020	1 23/32	4.60
PL 6000	ZR-10-AS	10	1.2	3	.030	⅞	1.85
PL 6001	ZR-15-AS	15	1.5	5	.030	31/32	1.90
PL 6002	ZR-25-AS	25	2	7	.030	1 1/16	2.10
PL 6003	ZR-35-AS	35	2.5	11	.030	1 9/32	2.20
PL-6004	ZR-50-AS	50	2.8	13	.030	1⅜	2.30
PL 6055	ZR-100-AS	108	6.6	29	.030	2 9/64	3.30
PL 6024	ZV-5-TS*	5	1.5	3	.060	⅞	1.85
PL 6044	ZT-5-AS	5	2	3	.070	31/32	2.10
PL 6010	ZT-10-AS	11	3.6	6	.070	1 1/16	2.15
PL 6011	ZT-15-AS	15	3	9	.070	1½	2.25
PL 6012	ZT-30-AS	30	4	17	.070	2 17/64	2.75
PL 6022	ZS-4-SS	4	1.5	5	.140	1½	2.75
PL 6023	ZS-7-SS	7	4	7	.140	1 27/32	3.05

* Supplied with 2 segment stator for UHF circuits. Extra plate also supplied, making 3 plates as listed.

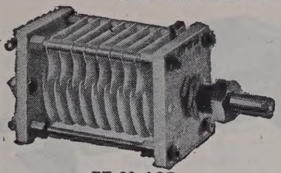
DUAL TRIM-AIR CONDENSERS

Per Section

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length	List Price
6041	EU-75-AD	75	2.7	15	.020	3 1/32	$4.80
6042	EU-100-AD	100	3	19	.020	3 1/32	5.00
6043	EU-140-AD	140	5	27	.020	3 11/16	8.85
6028	ER-10-AD	10	1.2	3	.030	2 3/16	3.85
6029	ER-15-AD	15	1.5	5	.030	2 3/16	3.85
6030	ER-25-AD	25	2	7	.030	2 3/16	3.95
6031	ER-35-AD	35	2.5	11	.030	3 1/32	4.30
6032	ER-50-AD	50	2.8	13	.030	3 1/32	4.55
6065	ER-100-AD	100	6.9	25	.030	3 11/16	8.15
6037	ET-15-AD	15	3	9	.070	3 1/32	4.40
6039	ET-30-AD	30	4	17	.070	4 15/32	5.30
6033	ES-4-SD	4	1.5	5	.140	3 1/32	5.30
6035	ES-7-SD	7	4	7	.140	3 11/16	5.90
6293	ER-25-ADI*	25	2	7	.030	2 3/16	5.80

* Insulated coupling between rotor sections.

TRIM-AIR HEAVY DUTY SPECIALS

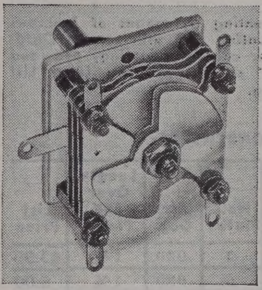

ET-30-ASP
PL-6058

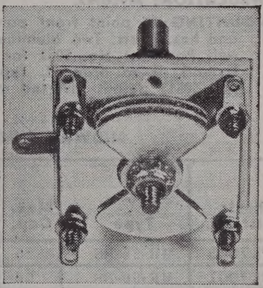
Four-tie-rod frame, ball and strap rear bearing construction, augmenting the simplified Trim-Air construction, to give even greater strength and rigidity. General characteristics otherwise same as standard Trim-Airs.

Dual section units have balanced rotor and stator sections and both single and dual section types may be single hole mounted or used with standard Trim-Air mounting accessories. Standard Trim-Air shaft locking nut may be used for fixed tune. PL-6069 and PL-6068 are duals with rear shaft extended; all others have ball and strap type rear bearing.

SINGLES		LIST	DUALS		LIST
PL 6056	ER-50-ASP	$4.35	PL 6057	ER-50-ADP	$4.80
PL 6059	EU-75-ASP	3.95	PL 6069	ER-50-ADP (rear sh. ext.)	8.70
PL 6058	ET-30-ASP	4.05	PL 6068	EU-140-ADP (rear sh. ext.)	11.60

A NEW LINE OF CARDWELL MIDGET CONDENSERS FOR V.H.F.


PL-6113


PL-6076

Cardwell offers a new line of 90 degree condensers with butterfly rotor plates, fulfilling a demand created by engineers and amateurs since the publication of an article "Stabilizing The 144 Megacycle Transmitter" in April, 1946 "QST." Also see pages 351 to 353 inclusive in the 1946 ARRL Radio Amateurs Handbook. PL-6113 and PL-6076 are specified in these articles. Features of these 90 degree midget condensers are as follows:

Electrical Symmetry
Low Distributed Inductance.
No Moving Contacts.
Plates easily removable to change capacity range.
Isolantite Insulation.
Single Hole Mounting.
Small Size; 1 7/16" x 1 13/32" per general outline dimensions for differential "Trim-Airs" as shown on Page 6 of Catalog No. 46.

These condensers are made to fit all standard Cardwell "Trim-Air" hardware.

Note maximum and minimum capacity values shown are measured from stator-to-stator and are effective values as used when a coil is connected stator-to-stator, with rotor floating.

CARDWELL V.H.F. 90 DEGREE TRIM-AIR MIDGETS

Part List No.	Type	Max. Cap.	Min. Cap.	No. Plates Rotor	No. Plates Stator	Air Gap.	Length Over-all	List Price
6075	ER-3-BF/S	3	1.5	2	1	.030"	1 23/32"	$2.60
6076	ER-6-BF/S	5	1.5	3	2	.030"	1 31/32"	2.70
6077	ER-8-BF/3	7	2.0	4	3	.030"	1 31/32"	2.80
6078	ER-15-BF/S	13	3.0	7	6	.030"	2⅜"	3.40
6079	EU-25-BF/S	20.4	3.4	8	7	.020"	2 5/32"	3.65
6080	EU-35-BF/S	27	4.0	10	9	.020"	2⅜"	3.80
**6081	EU-50-BF-S	38	6.0	14	13	.020"	2 31/32"	7.65
*6113	ER-14-BF/SL	13	10.4	(3) Disc (2) 90°	(2) 180° (2) 90°	.030"	2 1/16"	4.00

* Minimum capacity loaded by circular rotor plates.
** Iso. rear end plate—ball and strap rear bearing.

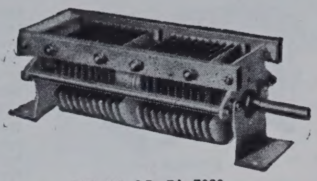
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

STANDARDS OF COMPARISON

MIDWAY TRANSMITTING CAPACITORS


MT-100-GD PL-7030
with PL-5051 Mtg. Brackets

The Midway is ideal for low and medium power transmitters for portable Mobile and aircraft equipment, due to its light weight, compact size and extremely sturdy construction. Incorporates original patented features of the larger "X" type standard transmitting condenser.

GENERAL SPECIFICATIONS:

CAPACITY CHARACTERISTIC: S.L.C.

FRAME: All aluminum end plates and tie rods.

SHAFT: ¼" C.R. steel, cadmium plated.

PLATES: .025" aluminum. On sizes having airgap of .070" or over, plates have rounded edges, buffed to minimize corona loss.

BEARINGS: Brass, nickel plated shoulder type front bearing with ball thrust rear bearing.

INSULATION: Mycalex.

MOUNTING: 3 point front panel mounting by means of 3 screws and hex. posts. Two aluminum mounting feet with screws, Cardwell Part List No. 5052 for regular chassis mounting, provided instead, if so ordered. Type "M" special brackets (Part List No. 5051) permit inverted mounting.

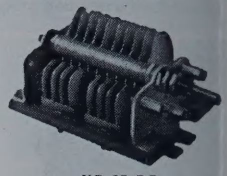
MIDWAY SINGLE CONDENSERS

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Over End Plates	List Price
PL7000	MR-25-BS	25	6	3	.030	1¾	$3.95
PL7001	MR-50-BS	50	6	5	.030	1¾	5.00
PL7002	MR-70-BS	70	7	7	.030	1¾	5.15
PL7003	MR-105-BS	112	9	11	.030	1¾	5.35
PL7004	MR-150-BS	150	10	15	.030	1¾	5.80
PL7005	MR-260-BS	260	13	25	.030	2¾	6.40
PL7006	MR-365-BS	365	16	35	.030	2¾	7.00
PL7015	MT-20-GS	25	8	5	.070	1¾	4.80
PL7016	MT-35-GS	35	6	7	.070	1¾	5.15
PL7017	MT-50-GS	50	10	11	.070	1¾	5.75
PL7018	MT-70-GS	70	10	15	.070	2¾	6.55
PL7019	MT-100-GS	100	14	21	.070	2¾	7.20
PL7020	MT-150-GS	150	18	31	.070	3 11/16	8.85
PL7021	MG-35-NS	35	14	15	.171	3 11/16	8.85
PL7024	MO-165-BS	165	15	25	.050	2¾	4.90

MIDWAY DUAL CONDENSERS

Parts List No.	Type	Per Section Max. Cap.	Per Section Min. Cap.	Per Section No. Plates	Air Gap	Length Over End Plates	List Price
PL7007	MR-25-BD	25	5	3	.030	1¾	$6.40
PL7008	MR-50-BD	47	7	5	.030	2¾	6.85
PL7009	MR-70-BD	70	8	7	.030	2¾	7.20
PL7010	MR-100-BD	112	9	11	.030	2¾	7.50
PL7011	MR-150-BD	150	10	15	.030	2¾	7.75
PL7013	MR-260-BD	260	13	25	.030	3 11/16	8.75
PL7026	MT-20-GD	20	6	5	.070	2¾	8.15
PL7027	MT-35-GD	35	8	7	.070	2¾	8.85
PL7028	MT-50-GD	50	9	11	.070	2 15/16	9.35
PL7029	MT-70-GD	70	11	15	.070	3 11/16	10.30
PL7030	MT-100-GD	100	13	21	.070	5 11/32	11.75
PL7031	MO-180-BD	190	15	29	.050	5 11/32	11.75

"N" TYPE TRANSMITTING CAPACITORS


NP-35-DD
PL-7107

Designed for medium power high frequency transmitters and short wave therapy apparatus, the Cardwell "N" series maintains the customary high standard of Cardwell construction, yet eliminates closed circuit loops completely.

GENERAL SPECIFICATIONS:

CAPACITY CHARACTERISTIC: S.L.C.

FRAME: Improved aluminum end plates support heavy lateral ceramic insulating bars which carry the stators.

SHAFT: ¼" diameter cadmium plated steel.

PLATES: Aluminum, .040" thick, with rounded edges. PL-7106 and 7116 have buffed and polished edges. PL-7105 has .025" thick plates, buffed and polished edges.

BEARINGS: Cardwell shoulder type front bearing, with ball thrust rear bearing.

MOUNTING: Can be single hole mounted, or by three mounting posts and screws, to front panel. Chassis mounting on feet which form part of end plates, or use Cardwell "M" brackets, Cardwell part No. 301, for inverted mounting, for lowest stator-to-ground capacity.

ULTRA-HIGH FREQUENCY SINGLE CONDENSERS

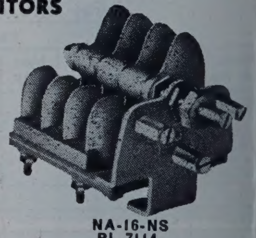
Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Back of Panel	List Price
PL7100	NP-50-DS	50	9	13	.084	3⅜	$5.15
PL7101	NP-75-DS	75	11	19	.084	4 5/32	6.05
PL7102	NP-100-DS	100	13	25	.084	5 7/32	6.85
PL7103	NP-150-DS	150	19	39	.084	6 11/16	8.95
PL7104	NG-35-DS	35	11	15	.171	5 7/32	6.75

ULTRA-HIGH FREQUENCY DUAL CONDENSERS

Parts List No.	Type	Per Section Max. Cap.	Per Section Min. Cap.	Per Section No. Plates	Air Gap	Length Back of Panel	List Price
PL7105	NT-50-GD	50	7	11	.070	4 5/32	$8.85
PL7116	NP-15-ND	17	4	5	.084	4 5/32	8.40
PL7106	NP-35-ND	35	5	9	.084	4 5/32	8.85
PL7110	NP-15-DD	17	4	5	.084	4 5/32	7.50
PL7107	NP-35-DD	35	5	9	.084	4 5/32	7.90
PL7108	NP-50-DD	50	9	13	.084	5 7/32	8.85
PL7109	NP-75-DD	75	11	19	.084	6 11/16	10.60
PL7115	NA-12-NDI	13	6	7	.218	5 15/16	22.10

Note: NA-12-NDI is dual neutralizer, rotor sections insulated from each other. Capacity and nr. plates shown, is PER SECTION.

"NA" NEUTRALIZING CAPACITORS


NA-16-NS
PL-7114

The "NA" group offers 180° neutralizing capacitors of restricted range, for dial or screw driver adjustment. Shaft lock for permanent setting. Adjustable airgap on NA-4-NS *only* by adjusting threaded bushing in aluminum end plate. Single rotor bearing with beryllium tension washer and special bushing for rigidity. Plates are .040" thick aluminum, rounded and buffed edges. Three point panel mounting or foot mounting.

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Back of Panel	List Price
PL7111	NA-4-NS	4	3.25	2	.218	1 13/32	$5.30
PL7112	NA-6-NS	6	4	3	.218	1 13/32	5.30
PL7113	NA-10-NS	12	6	6	.218	2 13/32	6.65
PL7114	NA-16-NS	16	7	8	.218	3 3/32	7.40

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

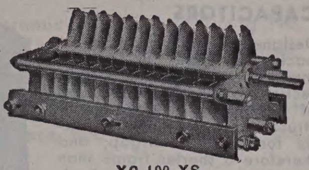
CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

J-52

STANDARDS OF COMPARISON

"X" TYPE STANDARD TRANSMITTING CAPACITOR



XC-100-XS
PL-8023

The original grounded rotor, metal frame variable air capacitor.

Rounded edges, polished aluminum plates, .040" thick on all but "XT" and "XR" types.

Frames, tie rods, bearing bushings, spacers and stator blocks, nickeled brass. Cadmium plated ¼" steel shaft supports securely locked rotor assembly. Mycalex insulation. Panel spaces 4⅛" x 3⅜". Panel mounting. N.P. brass mounting feet provided on special order, for chassis mounting. See Accessories.

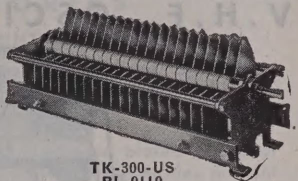
"X" TYPE STANDARD SINGLES

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Over End Plates	List Price
PL8000	XR-50-PS	50	11	3	.030	1½	$5.05
PL8001	XR-100-PS	100	12	5	.030	1½	5.15
PL8002	XR-150-PS	150	12.5	7	.030	1½	5.30
PL8003	XR-250-PS	250	13	11	.030	1½	5.40
PL8004	XR-375-PS	375	16	17	.030	2 1/16	6.15
PL8005	XR-500-PS	475	18	21	.030	2 1/16	7.55
PL8007	XR-1000-PS	950	30	41	.030	3 3/16	14.50
PL8013	XR-1500-PS	1500	50	65	.030	5	16.00
PL8048	XT-220-PS	220	20	21	.070	3 3/16	7.35
PL8050	XT-440-PS	440	40	43	.070	5	11.30
PL8040	XP-90-KS	90	16	11	.084	2 1/16	6.65
PL8041	XP-165-KS	165	22	19	.084	3 3/16	9.55
PL8043	XP-290-KS	290	35	33	.084	5	14.00
PL8044	XP-330-KS	330	37	37	.084	5⅝	16.00
PL8029	XE-120-XS	120	19	17	.100	3 3/16	8.85
PL8031	XE-240-XS	240	30	33	.100	5⅝	16.00
PL8025	XD-160-XS	160	28	27	.125	5⅝	13.30
PL8032	XG-25-XS	25	8	5	.171	2 1/16	5.15
PL8033	XG-50-XS	50	15	11	.171	3 3/16	9.55
PL8034	XG-110-XS	110	26	23	.171	5⅝	14.25
PL8020	XC-18-XS	19	8	5	.200	2 1/16	6.65
PL8021	XC-40-XS	40	15	11	.200	3 3/16	9.55
PL8022	XC-65-XS	65	20	17	.200	5	12.50
PL8023	XC-100-XS	100	28	25	.200	6⅝	15.50
PL8037	XK-55-XS	55	20	15	.230	5	14.75

"X" TYPE STANDARD DOUBLES

Parts List No.	Type	Per Section Max. Cap.	Per Section Min. Cap.	Per Section No. Plates	Air Gap	Length Over End Plates	List Price
PL8018	XR-500-PD	500	18	21	.030	3 3/16	$14.00
PL8068	XT-80-PD	80	11	9	.070	3 3/16	9.30
PL8070	XT-210-PD	210	22	21	.070	5	12.80
PL8065	XP-90-KD	95	15	11	.084	3 23/32	11.05
PL8066	XP-165-KD	165	23	19	.084	5⅝	16.20
PL8067	XP-325-KD	325	38	37	.084	10 3/16	32.45
PL8061	XE-120-XD	120	19	17	.100	5⅝	14.75
PL8062	XE-240-XD	240	32	33	.100	10 3/16	30.85
PL8060	XD-160-XD	160	28	27	.125	10 3/16	28.05
PL8063	XG-50-XD	50	14	11	.171	5⅝	15.75
PL8064	XG-110-XD	110	27	21	.171	10 3/16	26.50
PL8056	XC-40-XD	40	14	11	.200	6⅝	16.95
PL8057	XC-75-XD	75	21	19	.200	10 3/16	22.10
PL8081	XE-160-70-XQ	Multi-Band			.100	10 3/16	40.60

"T" TYPE HEAVY DUTY TRANSMITTING CAPACITORS



TK-300-US
PL-9110

6¼" wide, 5⅜" high, plates unmeshed. Corona shields on stators for wider airgap types. End plates ⅛" thick, heavy nickel plated. Massive bearings, ⅜" stainless steel shafts; heavy, two finger phosphor bronze rotor contactor bears on sturdy contact ring built to carry very heavy current without power loss. Rotor plates 4½" diameter, .050" thick aluminum. Heavy mounting feet formed as part of end plates. Ball thrust rear bearing. Mycalex insulation.

SINGLE HEAVY DUTY TRANSMITTING CONDENSERS

Parts List No.	Type	Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Inside End Plates	List Price
PL9009	TJ-315-US	315	36	31	.168	8 1/32	$40.50
PL9001	TC-200-US	200	35	23	.200	7	35.40
PL9002	TC-300-US	300	42	35	.200	10	40.50
PL9036	TK-300-US	312	53	39	.230	12 3/16	47.00
PL9011	TL-50-US	45	15	7	.294	3 9/16	20.90
PL9013	TL-80-US	85	24	13	.294	5⅝	26.55
PL9014	TL-100-US	98	26	15	.294	6 5/16	27.85
PL9016	TL-160-US	160	40	25	.294	9¾	37.95
PL9019	TZ-40-RS	43	18	11	.500	7	30.35
PL9020	TZ-80-RS	83	32	21	.500	12½	40.50

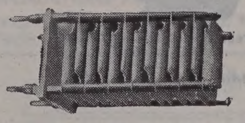
DOUBLE HEAVY DUTY TRANSMITTING CONDENSERS

Parts List No.	Type	Per Section Max. Cap.	Per Section Min. Cap.	Per Section No. Plates	Air Gap	Length Inside End Plates	List Price
PL9026	TJ-150-UD	150	21	15	.168	8 1/32	$40.50
PL9027	TJ-200-UD	211	30	21	.168	10¾	45.55
PL9021	TC-100-UD	112	20	13	.200	8 1/32	39.20
PL9022	TC-160-UD	160	30	19	.200	11	43.00
PL9023	TC-200-UD	200	35	23	.200	13	48.05
PL9024	TC-250-UD	255	40	29	.200	16	53.15
PL9030	TL-50-UD	45	15	7	.294	6 5/16	31.65
PL9031	TL-70-UD	70	19	11	.294	9	36.70
PL9033	TL-100-UD	98	26	15	.294	11 13/16	43.65
PL9034	TL-160-UD	160	40	25	.294	18¾	55.65
PL9029	TKD-100-UD	110	30	21	.350	18¾	55.65
PL9035	TZ-40-RD	43	18	11	.500	13 9/16	48.55

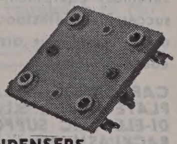
TYPE "J" PLUG-IN FIXED AIR CONDENSERS

For fixed capacity loading.

Plates easily removed. All "J" types have 2¼" square x ¼" Alsimag No. 196 ceramic end plates. Supplied with banana plugs to fit "JB" Jack Base. On special order provided with hexagonal brass mounting pillars and mounting screws for permanent installation.



JCO-50-OS
PL-9705



"JB" Jack Base
PL-5102

TYPE "J" PLUG-IN FIXED AIR CONDENSERS

Parts List No.	Type	Capacity	No. Plates	Air Gap	Length Overall	List Price
PL9705	JCO-50-OS	50 mmf.	13	.250	5⅜	$8.10
PL9704	JCO-25-OS	25 mmf.	7	.250	3¾	5.85
PL9703	JD-100-OS	100 mmf.	17	.125	4⅜	9.55
PL9702	JD-80-OS	80 mmf.	13	.125	4	8.10
PL9701	JD-50-OS	50 mmf.	8	.125	3 3/16	5.85
PL9700	JD-25-OS	25 mmf.	4	.125	2½	4.10
PL9706	JR-750-OS	750 mmf.	33	.030	4⅝	13.00
PL9707	JKD-50-OS	50 mmf.	18	.350	8 3/16	9.70

JACK BASE FOR "J" FIXED AIR CONDENSERS

Size: 2½" x 3½" x ¼". Material: Alsimag No. 196.
Complete with mounting posts, screws and nuts.
Type "JB" (PL-5102) ....List Price $1.25

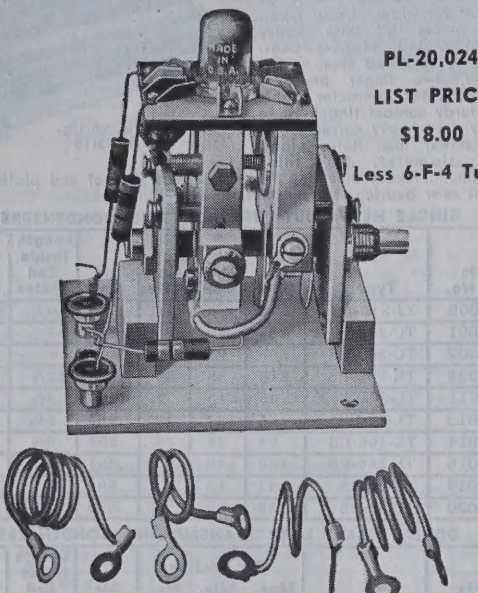
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

STANDARDS OF COMPARISON

V.H.F. OSCILLATOR KIT



PL-20,024

LIST PRICE

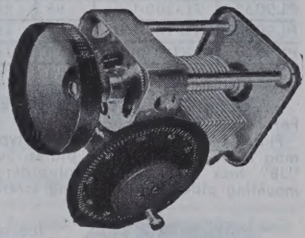
$18.00

Less 6-F-4 Tube

This kit includes 3 sets of coils covering 144-148 mc, 220-225 mc, 420-450 mc bands. (The 6F4 tube is not included.) Ideally suited for local oscillator, for super-heterodyne receiver, as plate modulated oscillator for low power transmitter or transceiver, driver unit for amplifier tube in higher powered transmitter, V.H.F. signal generator, etc., etc.

CARDWELL PRECISION CAPACITOR
Type PL-24,050

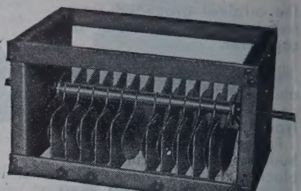
Designed for frequency meters requiring maximum mechanical and electrical precision. Type No. 4.080 gear and worm driven capacitor incorporates special design features representing years of research and usage of this component in special measurement equipment which has successfully withstood most rigorous usage our armed forces could give it.



Frequency Meter Condenser
PL-24,050

CAP. RANGE: Max. Cap. 220 mmfd., Min. Cap. 21 mmfd.
PLATE SHAPE: S.L.F.
DI-ELECTRIC SUPPORTS: Steatite.
BACKLASH: Negligible.
RESETTABILITY: To 10 parts in one million.
GEAR DRIVE: Precision split worm gear, equipped with precision ball bearings. Ratio—100 : 1 over 360 degrees.
DIALS: 3" DRUM: 50 divisions over 180° condenser rotation. 3" FAST RUNNING DIAL: Graduated 100 divisions, makes 1 revolution for each drum division. VERNIER RING: Divides each division on fast running dial into 10 parts.
DIMENSIONS: 5⅝" lg. (over drum dial) x 3⅛" deep x 3⅛" high.
WEIGHT: 1¾ lbs. (with cast aluminum frame).
ROTOR CONTACT: Silver plated phosphor bronze spring, with 2 silver contacts bearing on silver plated disc.
MOUNTING: 3 point, to bottom of main casting.
PRICE: Capacitor, PL-24,050, Type 4.080, only........................List $95.00
Drum Dial ....List $ 5.95
Fast Running Dial ....List $12.75
Vernier Ring ....List $ 2.50

TYPE "P" LIGHT HEAVY WEIGHT TRANSMITTING CAPACITORS



PK-125-QD
Special

Designed to accommodate capacitance values up to 150 mmfd. per section in a dual section type having an airgap of .500", the "P" type construction permits higher capacity for a given airgap, and therefore a shorter frame than the "T" type construction. Typical Cardwell sturdiness is built-in, and the "P" type is probably the lightest transmitting condenser built for its size, yet completely satisfactory for heavyweight use. No single section types are catalogued; parallel or series connect for double or half single section capacity listed in table.

GENERAL SPECIFICATIONS:

FRAME: End plates are ⅛" thick formed aluminum, satin finish.
SHAFT: ⅜" diameter, non-magnetic stainless steel, extended both front and rear end.
PLATES: .064" thick, rounded and buffed edges. Rotor plates are 6¾" in diameter.
BEARINGS: Heavy nickel plated brass front and rear shoulder bearings.
ROTOR CONNECTION: Heavy, two finger N.P. phosphor bronze wiper bears on ⅛" thick N.P. brass contact ring, at each end.
STATOR CONSTRUCTION: Plates permanently staked into slotted, rounded edge aluminum stator blocks.
INSULATION: Mycalex (glass bonded mica).
MOUNTING: 3 clearance holes for No. 10 screws in each *side* of each end plate permitting mounting on any side, as well as provision for mounting associated components such as inductance coil mountings, etc.

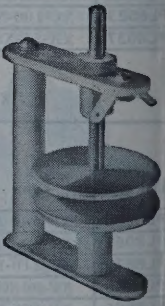
TYPE "P" LIGHT HEAVYWEIGHT DUAL CONDENSERS

Parts List No.	Type	Per Section Max. Cap.	Min. Cap.	No. Plates	Air Gap	Length Over End Plates	List Pric
PL9208	PJ-750-QD	750	50	35	.168	20½	Special
PL9210	PK-200-QD	210	30	13	.230	$11\frac{27}{64}$	Special
PL9203	PKD-70-QD	70*	15*	7	.350	$9\frac{13}{16}$	$75.00
PL9204	PKD-100-QD	115	22	9	.350	$11\frac{27}{64}$	83.50
PL9205	PZ-50-QD	50*	15*	7	.500	11⅞	82.25
PL9206	PZ-70-QD	70*	20*	9	.500	14¼	87.90
PL9207	PZ-100-QD	91	23	11	.500	$16\frac{1}{16}$	100.00
PL9209	PZ-150-QD	150	40	19	.500	$24\frac{9}{16}$	125.00

* Estimated value.
Tolerance for maximum and minimum capacity values: ±10%.

DISC TYPE NEUTRALIZER

For neutralizing low capacity transmitting triodes. Glazed steatite insulation. Polished aluminum discs. Fine screw thread adjustment in long nickel silver bearing—no wabble. Knurled thumb nut for easy locking. Heavy satin finish aluminum support and base plate.



ADN. Neut. Conds.
PL-7118

DISC TYPE NEUTRALIZING CONDENSERS

Item No.	Parts List No.	Type	Max. Cap.	Air Gap	Min. Cap.	Air Gap	List Price
1	PL7118	ADN	7 mmf.	.100"	1 mmf.	.700"	$4.40
2	PL7119	BDN	15 mmf.	.200"	3 mmf.	1.000"	7.40

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

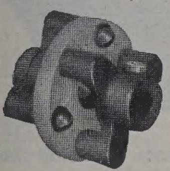
STANDARDS OF COMPARISON

INSULATED COUPLINGS

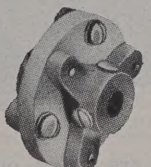
For isolating R.F. controls. Ceramic insulation (Alsimag No. 196). All flexible types have N.P. phosphor bronze springs, and heavy N.P. brass hubs, permanently swedged or spin riveted into the springs. Two fillister head, cup point, case hardened steel set screws in each hub insure positive lock to shaft.

All rigid types have improved three-point-spider construction, carefully machined solid brass castings, and are absolutely rigid.

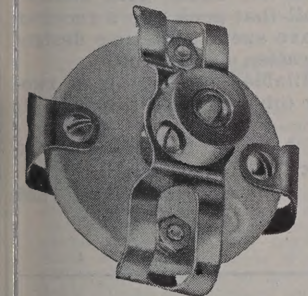
Flexible types C, D, E and F fit both ¼" diameter shaft or a ⅜" shaft by removing bushing supplied.



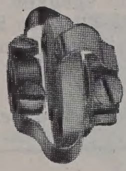
"ENF" Rigid Coupling
PL-5201



"FNF"
PL-5013



"C"
PL-5004



"A"
PL-5000

INSULATED COUPLINGS—Flexible

Parts List No.	Type	DIMENSIONS "A" (Width)	"B" (Length)	Peak Flashover	To Fit Shaft Diameter	List Price
5000	A	1 9/32"	¾"	3;700 V.	¼"	$0.75
5002	B	1 9/32"	1 3/32"	7,000 V.	¼"	.75
5202	AB	1 9/32"	29/32"	5,000 V.	¼"	1.00
5004	C	2⅝"	2 3/32"	13,500 V.	¼ & ⅜"	3.55
5006	D	2⅝"	1⅜"	9,000 V.	¼ & ⅜"	3.55
5008	E	2 1/16"	1¾"	10,000 V.	¼ & ⅜"	1.90
5010	F	2 1/16"	1 1/16"	5,000 V.	¼ & ⅜"	1.90

INSULATED COUPLINGS—Rigid

5014	CNF	2¼"	2 1/16"	12,000 V.	⅜"	4.45
5201	ENF	1⅜"	1 13/16"	10,000 V.	¼"	1.50
5013	FNF	1⅜"	15/16"	7,500 V.	¼"	1.25

ACCESSORIES

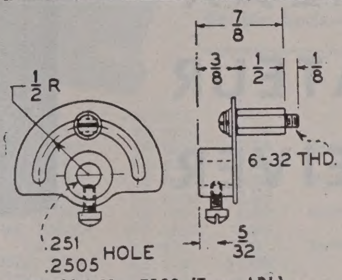
"MIDWAY" MOUNTING FEET

Heavy aluminum, with 2 screws; for Midway condensers.
Parts List No. 5052..**List (Pair) $0.25**

INDUCTANCE CLIPS

For tapping air-wound inductors. Cadmium plated phosphor bronze spring clips for No. 12 or 14 wire. Thin blades prevent shorting turns. Type 804-A. **Parts List No. 5104**.......**List Price $0.20**

ROTOR LOCK



For locking "X" standard or "M" Midway rotor shafts in position for fixed tune. Can be set behind panel or attached to any ¼" shaft, mounted directly on front of panel. Nickel plated brass; diameter 1½".

Parts List No. 5100 (Type ARL)..**List Price $0.75**

SHAFT LOCK PANEL BUSHING

Long panel bushing for ¼" shafts, has tapered nut for locking shaft in position. Fits ⅜" hole in panel. Complete with panel nuts. Nickeled brass.
Parts List No. 5055 (Type ALB)..**List Price $0.40**

TYPE "M" BRACKET

Use with type "N" U.H.F. duals or "M" Midway condensers. Turns condenser upside down for shortest plate leads in balanced R.F. amplifier. Regular mounting feet can be used to support a tank coil or jack base. Made of strong, satin finished, 1/16" aluminum, and supplied with proper screws and lock washers.
Parts List No. 5051..**List Price, each $0.25**

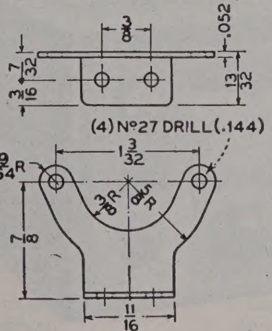
"STANDARD" TYPE "X" MOUNTING FEET

Heavy nickel plated brass; for "X" transmitting types, with four screws.
Parts List No. 5053..**List Price, pair $0.25**

TRIM-AIR ACCESSORIES

As catalogued, Trim-Air singles are equipped for single hole mounting. Additional mounting accessories listed below are sold separately.

MOUNTING POSTS—(¼" hex. x ¾" long, tapped 6-32 N.P. brass). Pair, with screws and lockwashers.
Parts List No. 5054..**List Price $0.25**



"TRIM-AIR" MOUNTING BRACKET

For dual and single Trim-air condensers. Insulated from rotor and stator; N.P. brass, with two screws and nuts.

Parts List No. 5050..**List Price, each $0.20**

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CARDWELL CONDENSERS

THE ALLEN D. CARDWELL MANUFACTURING CORPORATION

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"HQ-129-X" AMATEUR RECEIVER

The Hammarlund "HQ-129-X" amateur communications receiver is designed to meet the demands of the most critical amateurs. Its design includes every feature essential to finest performance.

The "HQ-129-X" has a continuous range from .54 to 31 megacycles in six separately calibrated bands with continuous bandspread throughout the entire range. In addition, the bandspread dial is calibrated for each of the four most important amateur bands—3.5 - 4 mc, 7 - 7.3 mc, 14 - 14.4 mc and 28 - 30 mc.

The "HQ-129-X" has the Hammarlund patented variable wide-band crystal filter which works exceptionally well on phone or short wave broadcast signals.

There are many other features: Variable antenna compensator, beat oscillator, voltage regulator, series noise limiter, send-receive switch, automatic volume control, calibrated "S" meter, audio gain control, sensitivity control—plus all that goes into a receiver built by engineers who have spent a lifetime designing commercial communication equipment.

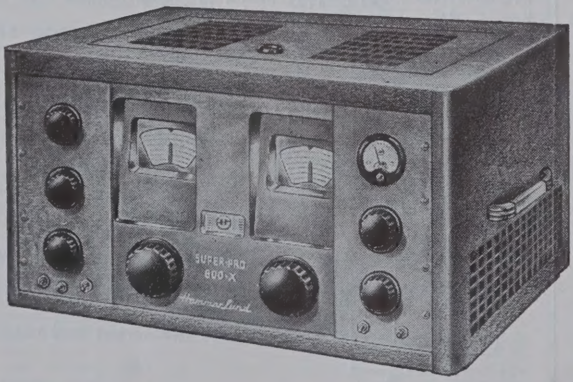
The "HQ-129-X" is available complete in a two-tone gray finish including tubes and a 10 inch P. M. dynamic speaker.

"HQ-129-X" Less Speaker...**Amateur Net Price $177.30**

SC-10—Speaker in cabinet finished to match **Amateur Net Price $ 11.85**

Send for twenty-page technical booklet

SERIES 600 "SUPER-PRO"



Technical Information will be Available Late Fall of 1949

DESCRIPTION

Cheers from the experts — The new Series 600 SUPER-PRO is the finest communications receiver that money can buy. No "warmed over" model, the Series 600 is entirely new in electrical concept and mechanical design—truly "years ahead" of present day receivers. When you check this entirely new SUPER-PRO for such things as image rejection, stability, calibration accuracy, etc. . . . you will find performance that you would not have thought possible. You'll find that "years ahead" in design mean "years ahead" in performance.

Band changing in the new SUPER-PRO is accomplished by means of an ingeniously designed rotary turret which places the coil assemblies of the two R.R., Mixer and Oscillator stages directly adjacent to their respective sections of the four gang tuning condenser where they are electrically most efficient.

By means of the mechanical system used in the SUPER-PRO 600-X both the main and band spread dials are tuned simultaneously with one control and the need for first setting the main dial is eliminated. The dial drive mechanism is entirely gear coupled to the main tuning condenser, producing the kind of calibration accuracy usually associated only with costly laboratory standards.

PRICES SUBJECT TO CHANGE WITHOUT NOTICE
PRICES SLIGHTLY HIGHER ON WEST COAST

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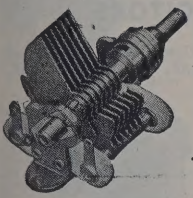
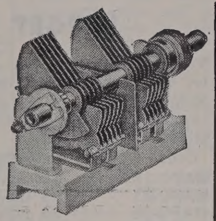


MC
Midget
←

MCD
Split-Stator
→



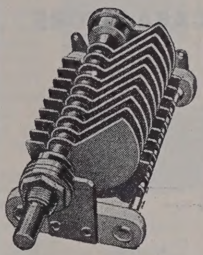
Code	Capacity	Net
MC-20-S	20 mmf.....	$1.80
MC-35-S	35 mmf.....	1.86
MC-50-S	50 mmf.....	1.92
MC-50-M	50 mmf.....	1.92
MC-75-S	80 mmf.....	2.04
MC-75-M	80 mmf.....	2.04
MC-100-S	100 mmf.....	2.16
MC-100-M	100 mmf.....	2.16
MC-140-S	140 mmf.....	2.34
MC-140-M	140 mmf.....	2.34
MC-200-M	200 mmf.....	2.58
MC-250-M	260 mmf.....	2.70
MC-325-M	320 mmf.....	2.94

"M"—Midline Plates.

Code	Capacity per sect.	Net
MCD-50-M	50 mmf.....	$3.60
MCD-100-S	100 mmf.....	3.90
MCD-100-M	100 mmf.....	3.90
MCD-140-M	140 mmf.....	4.20

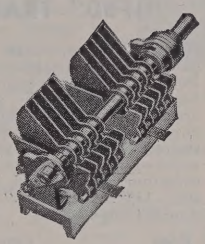
Ideal variables for high frequency tuning Isolantite Insulation. Vibration proof. New type split rear bearing with noiseless wiping contact. Soldered brass plates, nickel plated. Dual types have shield between sections and are mounted on strong Isolantite base. Single hole panel mounting.

"S"—Straight Line Cap. Plates.



MCX
Double-Spaced
←

MCDX
Dual Section
Double-Spaced
→



Code	Capacity	Net
MC-20-SX	20 mmf.....	$2.04
MC-20-MX	20 mmf.....	2.04
MC-35-SX	32 mmf.....	2.22
MC-35-MX	32 mmf.....	2.22
MC-50-SX	50 mmf.....	2.52
MC-50-MX	50 mmf.....	2.52
MC-100-SX	100 mmf.....	2.94
Code	per sect.	Net
MCD-35-MX	31 mmf.....	$4.08
MCD-35-SX	31 mmf.....	4.08

"MX"—Midline Plates.

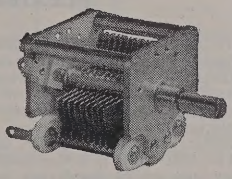
Same construction as MC and MCD Types but with widely spaced plates (.072″) for transmitters and neutralizers.

"SX"—Straight Line Cap. Plates.

"RMC" CAPACITOR

The new "RMC", Rugged Midget Capacitor, is particularly designed for use in applications where strength and solid construction is as important as sound electrical design.

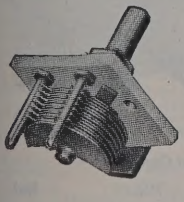
Two low loss silicone treated ceramic insulated bars are used to support the stator. Bearings are hand-fitted sleeve in the front and single ball thrust in the rear—torque is smooth and uniform. Contact to the rotor is made through a silver-plated beryllium forked spring bearing on a wide disk on the rotor shaft.



Code	Capacity	Net
RMC-50-S	50. mmf..................................	$2.22
RMC-100-S	105. mmf..................................	2.55
RMC-140-S	143.5 mmf..................................	2.70
RMC-325-S	327. mmf..................................	3.39

"HF" MICRO CAPACITORS

For tuning or trimming on high and very high frequencies. Cadmium plated soldered brass plates. Isolantite. Base mounting, single hole panel mount, or panel mounting with bushings. 140 mmf. size $1\frac{9}{32}$″ high x $\frac{17}{32}$″ behind panel.

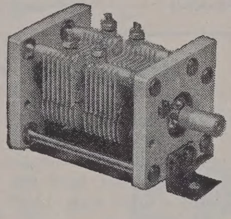


Code	Capacity	Net
HF-15	17.5 mmf.................	$1.02
HF-35	35 mmf.................	1.17
HF-50	50 mmf.................	1.23
HF-100	100 mmf.................	1.53
HF-140	140 mmf.................	1.74
*HF-15-X	15 mmf.................	1.23
*HF-30-X	30 mmf.................	1.38

*Double spaced.

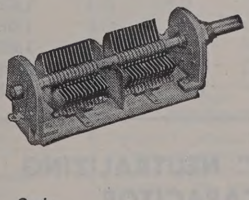
"VU" UHF CAPACITOR

The capacitors listed below are available for use by manufacturers, engineers and amateurs for all types of communications equipment having tuned circuits operating as high as 500 mc. The many advantages of these new capacitors are of course due to the silent electrical operation made possible through the use of pyrex glass ball bearings. Elimination of the rotor contact further precludes the possibility of noise. Two sets of contacts are provided, so that the vacuum tube can be mounted on one side and the inductor on the other side of the capacitor. Voltage rating—700 V.



Code	Capacity	Net
VU-20	22.5 mmf....................................	$6.45
VU-30	31.5 mmf....................................	6.90
VU-45	45.0 mmf....................................	7.62

"HFD" MICRO DUAL CAPACITORS



A compact dual—ideal as a high frequency tuning capacitor, for tuning and neutralizing low-powered short wave and for very high frequency transmitters, etc. Heavy Isolantite base. Equipped with new outstanding Hammarlund split rear bearing and individual noiseless wiping contact for each section.

Code	Capacity	Net
HFD-50	50 mmf. per sect........................	$2.82
HFD-100	100 mmf. per sect........................	3.18
HFD-140	140 mmf. per sect........................	3.60
*HFD-15-X	15 mmf. per sect........................	2.76
*HFD-30-X	28.5 mmf. per sect........................	3.00

*Double-spaced.

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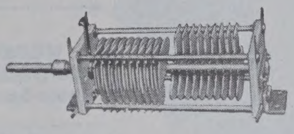
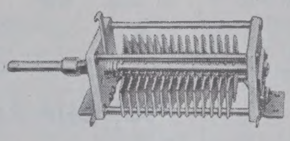
"HFBD" TRANSMITTING CAPACITORS



High efficiency, high frequency dual capacitors with isolated rotor. Both mounting brackets and control shafts are insulated. DC can be applied to rotor as well as stator. Isolantite end plates, soldered brass construction, cadmium plated. End plate size 1 13/16″. Type "E" has rounded edge plates.

Code	Capacity	Length	Air Gap	Net
HFBD-50-C	50 mmf.	2⅞″	.050″	$5.40
HFBD-100-C	100 mmf.	4⅝″	.050″	6.36
HFBD-35-E	35 mmf.	3¼″	.070″	4.77
HFBD-65-E	65 mmf.	4 13/16″	.070″	5.46

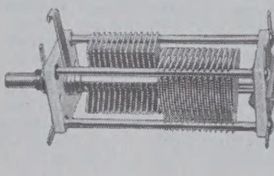
"HFB" CAPACITORS

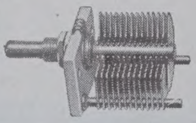


Same as above but single stator types. Stator is mounted at top to reduce capacity to chassis. The "HFB" has insulated mounting brackets and control shaft.

Code	Capacity	Length	Air Gap	Net
HFB-50-C	50 mmf.	1⅞″	.050″	$4.20

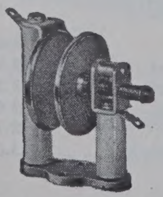
"HFA" AND "HFAD" CAPACITORS





"HFAD" has the same general construction as "HFBD" except that it is smaller in size and does not have the insulated control shaft. Ideal for high frequency operation. End panels 1⅜″ square. "HFA" same construction, except end panel 1 13/16″ x 1 1/32″. Both can be single hole panel mounted or can be mounted to the panel with stand-off bushings. Plain edge plates.

Code	Capacity	Type	Length	Air Gap	Net
HFAD-25-B	25 mmf.	Dual	1 29/32″	.030″	$3.60
HFA-100-A	100 mmf.	Single	1 13/32″	.020″	1.98
HFA-140-A	140 mmf.	Single	1¾″	.020″	2.31
HFA-10-B	10 mmf.	Single	25/32″	.030″	1.53
HFA-15-B	15 mmf.	Single	⅞″	.030″	1.62
HFA-25-B	25 mmf.	Single	31/32″	.030″	1.68
HFA-50-B	50 mmf.	Single	1⅜″	.030″	1.86
HFA-100-B	100 mmf.	Single	2 11/32″	.030″	2.46
HFA-15-E	15 mmf.	Single	1⅜″	.070″	1.68



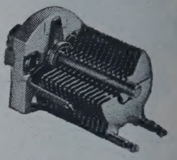
"NZ-10" NEUTRALIZING CAPACITOR

Rounded edges, Isolantite. Fine adjusting screw. Positive lock. Horizontal adjustment. Dimensions: 2 15/16″ high x 1 13/16″ deep.

Code	Net
NZ-10—(2.3—10 mmf.)	$3.15

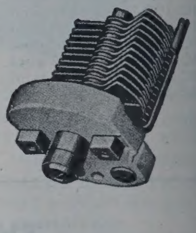
MIDGET "APC" CAPACITORS

This new midget varietv of the well known APC condenser is designed for use where space is limited. Size of 100 mmf., 15/16″ x 25/32″ x 1 5/64″. Mounting holes 17/32″ apart. Ideal for H.F. circuits. Isolantite insulation. Nickel plated soldered brass plates.



Code	Capacity	Net
MAPC-15	15 mmf.	$0.99
MAPC-25	25 mmf.	1.02
MAPC-35	36 mmf.	1.08
MAPC-50	49 mmf.	1.14
MAPC-75	75 mmf.	1.26
MAPC-100	99 mmf.	1.38

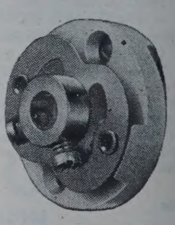
"APC" MICRO CAPACITORS



For H.F. and very H.F. For I.F. tuning, trimming R.F. Coils or gang capacitors, general padding, etc. Constant capacity under any condition of temperature or vibration. Size 100 mmf. 1 7/32″ x 15/16″ x 1 7/32″. Isolantite base. Cadmium plated soldered brass plates.

Code	Capacity	Net
APC-25	25 mmf.	$1.02
APC-50	50 mmf.	1.14
APC-75	75 mmf.	1.26
APC-100	100 mmf.	1.38
APC-140	140 mmf.	1.62

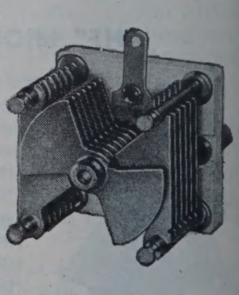
FLEXIBLE COUPLINGS



These flexible couplings are designed for both insulated and non-insulated applications. The FC-46-S is insulated for 6000 volts with silicone treated ceramic, will compensate for considerable shaft misalignment, but will not give springy action. Overall depth 13/16″, diameter 1¼″. The FNC-46-S is a non-insulated coupling for use where insulation is unnecessary. The general design is the same as the FC-46-S but has a heavy metal body instead of ceramic. Overall depth 23/32″, diameter 1¼″.

Code	Net
FC-46-S—Insulated	$0.66
FNC-46-S—Non-insulated	.66

BUTTERFLY CAPACITOR



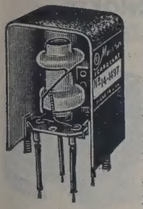
The new butterfly capacitor is designed for use in VHF and UHF applications where the butterfly design is indispensable. Can be used as a single series unit or as a split stator with grounded rotor. This new butterfly capacitor is ideal for use in transmitters as well as receivers. Has soldered rotor and stator assembly; is plated to resist corrosion; silver plated rotor contact; sleeve type bearing, low-loss ceramic end panel. Approximately 1⅜″ square. Depth behind panel depends on number of plates. Insulated mounting studs prevent rotor from being grounded when mounted to metal.

	MMF. Cap. per Sec.		Series Cap.		
Code	Max.	Min.	Max.	Min.	Net
BFC-12	14.5	3.5	7.9	2.2	$1.50
BFC-25	27.5	5.0	14.5	3.0	1.68
BFC-38	40.5	6.3	21.0	3.7	1.98

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Net

UNIVERSAL ADJUSTABLE COILS



These Adjustable - Inductance Ferrocart (iron-core) coils will replace the Broadcast band coils in practically any receiver. It is no longer necessary to order hard-to-get "exact duplicates" when an Antenna, R.F. or Oscillator coil requires replacement.

Continuously variable in inductance over a wide range, these coils will accurately "track" with the other coils in the receiver when properly adjusted. The exact inductance of the old coil is easily matched by a simple screwdriver adjustment, regardless of the value of the tuning condenser.

High "Q" iron cores used in these coils add gain and selectivity to the receiver. The oscillator coil provides complete adjustment for intermediate frequencies between 175 and 520 kc. May be used in either "cut-plate" tuning condenser or padded circuits. Available shielded or unshielded, furnished with complete instructions. 1¾" square by 2½" high.

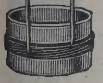
UNSHIELDED

No.	Description	List
14-1026	Universal Ant. Coil	$1.75
14-1027	Universal R.F. Coil	1.75
14-1028	Universal Osc. Coil	1.75

SHIELDED

No.	Description	List
14-7413	Universal Ant. Coil	$2.80
14-7558	Universal R.F. Coil	2.80
14-7560	Universal Osc. Coil	2.80

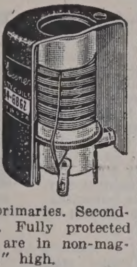
SLIP-OVER PRIMARIES



Designed to provide economical replacement of burned out primaries on all types of Antenna and R.F. coils. All windings are high-impedance type for improved performance. Sizes given below are outside diameter of coil over which the replacement winding will fit. Complete instructions for repair and replacement given.

No.	Size	List
14-6850	For 1¼" O.D. Coil	$0.40
14-6852	For 1" O.D. Coil	.35
14-6854	For ⅞" O.D. Coil	.35
14-6856	For ¾" O.D. Coil	.35
14-8418	For ½" O.D. Coil	.30

STANDARD ANTENNA R. F. COILS



Standard type air-core coils of superior construction, designed to cover the Broadcast band from 545 to 1620 kc with a 365-mmfd. tuning condenser. These coils make excellent replacement units and are used as original parts by discriminating set-builders and experimenters in the design and construction of Broadcast receivers.

All coils have high-impedance primaries. Secondaries are wound with Litz wire. Fully protected against humidity. Shielded coils are in non-magnetic cans, 1⅞" diameter by 2½" high.

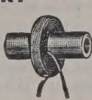
UNSHIELDED

No.	Type	List
14-1010	Standard Antenna Coil	$0.95
14-1011	Standard R.F. Coil	.95

SHIELDED

No.	Type	List
14-1004	Standard Antenna Coil	$1.25
14-1005	Standard R. F. Coil	1.25

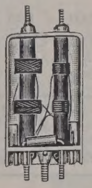
DOWEL TYPE PRIMARY



Popular replacement for burned out primaries in high impedance antenna coils. Universal wound on ¼" dia. by ½" long dowels moisture protected. Inductance 1700 uh.

No. 14-6865 List Price...... .42

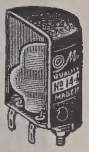
FM-AM "COMPOSITE" I.F. TRANSFORMER



Contains a 455 kc. AM and a 10.7 mc. FM I.F. transformer. Can size: 1⅜" square x 2½" long. Spade bolt mounting.

16-6675 10.7 mc.-455 kc. I.F. Trans., List $4.00

STANDARD OSCILLATOR COILS



High-quality Broadcast band oscillator coils designed for use with any of the Antenna and R. F. coils listed above, using a 365-mmfd. tuning condenser. Frequency coverage is 545 to 1580 kc; units are provided for all popular intermediate frequencies.

Coils are mounted on bakelite base with tinned soldering lugs for connections. Unshielded coils have single-hole stud mounting. All coils are thoroughly impregnated to resist severe climatic conditions. Shielded coils are in cans. 1½" diameter by 1¾" high, black crackle finish.

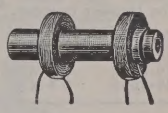
UNSHIELDED

No.	I.F. Freq.	Padder Required	List
14-3732	175 kc	900 mmf	$1.05
14-6590	262 kc	700 mmf	1.05
14-6592	370 kc	350 mmf	1.05
14-4034	456 kc	350 mmf	1.05

SHIELDED

No.	I.F. Freq.	Padder Required	List
14-4242	175 kc	900 mmf	$1.35
14-4243	456 kc	350 mmf	1.35
14-1033 Special Unshielded Osc. for 6SA7;	456 kc	350 mmf	$0.85

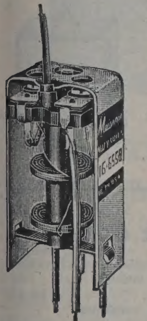
REPLACEMENT I. F. WINDINGS



Coils are wound on wood dowels, ⅜" diameter and 1¾" long; coupling is adjustable by sliding primary coil. Complete instructions furnished with each coil.

No.	Freq.	Type	List
16-6600	175	Standard	$0.85
16-6601	455	Standard	.85
16-6602	175	Center-tap	1.10
16-6603	455	Center-tap	1.10

"PLASTIC" I. F. TRANSFORMERS



Particularly suitable for use in small receivers, where space is at a premium and yet superior performance is required, these remarkable transformers are only 1¼" square and 2½" high! Made in a complete series of frequency ranges and positions, they will provide results second to none in any type of receiver.

The one-piece molded plastic coil-form and trimmer-base eliminates many separate parts that were required with other types of construction. The assembly is, therefore, simpler and more rigid. The iron core series are highly rcommended for use in compact receivers and auto sets where only one I-F stage is permitted. It is not recommended that they be used in a two-stage system because of their high-gain which would cause instability and oscillation.

No.	Freq. Range	Peak Factory Setting	Selectivity Band Width 2x	Selectivity Band Width 10x	Use
16-6649	140-200	175	6.0	17.5	Input
16-6650	140-200	175	5.7	15.0	Interstage
16-6651	140-200	175	11.2	29.5	Output
16-6652	200-310	262	9.5	24.7	Input
16-6653	200-310	262	10.4	27.6	Interstage
16-6654	200-310	262	20.5	52.1	Output
16-6655	305-480	370	8.4	24.4	Input
16-6656	305-480	370	11.3	30.0	Interstage
16-6657	305-480	370	18.8	47.7	Output
16-6658	400-550	455	18.8	46.6	Input
16-6659	400-550	455	12.5	33.0	Interstage
16-6660	400-550	455	17.5	50.5	Output

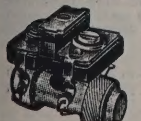
Air-Core "PLASTIC" I-F Transformers, List Price Each $1.40

IRON-CORE "PLASTIC" I-F's

16-6662	380-600	455	80	11.2	30.0	Input
16-6663	380-600	455	85	15.0	41.0	Output

Iron-Core "PLASTIC" I-F Transformers, List Price Each $2.10

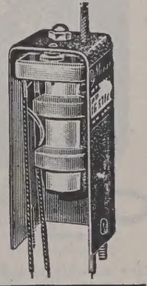
CARTWHEEL I. F. TRANSFORMER



A brand new, ultra-compact, unshielded I-F Transformer, complete with dual trimmers; finds useful application in many types of compact AC-DC or Midget type receivers. Only 1⅜" by 1$\frac{1}{32}$" by 1¼" high; one-piece molded plastic trimmer base; for 456-kc only.

No. 16-6661 List Price $1.40

STANDARD I. F. TRANSFORMERS



The Meissner series of Air-Core I. F. Transformers has been accepted as "standard" for general replacement purposes. Gain characteristics have been designed to correspond closely with average values found in the majority of commercial receivers. All transformers are double-tuned with ceramic-base, mica-dielectric trimmers. Windings are fully impregnated. Well-insulated RMA color-coded lead wires. Bright aluminum finish shield is 1⅜" square by 3" high.

No.	Freq. Range	Peak Factory Setting	Use
16-5700	121-235	175	Input
16-5702	121-235	175	Output
16-3731	121-235	175	Output C. T.
16-5704	220-360	262	Input
16-5706	190-325	262	Output
16-5712	425-650	455	Input
16-6133	435-1000	455	Interstage
16-5714	425-650	455	Output
16-3736	255-550	455	Output C. T.

List Price Each $2.10

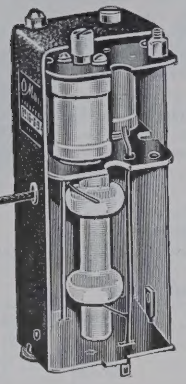
FERROCART I. F. TRANSFORMERS

Designed primarily as original parts in high-gain receivers of superior quality, these transformers find consistent application in stepping up the performance of old receivers. The special powdered-iron core used in the coils permits higher "Q" with resultant increase in selectivity and gain. All units are double-tuned with ceramic-base, mica-dielectric trimmers. Windings are of high-grade Litz wire, thoroughly impregnated. Shield is bright aluminum finish, 1⅜" square by 3" high.

No.	Freq. Range	Peak Factory Setting	Use
16-5728	127-206	175	Input
16-5730	127-206	175	Output
16-5740	360-600	455	Input
16-5742	360-600	455	Output
16-8091	1050-2000	1500	Input-Interstage
16-8099	1050-2000	1500	Output

List Price Each $2.80

Meissner PRECISION-BUILT PRODUCTS



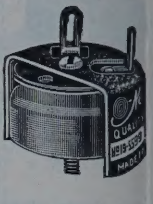
"ALIGN-AIRE" I-F TRANSFORMERS

The result of years of engineering experience in designing high grade transformers for the finest commercial receivers! The exacting requirements of modern high-fidelity and communications type receivers demand units that can be depended upon under any and all conditions. They must be absolutely stable under temperature and humidity variation and unaffected by vibration. These requirements are all met by the "Align-Aire" I-F Transformer. Provides 3600 degrees of micrometer smooth trimmer adjustment instead of the usual 180 degree rotation! Accurate trimming can thus be readily accomplished. Available with special "Iron-core" design for maximum gain and selectivity. Double-tuned and offered in a complete range of frequencies for any application. Shield cans are black crackle finish, 2"x2"x4¾".

No.	Frequency Range (kc)	Peak Factory Setting	Gain Factory Setting	Selectivity Band Width 2X	10X	20X	Use
16-6643	415-540	456	77	7.0	16.0	22.0	Input
16-6123	415-540	456	29	7.0	18.0	24.4	Interstage
16-6645	415-540	456	105	9.0	25.6	36.2	Output
16-6139	415-540	456	100	9.5	23.2	33.5	Output C.T.

LIST PRICE, EACH **$6.95**

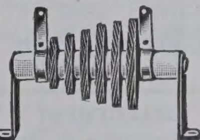
AIR-CORE R-F CHOKES



Accurately wound and individually tested; coils wound on specially treated forms, mounted on bakelite terminal base and thoroughly moisture proofed. Available in shields or without; both single-hole mounting. Shielded chokes have terminals thru top of can so unit may be mounted on inside wall of chassis. Shields are bright aluminum finish, 1⅜" square.

MH Induct.	Shielded No.	Shielded List	Unshielded No.	Unshielded List
2.5	19-5582	$0.90	19-1994	$0.65
5.5	19-5584	.90	19-4551	.65
8.0	19-5588	.95	19-2078	.70
10.0	19-1900	1.05	19-8770	.75
16.0	19-5590	1.10	19-1995	.85
30.0	19-5592	1.20	19-2330	.90
60.0	19-5594	1.35	19-3247	1.05
80.0	19-5596	1.40	19-2709	1.10

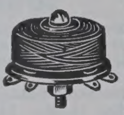
TRANSMITTER CHOKES



Highly efficient for Amateur and Commercial use; six lateral wound sections provide effective action over wide frequency range. Windings on ceramic form with tapped ends; mounting brackets included.

Cat. No.	Induct.	Current	Ohms	Net
19-3019	2.8 MH	1000 MA	5.0	$1.68
19-3022	5.5 MH	500 MA	12.5	1.47
19-3025	5.9 MH	200 MA	34.9	1.47

IRON-CORE R-F CHOKES



Universal-wound on special powdered-iron cores, these chokes provide maximum efficiency—lower DC resistance per MH. Coils are wax-impregnated; laminated bakelite terminal base; single-hole mounting; without shielding.

No.	MH	List	No.	MH	List
19-6834	2.5	$0.95	19-6844	60.0	$1.60
19-6840	10.0	1.20	19-6846	80.0	1.80
19-6842	30.0	1.40	19-6848	125.0	2.30

PHONO-OSCILLATOR COIL

For use in building either wireless or direct-connected phonograph-oscillator units for record reproduction through the radio receiver. Knob adjustment permits selection of clear frequency in the broadcast band. Coil is in bright aluminum shield, 1⅜" square by 3½" high.

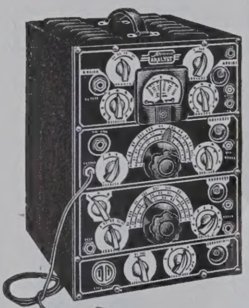
No. 17-9373 List **$2.80**

B. F. O. COIL

For use with standard I. F.'s in superhet receivers. They supply the "beat" note necessary to reception of C. W.; materially aid in tuning and locating weak stations. Mica trimmed. Freq. Range 290-650 KC. Peaked at 456 KC. In 1⅜" sq. x 3½" h. can with knob for pitch control.

No. 17-6753 Net Price **$2.45**

MEISSNER "ANALYST"



THE MODERN SERVICE INSTRUMENT—Undoubtedly the most modern complete servicing instrument on the present day market. Handles the receivers of yesterday, today and tomorrow — with equal efficiency and facility! Entirely fundamental in its testing procedure. Will never become obsolete. **SAVES TIME — SAVES MONEY**—The use of the new Meissner ANALYST will not only permit you to make more money by handling a greater number of service jobs in a given time but it will give you additional assurance that these jobs will "stay sold." **SERVICES BY "SIGNAL TRACING"** — The Meissner ANALYST tests receivers and locates faults by the "Signal tracing" method —proven to be the fastest and most reliable method known at the present time. It is NOT, however, just another signal tracer! It is completely equipped with all devices that might be needed to make simultaneous checks on various parts of the receiver circuit. Five separate and distinct "channels" provide as many different functions; all controls are accurately calibrated with functions clearly indicated.

Complete—Ready to Go to Work

The Meissner ANALYST is completely wired, aligned and laboratory tested. Furnished complete with a full set of 12 tubes, it is all ready to be put into service the minute it is unpacked and connected to the 110-volt line! No alignment or adjustments are necessary—just read the instructions, hook it up and go to work!

Complete Book of Instructions, supplied with the new Meissner ANALYST, gives detailed directions for use of this instrument in locating all kinds of radio troubles.

No. 9-1040—New Meissner ANALYST, complete with tubes, prods, and Instruction Book; ready to operate. **Net Price**......................**$113.85***

F. M. COILS—I. F. TRANSFORMER

Permeability tuned; designed for use on newly assigned F. M. Frequencies. Mounted in 1-7/16" x ⅞" x 1-29/32" can. Tuned to 10.7 mc.

No. 16-6665 List Price **$2.95**

DISCRIMINATOR TRANSFORMER

Mounted in same size can as I.F. Transformer listed above. Permeability tuned to 10.7 mc.

No. 17-3484 List Price **$3.90**

"6SA7" OSCILLATOR COIL

Tapped type coil for currently popular 6SA7 tube. For use with 420 uufd. condenser and padder

14-1033 List **$0.85**

For use with 162 uufd. "cut" section condenser

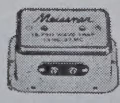
14-1053 List **$0.85**

"UNIVERSAL" ADJ. IND. OSCILLATOR COIL

A truly universal oscillator coil for 455 kc. I.F. Primary is tapped for use with any of 25 different type oscillator tubes. Instructions included.

14-1040 List **$2.00**

NEW MEISSNER WAVE-TRAPPERS



AVAILABLE IN 5 MODELS

6 to 13 mc, 13 to 27 mc, 27 to 54 mc, 54 to 108 mc, 108 to 216 mc

You can now attenuate interfering signals on fundamental or harmonic frequencies with these new, highly efficient tunable wave traps. Several may be connected in series if interference exists on more than one frequency. Efficient with any balanced or unbalanced line from 50 to 400 ohms impedance.

List Price...............**$5.00**

NEW MEISSNER LINE FILTERS

(Grounded & Shielded)

Reject interference from electric shavers, electric fans, food mixers, vacuum cleaners, etc. 300-watt rating.

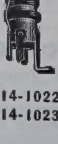
List Price...............**$6.50**

MIDGET SHIELDED ANT. AND R.F. COILS

A compact, super quality shielded antenna and R.F. coil. Provides full coverage of the broadcast band with a 365 tuning condenser. Special wound litz wire secondaries. High impedance primaries. Capacity coupling used to level gain over frequency range. Coil forms are bakelite ½" diameter; winding protected by wax impregnation. Shields are 1⅜" square x 2" high.

14-2436 Shielded Ant. Coil, List **$1.25**
14-2437 Shielded R.F. Coil, List........................... **$1.25**

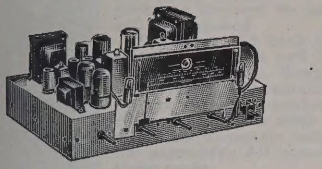
MIDGET UNSHIELDED B.C. ANT.—R.F. COILS



Highly efficient antenna and R.F. coils, especially designed for use where space is at a premium. Cover the regular broadcast band with a 365 uufd. tuning condenser. Coils have high impedance primaries and litz wire secondaries. Windings are impregnated for moisture protection and wound on ⅝" diameter x 1¾" long forms.

14-1022 Unshielded Ant. Coil, List **$0.85**
14-1023 Unshielded R.F. Coil, List **$0.85**

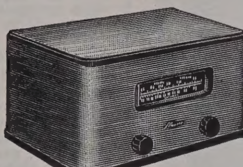
Meissner AM-FM TUNER MODEL 9-1091-C



igh fidelity reception! Covers AM Broadcast Band om 527 to 1620, FM Band from 88 to 108 MC hannels 200 to 300). Frequency response is flat ith plus or minus 2 db from 30 to 15,000 cycles! iput jack provided for crystal or high level mag-tic type phonograph pickup. Extreme sensitivity id selectivity.

ist Price........................$245.00

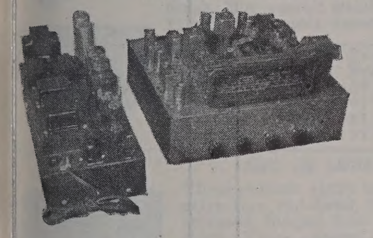
Meissner MODEL 8C FM RECEPTOR



Adds superb frequency modulation to any regular AM set. Precision built for simple connection to your present AM radio. Audio fidelity: Flat within plus or minus 2 db from 50 to 15,000 CPS. Frequency range 88 to 108 MC. Power supply 115 volts AC.

List Price........................$57.50

MODEL 9-1093 AM-FM TUNER AND AMPLIFIER



high-quality AM-FM tuner and amplifier that hard to beat. Power output, 18 watts at less than % harmonic distortion. Audio fidelity flat within us or minus 2 db from 50 to 15,000 CPS. Hum vel 65 db below full output. Slide rule dial is librated in kilocycles (535 to 1620 KC) on the M band and in megacycles (88 to 108 MC) on e FM band. Sensitivity less 20 microvolts.
phonograph input jack controlled by a front vitch is mounted in rear. The circuit is compensated for either magnetic or crystal pickup. The Tuner can also be used with the new GE Reluctance Pick-up because of a new phonograph preamplifier that has been incorporated in the circuit. Simply plug a 6SC7 in the socket provided. The 6SC7 is not supplied. A combination tone control provides bass boost up to 11 db at 40 CPS and treble attenuation up to 13 db at 10,000 CPS. Amplifier is designed for an 8 to 16-ohm speaker. Power supply: 105-125 volts, 50-60 cycles; consumption, 190 watts.

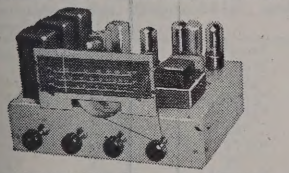
Tube Complement: 3-6SK7, 1-6SA7, 1-6H6, 5-6AG5, 1-6C4, 2-9001, 1-6AL5, 2-6J5, 1-6SN7-GT, 2-6L6 Power Amplifiers, 1 5Y3G Rectifier, 1-5V4G Rectifier and 1-6U5/6G5 Tuning Eye.

Chassis Mounting Space: Tuner — 14⅛″ w. x 12¼″ d. x 8⅜″ h. Amplifier — 7⅛″ w. x 16¼″ d. x 7″ h. (Allow clearance above amplifier for ventilation). Tuner weight is 18 lbs.; amplifier, 27 lbs.

Supplied complete with tubes, two antennas and all hardware required to mount chassis units in cabinet. Antennas consist of a low impedance, 12″ x 16″, noise reducing loop for AM broadcast and an indoor type folded dipole, 300-ohm, for FM broadcast. Cabinet and speaker not included.

List Price........................$310.00

MODEL 6BK 3-BAND AC KIT



requency Range: 535 KC to 18 MC in 3 overapping bands.
ensitivity: 15 microvolts on all bands.
udio Output: 3 watts maximum. 2 watts at 5% istortion.
ntermediate Frequency: 455 KC.
ube Complement: 2-6SK7, 1-6SA7, 1-6SQ7, 1-V6GT and 1-5Y3GT.
ize: Chassis size — 12″ x 10″ x 3″. Mounting pace required — 12½″ w. x 7¼″ h. x 11½″ d.
ower Supply: 105 to 125 and 210 to 250 volts, 0 to 60 cycles. Power consumption, 55 watts.
ontrols: Band switch, combination volume-line vitch, continuous tone control and tuning control.
ial: Slide rule, 5½″ x 1⅜″, calibrated in megarcles on all three bands. Dial edge lighted.
peaker: Speaker not supplied with kit. Any goodiality PM type of speaker may be used which has n impedance of 3.2 ohms and the ability to hanle the power of this set.
ssembly: Easily assembled from detailed pictorial iagram and simplified schematic. Wire, hardare and solder included.
Veight: 8½ lb. actual.

ist Price.........................$67.25

New *Meissner* SIGNAL SHIFTER KIT

MEISSNER
SIGNAL SHIFTER

For the amateur with limited budget, the new MEISSNER Signal Shifter Kit is ideal, making it possible for him to save 50% by building it himself.

Everything is provided including tubes — even wire and solder! All coil strips are furnished, plus a blank for an additional band.

Directions for assembly are comprehensive and clear, supplemented with schematic diagram, a host of photos and pictographs, all large size and easy to read. Directions are so simple to follow that even the beginning ham will have no trouble.

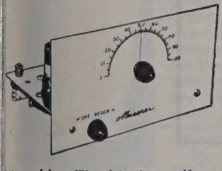
The only two difficult jobs are already completed. The complicated shielded turret assembly and the band spread gear mechanism come already built up — ready to install!

Only equipment needed is a pair of pliers, a screwdriver and a soldering iron.

No difficulty at all will be encountered to exactly duplicate the peak performance of the factory-built model.

Complete Meissner Signal Shifter Kit, Part No. 10-1207, Amateur Net........$64.75

MODEL 2BK BATTERY TRAINER KIT



Circuit: Regenerative grid leak detector with resistance coupled pentode audio stage. • **Tube Complement:** 1-1T4 and 1-3V4. • **Tuning Range:** Shipped with coil to cover the broadcast range of 520 to 1530 KC. Other coils available to cover the following ranges: 175 to 540 KC, 1350 KC to 5.4 MC, 3.5 to 8 MC, 7.9 to 18.5 MC, and 15 to 34 MC. • **Controls:** Combination regenerative control battery switch and vernier tuning control. • **Dial:** 1½″ pointer swings through 180 degrees arc over scale graduated 0 to 100. • **Batteries Required:** Shipped less batteries. Requires 4½-volt "A" battery and 90-volt "B" battery. Battery drain: "A" 50 MA. "B" 5 MA. • **Headphones:** Shipped less phones. Uses any good-quality magnetic type phones having an impedance of 2,000 ohms or more. • **ssembly:** The kit is easily assembled from detailed pictorial diagram and simplified schematic. Wire, ardware and solder included. • **Size:** 7¾″ x 4¼″ tall x 4⅛″ deep. • **Weight:** 1½ lb. actual.

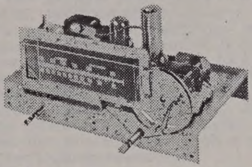
ist Price..$15.50
xtra Coils: 170 to 540 KC and 540 to 1500 KC........................**List Price** 2.10
.4 to 4.50 MC, 3.2 to 8.2 MC, 8 to 18 MC and 15 to 34 MC. **Weight each 1 oz.....List Price** .85

MODEL 3BK AC-DC TRAINER KIT

ircuit: Regenerative grid leak detector with resistance coupled pentode audio stage and AC-DC type ower supply. • **Tube Complement:** 1-6BJ6 and 2-50B5. • **Tuning Range:** Shipped with coil to cover the roadcast range of 520 to 1530 KC. Other coils available to cover the following ranges: 175 to 540 KC, 350 KC to 5.4 MC, 3.5 to 8 MC, 7.9 to 18.5 MC and 15 to 34 MC. • **Controls:** Combination regenaraion control-line switch and vernier tuning control. • **Dial:** 1½″ pointer swings through 180 degrees arc ver scale graduated 0 to 100. • **Power Supply:** 105 to 125 volts, AC or DC. Power consumption, 18 atts. • **Headphones:** Shipped less phones. Uses any good-quality magnetic type phones having an imedance of 2,000 ohms or more. • **Assembly:** Easily assembled from detailed pictorial diagram and simlified schematic. Wire, hardware and solder included. • **Size:** 7¾″ x 4¼″ tall x 4½″ deep. • **Veight:** 1¾ lb. actual.

ist Price..$18.50
xtra Coils: 170 to 540 KC and 540 to 1500 KC........................**List Price** 2.10
.4 to 4.50 MC, 3.2 to 8.2 MC, 8 to 18 MC and 15 to 34 MC. **Weight each 1 oz.....List Price** .85

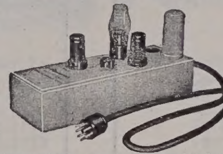
MODEL 8CK RECEPTOR KIT



Frequency Range: New FM band, 88 to 108 MC.
Audio Fidelity: Flat within plus or minus 2 db **from** 50 to 15,000 CPS.
Sensitivity: 40 microvolts.
Audio Output: 3 volts R.M.S. at minimum usable signal input, 30 % modulation. For greater signal inputs, output voltages as high as 15 volts R.M.S. may be obtained without distortion.
Amplifier Requirements: Any high-quality audio power amplfier may be used which has high impedance input (100,000 ohms or greater) and which will produce full output with 3 volts R.M.S. audio input. The MEISSNER Model 4A and 4AK amplifiers are suitable for use with this **Model 8CK FM Receptor.**
Antenna Input Impedance: Standard 300-ohm balanced line.
Controls: Tuning control and combination volume control-line switch.
Tube Complement: 2 type 6AW6, 2 type 6BA6, 2 type 6C4, 1 type 6AL5 and 1 type 6X5GT/G.
Power Supply: 105 to 125 volts, 50 or 60 cycle AC. Consumption, 35 watts.
Dial: Sliderule, 5½″ x 1⅜″, calibrated in megacycles and in channel numbers. Edge lighted.
Assembly: Easily assembled from detailed pictorial diagram and simplified schematic. **Front end factory assembled and aligned.** Wire, hardware and solder included. IF Coils pre-aligned.
Weight: 4½ lb. actual.

List Price..........................$44.95

THE NEW FMX PHASE MODULATOR



The new MEISSNER FMX Phase Modulator is designed exclusively for use with the Model EX Signal Shifter. Combination of the two — the FMX Modulator and EX Signal Shifter — gives the radio amateur a complete low power phone and cw transmitter at a very low price. Higher power, up to one KW, can be obtained with a power amplifier driven by the Signal Shifter.

The deviation control of the FMX Phase Modulator allows a swing of 5 to 10 KC on all amateur frequencies including the 80-meter band. Input for high impedance crystal or dynamic mike is provided.

Any class C amplifier that the Signal Shifter is capable of driving becomes a phase modulated amplifier.

The FMX Modulator is installed in the position normally occupied by the power supply, the latter becoming a remotely located unit.

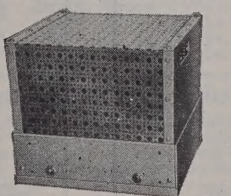
Plate and filament voltages for the FMX are secured from the Signal Shifter power supply.

Tubes required are 6SL7, 6SG7, and VR-150.

The FMX Phase Modulator is another precision-built product, designed by MEISSNER for the discriminating amateur who wants only the best.

Model FMX Phase Modulator, complete, less tubes, Amateur Net....................$15.00

MODEL 4AJ POWER AMPLIFIER



Fidelity: Flat within 2 db from 45 to 20,000 CPS.
Power Output: 20 watts with 1.5% harmonic distortion.
Power Input: 105-125 volts, 50-60 cycles only.
Power Consumption: 87 watts.
Hum and Noise: 150 db below full output.
Output Impedance: 4, 8, 15, 250 and 500 ohms. Unbalanced.
Controls: On-off power switch and pilot lamp on front skirt. All other connections made at rear. Volume control on rear skirt with screwdriver slot adjustment.
Input: High impedance (500,000 ohms) through standard RMA phono jack.
Input Requirements: 3 volts RMS for full output.
Tube Complement: 1-6SN7GT, 2-6L6G, 1-5Y3GT.
Size: 10″ x 8¾″ x 10″ deep.
Weight: 17 lb. actual.
Cover: Well ventilated protective cover.
Finish: Etched aluminum.

List Price..........................$91.25

MODEL 4AK POWER AMPLIFIER KIT

Easily assembled from detailed pictorial diagram and simplified schematic. Wire, hardware and solder included.

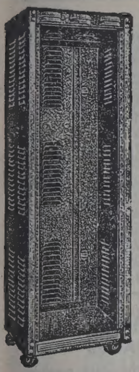
List Price..........................$78.50

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

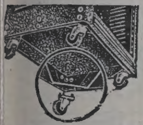
BUD DE LUXE RELAY RACKS



These relay racks are made of 16 gauge steel with 1/8" panel supports. The panel mounting supports are recessed so that no edges of the panel will be exposed.

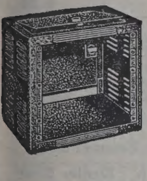
The front and back of the top, the two sides and the door are well louvered to provide adequate ventilation. Snap catches are positioned on the door. A stream-lined appearance is achieved by the use of rounded corners and red-lined chrome trim. The relay rack is shipped knocked-down and complete with all necessary hardware for assembly. All standard 19" panels will fit these racks.

A SPECIAL FEATURE IS THE USE OF FOUR STURDY SUPPORTS ON THE BOTTOM SO THAT CASTERS CAN BE FASTENED DIRECTLY TO THE BASE, THEREBY ACHIEVING READY MOBILITY. Bud RC-7756 casters will fit this unit. Casters are not included in price of cabinet. These relay racks are supplied in either black or grey wrinkle finish. The overall width is 22" and the depth is 17¼" on all sizes listed.



Catalog No.	Overall Height	Panel Space	Shipping Wt.	Dealer Cost
CR-1774	42$\frac{1}{16}$"	36¾"	90 lbs.	$28.50
CR-1771	47$\frac{5}{16}$"	42"	100 lbs.	35.45
CR-1772	66$\frac{9}{16}$"	61¼"	135 lbs.	42.30
CR-1773	82$\frac{5}{16}$"	77"	155 lbs.	50.40

BUD DE LUXE CABINET RACKS



These cabinet racks have rounded corners and attractive red-lined chrome trim. There is a recessed, hinged door on the top with a snap catch. These cabinet racks are made of heavy gauge steel and are of sturdy construction. The three large sizes have a hinged rear door, while the small sizes have a welded panel in the rear.

Adequate ventilation is assured by means of louvered sides and a two inch opening in the bottom of the back extends the entire width.

"NO-SCRATCH" EXTENDED METAL FEET ARE EMBOSSED ON THE BOTTOM TO MINIMIZE MARRING OF A TABLE TOP. These relay racks are furnished in either black or grey wrinkle finish. Depth 14¾", width 22". Will fit standard 19" panels.

Catalog No.	Overall Height	Panel Space	Shipping Wt.	Dealer Cost
CR-1741	10$\frac{9}{16}$"	8¾"	29 lbs.	$10.05
CR-1740	12$\frac{5}{16}$"	10½"	31 lbs.	11.30
CR-1742	14$\frac{1}{16}$"	12¼"	32 lbs.	12.25
CR-1739	15$\frac{13}{16}$"	14"	36 lbs.	13.85
CR-1743	19$\frac{5}{16}$"	17½"	40 lbs.	16.77
CR-1727	22$\frac{13}{16}$"	21"	45 lbs.	18.00
CR-1744	28$\frac{3}{16}$"	26¼"	50 lbs.	19.20
CR-1728	37$\frac{7}{16}$"	31½"	55 lbs.	21.20
CR-1745	36$\frac{13}{16}$"	35"	60 lbs.	21.57

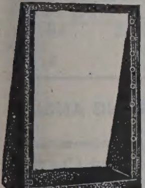
BUD JUNIOR CABINET RACKS

This cabinet rack is a multi-purpose unit that is inexpensive. The cabinet is constructed to accommodate two panels, one is 10½" by 18$\frac{5}{16}$", the other 8¾" by 18$\frac{5}{16}$", these panels are supplied with the cabinet. The BUD Junior Cabinet Rack is spacious enough to accommodate a chassis up to 10" by 17".

The rear of the cabinet is covered by a hinged door with a locking device. The cabinet is furnished in black wrinkle finish only.

Catalog No.	Overall Height	Depth	Width	Shipping Wt.	Dealer Cost
RC-1749A	21¼"	10½"	19⅞"	25 lbs.	$14.50

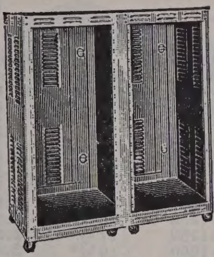
BUD DESK TYPE RELAY RACKS



Perfect for table mounting of low and medium power transmitters, public address systems, and other electronic instruments. Rack has strong chassis for mounting heavy components. Shipped knocked-down, with necessary hardware, easy to assemble. Standard notched 19" wide panels can be used, panels set in recess so that no edges are exposed. Furnished in black wrinkle finish only. Depth 12".

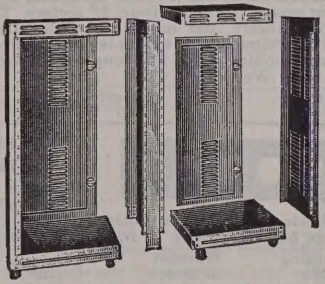
Catalog No.	Height	Panel Space	Shipping Wt.	Dealer Cost
RR-1248	24"	21"	15 lbs.	$5.55
RR-1249	31"	28"	17 lbs.	6.93

NEW BUD ADD-a-RACK SERIES



It has always been necessary to buy special racks without louvers on one side to obtain a maximum of panel space with a minimum of floor space. Now, you no longer need to buy a whole new cabinet when you want additional panel space. Through our new and exclusive Add-a-Rack series, BUD not only offers additional racks at a lower cost, but provides you with a sturdier, better looking assembly.

The illustration at top shows two Add-a-Rack cabinets assembled together. The illustration below shows the unique and ingenious method of adding a unit to your present equipment. Instead of buying an entire new outfit, you purchase only four parts: (1) a door (2) a top (3) a bottom and (4) an Add-a-Rack coupling-unit. The right (or left) hand side of your present relay rack is removed and replaced by the Add-a-Rack coupling-unit: next, a top and bottom is fastened into place, and the side taken from the first rack is fastened onto the second rack which has been added. Place the additional door into position and you have two racks properly and efficiently coupled together. In the same simple way, more racks can be added at any time and every one will be in a CONTINUOUS ONE-PIECE assembly.



This series is available in two ways. (1) a double unit consisting of two racks and the Add-a-Rack coupling unit, (2) Add-a-Rack unit, consisting of a door, a top, a bottom and an Add-a-Rack coupling-unit. These units are furnished with all necessary assembling and panel mounting hardware.

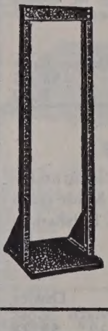
Add-a-Rack Unit	Used to Add-a-Rack to	Dealer Cost
AR-1778	CR-1774	$26.25
AR-1775	CR-1771	32.50
AR-1776	CR-1772	40.75
AR-1777	CR-1773	48.00

Complete unit consisting of the knocked-down parts necessary for two relay racks coupled together.

CR-1779	two coupled relay racks same size as CR-1774	$54.75
CR-1780	two coupled relay racks same size as CR-1771	67.95
CR-1786	two coupled relay racks same size as CR-1772	83.05
CR-1799	two coupled relay racks same size as CR-1799	98.40

Bud RC-7756 Casters will fit this unit. Casters are not included in price of cabinet.

BUD TELEPHONE TYPE RELAY RACKS

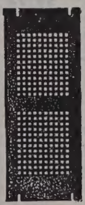


Nos. RR-1263 and RR-1264 are made of 1/8" steel channels, three inches deep and are held together by angle cross pieces of the same material. The design of the base has been improved to incorporate a chassis type bottom, together with the usual side angles, making the rack stronger and more stable.

RR-1265 is heavy duty and is made of heavy channel iron supported by two 3/8" thick iron angles that are bolted to the channels to provide additional support to the unit. Supplied in black wrinkle finish only. All racks accommodate standard 19" panels in accordance with standards set by RMA.

Catalog No.	Height	Depth	Panel Space	Shipping Wt.	Dealer Cost
RR-1263	35½"	22"	31½"	38 lbs.	$14.55
RR-1264	70½"	22"	66½"	48 lbs.	17.40
RR-1265	72½"	15"	66½"	97 lbs.	31.50

BUD VENTILATING GRILLE PANELS



Made of 1/8" thick steel. The grille is stamped into the panel itself, and is recommended for use where additional ventilation is desirable. All panels are 19" long, furnished in either black or grey wrinkle finish.

Catalog No.	Height	Grille Size	Dealer Cost
PS-808	5¼"	3⅜" x 14⅜"	$2.31
PS-809	7"	4⅞" x 14⅜"	2.46
PS-810	8¾"	*3⅞" x 14⅜"	2.70
PS-811	10½"	*5⅞" x 14⅜"	3.00
PS-812	12¼"	*7⅜" x 14⅜"	3.45

* Allows 3½" space for chassis mounting.

BUD CHASSIS MOUNTING BRACKETS

Mounting brackets are essential to insure proper support of the chassis. Formed of heavy gauge steel, cut away at the bottom to provide chassis clearance so that chassis can be mounted flush against panel. Finished in Black. Numbers MB-450 and MB-451 designed for chassis height of 4". Sold in pairs only.

Catalog No.	Height	Depth	Dealer Cost Per Pair
MB-458	6½"	8"	$0.69
MB-448	6½"	10"	.93
MB-459	6½"	11"	1.02
MB-449	6½"	12"	1.20
MB-460	6½"	13"	1.23
MB-450	8½"	10"	1.45
MB-451	8½"	13"	1.55

Where materials are specified Black Wrinkle Finish only, and Grey is desired, a charge of 15% additional will be made.

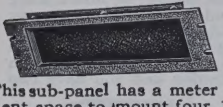
Prices slightly higher west of the Mississippi River

BUD STANDARD RELAY RACK PANELS

Made of Steel, Masonite or Aluminum. Steel Panels are made of high grade steel 1/8" thick. Masonite Panels are made of 3/16" Tempered Masonite. Aluminum Panels are made of 1/8" thick Aluminum. All Panels are 19" wide. Furnished in either Black or Grey Wrinkle. Aluminum panels 3/16" thick may be had if desired at 60% increase in cost over 1/8".

STEEL			MASONITE			ALUMINUM		
Catalog No.	Height	Dealer Cost	Catalog No.	Height	Dealer Cost	Catalog No.	Height	Dealer Cost
PS-1250	1¾"	$ .60	PM-1588	1¾"	$ .48	PA-1101	1¾"	$ .66
PS-1251	3½"	.69	PM-1589	3½"	.60	PA-1102	3½"	.87
PS-1252	5¼"	.84	PM-1590	5¼"	.75	PA-1103	5¼"	1.04
PS-1253	7"	.93	PM-1591	7"	.87	PA-1104	7"	1.37
PS-1254	8¾"	1.08	PM-1592	8¾"	1.05	PA-1105	8¾"	1.56
PS-1255	10½"	1.32	PM-1593	10½"	1.20	PA-1106	10½"	1.85
PS-1256	12¼"	1.59	PM-1594	12¼"	1.35	PA-1107	12¼"	2.12
PS-1257	14"	1.80	PM-1595	14"	1.50	PA-1108	14"	2.40
PS-1258	15¾"	2.10	PM-1596	15¾"	1.65	PA-1109	15¾"	2.70
PS-1259	17½"	2.28	PM-1597	17½"	1.92	PA-1110	17½"	3.00
PS-1260	19¼"	2.46	PM-1598	19¼"	2.07	PA-1111	19¼"	3.30
PS-1261	21"	2.76	PM-1599	21"	2.31	PA-1112	21"	3.60

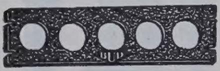
BUD ENCLOSED METER PANEL



PS-439 Meter Panel is designed to give maximum protection to meters. The steel panel has a large cut-out, behind which is mounted a blank Masonite sub-panel. This sub-panel has a meter mounting area of 4⅛" x 15⅛" — sufficient space to mount four 3" meters. The meters are protected by a glass insert that mounts in slides. Due to danger from breakage during shipment, this glass is not supplied with the panel. The glass insert should be cut 16" long x 4⅝" wide. Finished in either Black or Grey Wrinkle.

Cat. No.	Length	Width	Dealer Cost
PS-439	19"	5¼"	$4.68

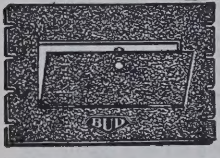
BUD METER PANELS STEEL AND MASONITE



All meter panels are 5¼" high, 19" wide, available in either black or grey wrinkle finish. Small holes fit either 2" square or round meters, large holes fit either 3" square or round meters.

Catalog No.	Number of Holes	Diameter	Type Material	Dealer Cost
PM-509	3	2³⁄₁₆"	Masonite	$1.20
PM-510	4	2³⁄₁₆"	Masonite	1.32
PM-511	3	2¹³⁄₁₆"	Masonite	1.20
PM-512	4	2¹³⁄₁₆"	Masonite	1.32
PS-440	3	2³⁄₁₆"	Steel	1.14
PS-441	5	2³⁄₁₆"	Steel	1.65
PS-442	3	2¹³⁄₁₆"	Steel	1.14
PS-443	5	2¹³⁄₁₆"	Steel	1.65

BUD METAL DOOR RACK PANELS



If it is desirable to have accessibility to component parts on the chassis, this panel is very useful. Door opening on No. 615—15⅜" x 6"; door opening on No. 616—15⅜" x 7½". These panels are available in either Grey or Black Wrinkle finish. Panels are made of 1/8" high grade sheet steel.

Catalog No.	Length	Width	Dealer Cost
PS-615	19"	10½"	$3.45
PS-616	19"	12¼"	3.90

BUD MASONITE PANELS

This line is intended for all uses requiring an insulated panel that is easily worked. Made from 3/16" thick Tempered Masonite and finished in Black Wrinkle only.

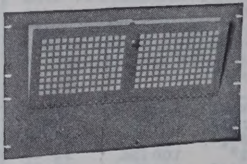
Cat. No.	Width	Length	Dealer Cost	Cat. No.	Width	Length	Dealer Cost
PM-607	7"	10"	$0.60	PM-610	8"	12"	$0.78
PM-608	7"	12"	.66	PM-611	8"	14"	.87
PM-609	7"	14"	.75	PM-612	8"	16"	.99
PM-606	8"	10"	.66	PM-613	9"	15"	1.05

BUD METAL PANELS

For general experimental and construction applications, this line of steel panels fills all usual requirements. Finished on both sides in fine durable Black Wrinkle Enamel only.

Cat. No.	Width	Length	Dealer Cost	Cat. No.	Width	Length	Dealer Cost
PS-1200	7"	8"	$0.52	PS-240	8"	12"	$0.72
PS-1201	7"	10"	.54	PS-1204	8"	14"	.80
PS-1202	7"	12"	.60	PS-1205	8"	16"	.88
PS-1203	7"	14"	.70	PS-1187	8"	18"	.92
PS-238	7¾"	15"	.82	PS-1188	8"	19"	1.18
PS-239	8"	10"	.66	PS-700	9"	15"	1.00

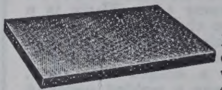
BUD VENTILATED DOOR RACK PANEL



These panels have a generous perforated area in the door, providing adequate ventilation for adjacent units. The panels are 19" long and available in either Black or Grey Wrinkle finish. Door opening on P. S. 814 15⅜" x 6". Opening on P. S. 815 15⅜ x 7½.

Cat. No.	Height	Door Height	Dealer Cost
PS-814	10½"	6"	$4.65
PS-815	12¼"	7½"	5.25

BUD RACK SHELVES

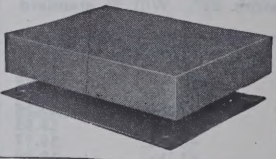


Heavy power supplies, modulator units, etc., can be mounted on these rack shelves which are supported in the cabinet by the chassis-supporting angles listed on this page. They are designed to slide in from the rear of the cabinet. Made of heavy gauge steel, finished in Black Wrinkle Enamel only.

Catalog No.	Width	Height	Depth	Dealer Cost
CB-1976	19"	1"	15"	$2.85
CB-1977	19"	1"	12"	2.25

BUD HEAVY DUTY CHASSIS

(Furnished with Bottom Plates)



These chassis, made of heavy gauge steel, are intended for applications requiring unusual sturdiness and where large weights are involved. Available in either Black Wrinkle finish or Electro-Zinc Plate.

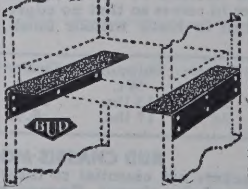
Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Depth	Width	Height	Dealer Cost
CB-1757	CB-1764	8"	17"	2"	$2.16
CB-1758	CB-1765	8"	17"	3"	2.40
CB-1759	CB-1766	11"	17"	2"	2.43
CB-1760	CB-1767	11"	17"	3"	2.64
CB-1761	CB-1768	13"	17"	2"	2.85
CB-1762	CB-1769	13"	17"	3"	3.12
CB-1763	CB-1770	13"	17"	4"	3.45

BUD TRIANGULAR MOUNTING BRACKETS

For panel and chassis assemblies where large weights are involved, these Triangular Mounting Brackets make convenient supports. Constructed of heavy steel. Black finish. Sold in pairs only.

Cat. No.	Height	Depth	Dealer Cost Per Pair
MB-1266	5"	5"	$0.73
MB-1267	7"	7"	.85
MB-1268	9"	9"	1.00

BUD CHASSIS SUPPORTING ANGLES



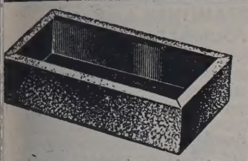
When heavy weights are encountered in chassis construction, Bud Chassis Supporting Angles will distribute the weight on the sides of the rack and relieve the panel. Made in two sizes from Black Painted Steel, 1/8" thick. Sold in pairs only.

Cat. No.	Length	Width	Dealer Cost Per Pair
SA-1349	14½"	3"	$1.50
SA-1350	12"	3"	1.50

Where materials are specified Black Wrinkle Finish, and Grey is desired, a charge of 15% additional will be made.

Prices slightly higher west of the Mississippi River

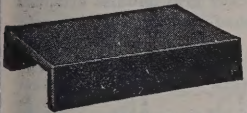
BUD STEEL CHASIS BASES



These chassis are made from one piece of steel, all corners are reinforced and spot welded. The four sides are folded on bottom for additional strength this also permits a bottom plate to be attached if desired. These Chassis Bases are furnished in either Black Wrinkle or Electro-Zinc plated.

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Depth	Width	Height	Gauge	Dealer Cost
CB-628	CB-629	5"	7"	2"	22	$0.72
CB-644	CB-645	5"	9½"	2½"	22	.75
CB-788	CB-776	5"	9½"	1½"	22	.60
CB-604	CB-605	5"	10"	3"	22	.90
CB-789	CB-1191	7"	7"	2"	22	.69
CB-790	CB-1192	7"	9"	2"	22	.81
CB-791	CB-1193	7"	11"	2"	20	.90
CB-792	CB-793	7"	12"	3"	20	1.05
CB-646	CB-1194	7"	13"	2"	20	.96
CB-647	CB-1198	5"	13½"	2½"	20	1.08
CB-649	CB-1189	7"	15"	3"	20	1.23
CB-565	CB-666	8½"	15"	3"	20	1.41
CB-1068	CB-1066	4"	17"	3"	20	1.02
CB-648	CB-1199	7"	17"	2½"	20	1.29
CB-701	CB-702	8"	10"	2½"	20	1.17
CB-703	CB-704	8"	12"	2½"	20	1.25
CB-650	CB-774	8"	17"	2"	20	1.32
CB-651	CB-775	8"	17"	3"	20	1.38
CB-652	CB-1195	10"	12"	3"	20	1.32
CB-653	CB-779	10"	14"	3"	20	1.38
CB-654	CB-769	10"	17"	2"	20	1.38
CB-636	CB-637	10"	17"	3"	20	1.32
CB-655	CB-1196	10"	17"	3"	18	1.55
CB-656	CB-1197	10"	23"	3"	18	1.74
CB-657	CB-770	11"	17"	2"	18	1.65
CB-658	CB-771	11"	17"	3"	18	1.85
CB-663	CB-661	12"	17"	2"	18	1.50
CB-664	CB-662	12"	17"	3"	18	1.62
CB-659	CB-772	13"	17"	2"	18	2.05
CB-660	CB-773	13"	17"	3"	18	2.20
CB-640	CB-641	10"	17"	4"	18	1.74
CB-642	CB-643	13"	17"	4"	18	2.65
CB-623	CB-624	10"	17"	5"	18	3.15
CB-625	CB-626	13"	17"	5"	18	3.50

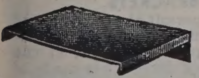
BUD OPEN-END CHASSIS



Primarily intended to be used with the various sizes and styles of Bud metal cabinets, these chassis are ideal for any type of small built-up unit such as a record amplifier, code oscillator, etc. U-shaped construction is used with ends folded over 3/8" for additional strength. Finish is Electro-Zinc Plating.

Cat. No.	Depth	Width	Height	Fits Cab. No.	Dealer Cost
CB-38	7"	6"	2"	C-1584	$0.60
CB-30	5"	7"	1½"		.54
CB-41	7"	7"	1½"	C-973	.62
CB-39	7"	8"	2"	C-1585	.76
CB-996	5½"	9"	1½"	C-993	.60
CB-976	7½"	9"	1½"	C-999, C-1746	.82
CB-40	7"	10"	2"	C-1586	.82
CB-997	7"	11"	1½"	C-994, C-1747	.86
CB-998	7"	13"	1½"	C-995, C-1748	1.00
CB-34	10¾"	14"	2"	C-975A	1.38
CB-35	7¾"	15"	2"	C-1190A	1.26

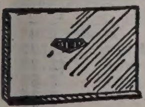
BUD CHASSIS DECKS



These chassis are suitable for use in carrying cases and utility cabinets. Each unit is folded over 1½" on the front, 1/2" on the side and made from Zinc Plated steel. These decks are also useful for interstage shielding and supports in regular panel and chassis layouts.

Cat. No.	Width	Depth	Fits Cab. No.	Dealer Cost
CB-522	4¾"	5½"	CU-1098	$0.46
CB-523	4¾"	4½"	CU-1099	.43
CB-524	6¾"	6½"	CU-879	.56
CB-525	5¾"	5½"	CU-1124, CC-1096	.50
CB-526	8¾"	7½"	CU-880	.79
CB-527	9¾"	7½"	CU-881	.82
CB-528	7¾"	6½"	CU-882	.66
CB-36	6½"	6½"	CC-1097	.60
CB-37	8¾"	6½"	CC-1100	.76

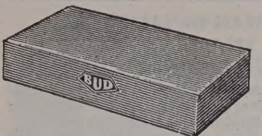
BUD INTERSTAGE SHIELDS



These shields are useful on receiver and transmitter chassis for eliminating interstage coupling and isolating individual circuits. Formed angles on front and bottom facilitate mounting on either chassis or panel. Both angles punched with two mounting holes.

Cat. No.	Height	Depth	Dealer Cost
IS-1246	5½"	7"	$0.45
IS-1247	5½"	10"	.47
IS-1245	6½"	10"	.50

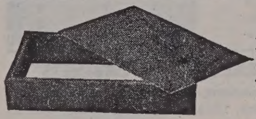
BUD ALUMINUM CHASSIS



The construction and design of these chassis is exactly the same as our steel chassis. The aluminum chassis are welded on government approved spot welders that are the same as used in the welding of aluminum airplane parts. The gauges in table below are aluminum gauges. As a result, you can depend on BUD Aluminum Chassis to do a perfect job.

Catalog Number	Depth	Width	Height	Gauge	Dealer Cost
AC-402	5"	7"	2"	18	$0.69
AC-403	5"	9½"	2"	18	.81
AC-421	5"	9½"	3"	18	.89
AC-404	5"	10"	3"	18	.99
AC-422	5"	13"	3"	18	.98
AC-405	7"	7"	2"	18	.81
AC-406	7"	9"	2"	18	.90
AC-407	7"	11"	2"	18	.96
AC-408	7"	12"	3"	18	1.14
AC-409	7"	13"	2"	18	1.02
AC-411	7"	15"	3"	16	1.68
AC-423	7"	17"	3"	16	1.43
AC-424	8"	12"	3"	16	1.38
AC-425	8"	17"	2"	16	1.52
AC-412	8"	17"	3"	16	1.77
AC-413	10"	12"	3"	16	1.44
AC-414	10"	14"	3"	16	1.92
AC-415	10"	17"	2"	16	1.80
AC-416	10"	17"	3"	16	2.04
AC-426	11"	17"	2"	14	1.89
AC-417	11"	17"	3"	14	2.40
AC-418	12"	17"	3"	14	2.52
AC-419	13"	17"	2"	14	2.25
AC-420	13"	17"	3"	14	2.67
AC-427	10"	17"	4"	14	2.36
AC-428	13"	17"	4"	14	3.05

BUD REMOVABLE TOP CHASSIS



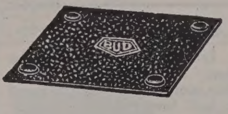
Amateurs and experimenters who make periodic changes can do so with a minimum of waste by just discarding the top that has been drilled and replacing it with a new top. Supplied in Black Wrinkle finish or Electro-Zinc Plated.

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Depth	Width	Height	Dealer Cost
CB-196	CB-193	10"	17"	3"	$2.75
CB-197	CB-194	10"	17"	4"	3.00
CB-251	CB-210	13"	17"	3"	3.15
CB-252	CB-211	13"	17"	4"	3.90

REPLACEMENT CHASSIS TOPS

RT-198	RT-195	10"	17"	1/16"	$1.00
RT-253	RT-212	13"	17"	1/16"	1.32

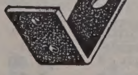
BUD CHASSIS BOTTOM PLATES



These bottom plates make excellent dust covers and protect all wiring and component parts under the chassis. Each plate has four formed bosses that prevent sharp edges from scratching the table top. Supplied in Black Wrinkle finish or Electro-Zinc Plated finish.

Black Wrinkle Cat. No.	Zinc Plated Cat. No.	Width	Length	Dealer Cost
BP-705	BP-706	5"	7"	$0.36
BP-680	BP-667	5"	9½"	.33
BP-536	BP-538	5"	10"	.39
BP-681	BP-668	7"	7"	.45
BP-682	BP-669	7"	9"	.48
BP-683	BP-670	7"	11"	.54
BP-537	BP-539	7"	12"	.57
BP-684	BP-671	7"	13"	.57
BP-685	BP-672	5"	13½"	.45
BP-516	BP-513	7"	15"	.63
BP-541	BP-540	8½"	15"	.65
BP-1069	BP-1067	4"	17"	.48
BP-686	BP-673	7"	17"	.66
BP-707	BP-708	8"	10"	.57
BP-709	BP-710	8"	12"	.66
BP-687	BP-674	8"	17"	.69
BP-688	BP-675	10"	12"	.69
BP-517	BP-514	10"	14"	.75
BP-689	BP-676	10"	17"	.84
BP-690	BP-677	11"	17"	.84
BP-691	BP-678	12"	17"	.90
BP-692	BP-679	13"	17"	1.08
BP-518	BP-515	10"	23"	1.15

BUD INTERLOCK SWITCH-BRACKET

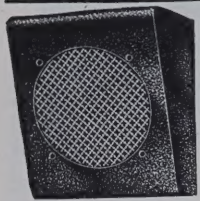


The Interlock Switch-Bracket is offered as a means for mounting an essential safety switch used in interlock circuit in rack cabinet. All voltage will automatically be off when the cabinet is opened.

Cat. No.	Height	Width	Depth	Dealer Cost
SB-1348	3⅛"	1½"	2"	$0.39

Where materials are specified Black Wrinkle Finish, and Grey is desired, a charge of 15% additional will be made.

Prices slightly higher west of the Mississippi River

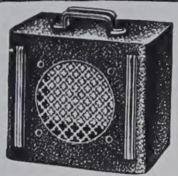


BUD WALL OR TABLE TYPE SPEAKER CASE

A distinctive line of new metal speaker cabinets with reproduction capabilities equal to wood cabinets. All troubles with wood warping and splitting are eliminated.

Keyway holes are provided for wall mounting and four embossed feet on the bottom are provided to prevent damaging table surfaces. Finished in Brown Wrinkle only.

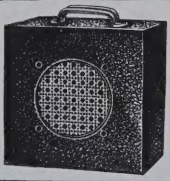
Cat. No.	Hole Size	Speaker Size	Height	Width	Depth	Dealer Cost
CS-1948	3½"	4"	7½"	6½"	4¼"	$2.85
CS-1939	4"	5"	7½"	6½"	4¼"	3.00
CS-1940	4¾"	6"	9½"	8"	5⅝"	3.40
CS-1941	6½"	8"	11½"	9½"	7"	3.90
CS-1942	8½"	10"	13½"	11½"	8¼"	4.50
CS-1943	10½"	12"	15½"	13½"	9¾"	5.00



BUD STREAMLINED SPEAKER CASES

For an attractive Speaker Housing that is portable, choose these Speaker Cases. No baffle required with these Speaker Cases. Quality of reproduction is equal to that of a good wood speaker housing. Each case has the front vertical corners rounded and the speaker opening is covered with an artistic metal grille. Two strips of chrome trim are mounted on the front. All Speaker Cases are drilled to take the size of speaker that is intended for the case. These cases are available in either Black or Grey Wrinkle finish.

Cat. No.	Hole Size	Speaker Size	Height	Width	Depth	Dealer Cost
CS-1935	4¾"	6"	8"	9"	6"	$3.35
CS-1936	6½"	8"	9¾"	11"	7"	4.20
CS-1937	8 13/16"	10"	11½"	13"	8"	5.70
CS-1938	11"	12"	13½"	15"	8"	7.00

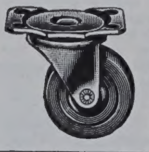


BUD GENERAL SPEAKER CABINETS

In making permanent or portable public address installations, this line of speaker cabinets will be found very useful. No baffle required with these speaker housings. Quality of reproduction is equal to that of fine wood speaker cases. Construction is of heavy, cold-rolled steel. A carrying handle is attached to each cabinet for portable purposes. Finished in Black Wrinkle Enamel only.

Cat. No.	Hole Size	Speaker Size	Height	Width	Depth	Dealer Cost
CS-471	4¾"	6"	9"	9"	6"	$2.88
CS-472	6½"	8"	11"	11"	7"	3.60
CS-473	8 13/16"	10"	13"	13"	8"	4.65
CS-474	11"	12"	15"	15"	8"	6.15

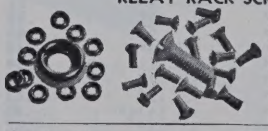
TRUCK CASTERS



No. RC-7756—Heavy Duty type casters, for weights of 400 lbs. or less. No. RC-7757 Casters are Light Duty for lighter weights. Wheels, hard rubber composition and ball bearing.

Catalog No.	Height	Type	Dealer Cost
RC-7756	2⅝"	Heavy Duty	$ .90
RC-7757	2"	Light Duty	.40

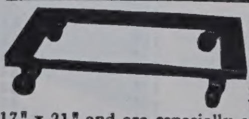
RELAY RACK SCREWS AND WASHERS



No. RS-7140 Machine Screws, ½" long, threaded 10-32, Oval Head, finished in Nickel Plate.

No. RW-7161 Cup Washers, to fit 10-32 Screws. Nickel plated, finish. These are available in packages of 100, 250, 500 and 1000.

Catalog No.	Description	Dealer Cost
RS-7140	Screw	$ .90 per 100
RW-7161	Washer	1.00 per 100

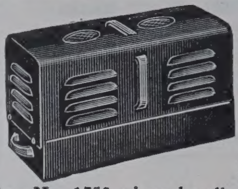


BUD CABINET RACK DOLLIES

These dollies have been introduced to overcome the difficulty of moving heavy relay racks when repairs are necessary. They will fit cabinets having bases measuring from 14" x 18" to 17" x 21" and are especially suited for our Standard Relay Racks.

No. RD-505 Dolly is furnished with light duty casters. No. RD-506 is furnished with heavy duty casters. Finished in Black Wrinkle only. Bud De Luxe Relay Racks require four RC-7756 casters only.

Cat. No.	Length Outside	Length Inside	Width Outside	Width Inside	Dealer Cost
RD-505	21½"	17⅜"	17 13/32"	13 11/32"	$6.00
RD-506	21½"	17⅜"	17 13/32"	13 11/32"	7.75

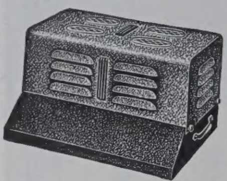


BUD STREAMLINED AMPLIFIER FOUNDATIONS

Use this unit to obtain beauty in an amplifier and similar apparatus. Each foundation consists of a standard chassis on which is mounted a removable top cover. Chromium trim is used to add additional attractiveness to the equipment. All chassis are 3" high and complete units are 9" high. Sturdy Easy Grip handles are attached to chassis, excepting No. 1750 where handle is attached to top. Finished in either Black or Grey Wrinkle.

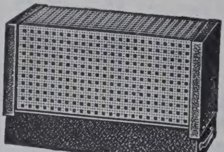
Cat. No.	Width	Depth	Dealer Cost
CA-1750	10 1/16"	5"	$3.48
CA-1751	12 1/16"	7"	3.21
CA-1752	17 1/16"	7"	4.29
CA-1753	17 1/16"	10"	5.10

BUD SLOPING PANEL AMPLIFIER FOUNDATIONS



Each foundation consists of a 4" sloping front chassis on which is mounted a removable top cover. The top cover contains grilled cutouts and louvers for adequate ventilation. The CA-1980 has a handle mounted on top of cover. All others have handles mounted on chassis. All chassis are 3½" high and all units are 9½" overall height. Cover is finished in Grey Wrinkle with chrome trim and the chassis is finished in Black Wrinkle.

Cat. No.	Top Depth	Chassis Length	Chassis Depth	Dealer Cost
CA-1980	5"	10"	8"	$4.65
CA-1981	7"	12"	10"	5.40
CA-1982	7"	17"	10"	6.24
CA-1983	10"	17"	13"	6.90

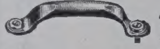


BUD AMPLIFIER FOUNDATIONS

Each unit consists of a regular chassis on which is attached a perforated metal cover which provides a lot of ventilation. Chassis have easy grip handles attached to same. Finished in Black Wrinkle only

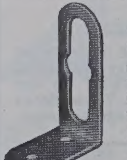
Cat. No.	Height	Width	Depth	Chassis Height	Dealer Cost
CA-699	8 5/16"	9⅝"	5⅛"	2½"	$3.30
CA-1125	8 5/16"	13⅝"	5⅛"	2½"	3.52
CA-1126	8 5/16"	17⅛"	7⅛"	2½"	4.24
CA-1127	8 13/16"	17⅛"	10⅛"	3"	5.22
CA-1128	8 13/16"	12⅛"	10⅛"	3"	4.60

BUD IMPROVED UTILITY HANDLES



These handles are designed to provide sufficient strength and comfortable hand-grip. They are made from aluminum tubing and are given an etched aluminum finish. Made in two sizes and furnished complete with screws, washers and nuts.

Catalog Number	Overall Length	Overall Width	Mtg. Hole Center	Dealer Cost
UH-70A	5⅛"	¾"	4⅝"	$0.22
UH-71A	3¾"	¾"	3¼"	.18



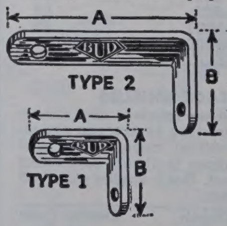
BUD MOUNTING BRACKETS

These Brackets are designed to permit the mounting of Midget Condensers, volume controls, etc., at any desired position under or on top of a chassis, at the proper distance from the chassis. Bracket is made of steel, cadmium-plated. AB-550 same as AB-549 except that slot does not have ½" hole in center.

Cat. No.	Height	Width	Slot	Dealer Cost
AB-549	2"	3/4"	⅜" & ½"	$0.06
AB-550	2"	3/4"	⅜"	$0.06

BUD ANGLES AND BRACKETS

A wide selection in sizes of these angles provides for numerous uses as brackets in all types of radio transmitter and receiver construction, and other electronic equipment. Made of Brass, Nickel Plated.



TYPE 2

				Dealer Cost
AB-633	2"	⅝"	3/8"	$4.20
AB-634	3"	¾"	3/8"	5.00
AB-635	4"	¾"	3/8"	6.00

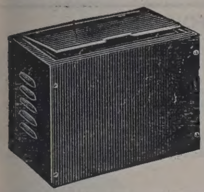
TYPE 1

Cat. No.	Height	Depth	Width	Dealer Cost Per 100
AB-444	½"	½"	3/8"	$2.10
AB-445	¾"	¾"	3/8"	2.85
AB-446	1"	1"	3/8"	3.15
AB-447	1½"	1½"	3/8"	4.05
AB-631	1"	½"	3/8"	2.65
AB-632	1½"	⅝"	3/8"	3.50

Where materials are specified Black Wrinkle Finish, and Grey is desired, a charge of 15% additional will be made.

Prices slightly higher west of the Mississippi River

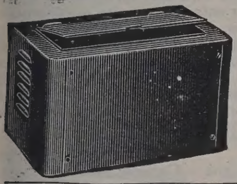
BUD INSTRUMENT & RECEIVER CABINETS



Each cabinet has an evenly recessed hinged cover with convenient finger lift. The panel on front of cabinet is readily attached with self-tapping screws. Louvers provide ample ventilation. These Cabinets are finished in Black Wrinkle only. For chassis to fit these cabinets see Open End Chassis listed on other page.

Cat. No.	Height	Width	Depth	Dealer Cost
C-973	7"	8"	8"	$2.52
C-993	7"	10"	8"	2.18
C-994	7"	12"	8"	3.15
C-995	7"	14"	8"	3.24
C-1190	8"	16"	8"	5.10
C-975	9"	15"	11"	6.15

BUD STREAMLINED CABINETS



Distinctive features of these cabinets are the rounded front corners and recessed hinged top. All parts built into this cabinet are easily accessible. Overall height, 8". Depth, 8¼". Finished in Black Wrinkle only. Suitable chassis may be found under listing of Open End Chassis on other page.

Catalog Number	Panel Size	Cabinet Width	Cabinet Height	Dealer Cost
C-1789	8" x 8"	10½"	8"	$3.00
C-1746	8" x 10"	12½"	8"	3.30
C-1747	8" x 12"	14½"	8"	3.70
C-1748	8" x 14"	16½"	8"	4.50
C-1790	8" x 16"	18½"	8"	4.26

BUD DELUXE STREAMLINED CABINETS

These cabinets are identical with those listed above, except that they have a 1/2" vertical chrome strip at each side of the panel, and are supplied in Gray Wrinkle Enamel only.

Catalog Number	Panel Size	Cabinet Width	Cabinet Height	Dealer Cost
C-1791	8" x 8"	10½"	8"	$3.75
C-1781	8" x 10"	12½"	8"	4.20
C-1782	8" x 12"	14½"	8"	4.50
C-1783	8" x 14"	16½"	8"	5.10
C-1792	8" x 16"	18½"	8"	6.50

BUD METAL CARRYING CASES

These carrying cases have many uses. An easy grip handle is fastened to the top. Front and back panels are removable. Steel welded construction assures maximum strength with minimum weight, an important requirement for portable work. Finish is Black Wrinkle only. For chassis to fit these cabinets see Chassis Decks on other page.

Cat. No.	Depth	Width	Height	Dealer Cost
CC-1095	5"	6"	9"	$2.15
CC-1091	5"	9"	6"	2.15
CC-1096	6"	7"	12"	2.50
CC-1092	6"	12"	7"	2.95
CC-1097	7"	7¾"	15"	3.00
CC-1100	8"	10"	10"	2.95
CC-1093	7"	15"	9"	4.30

BUD CODE PRACTICE OSCILLATOR AND MONITOR

CODEMASTER

The BUD CODEMASTER is a real money-saver. No longer do you have to consider your code practice oscillator useless after you have learned the code. A flip of the switch and you have a good CW monitor. This is a really versatile instrument.

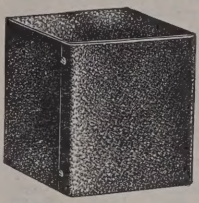
It has a 4" built-in permanent magnetic dynamic speaker and will operate up to twenty earphones.

A volume control and pitch control permit adjustments to suit individual requirements. Any number of keys can be connected in parallel to the oscillator for group practice.

This unit will operate on 110 volts A.C. or D.C. An external speaker may be plugged in without the use of an output transformer. All controls are placed on the front of the unit and all jacks are in the rear. The unit is 6½" high, 5½" wide and 3½" deep. It is finished in black enamel with white lettering.

Catalog Number CPO-128 Dealer Cost **$12.50**

BUD STREAMLINED SCOPE AND UTILITY CABINETS

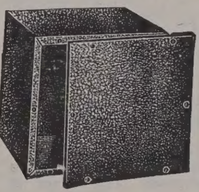


These are attractive cabinets that are adaptable to a variety of uses. All cabinets are supplied with chassis. Prices shown below include chassis. The chassis height on all except CU-1991 and CU-1992 is 1½". CU-1991 is designed for 3" cathode ray tube and has a hinged cover to provide easy access to tube or other components. Chassis height is 2". CU-1992 is designed for a 5" cathode ray tube and also has a hinged cover. Chassis height, 3".

Catalog Number	Width	Depth	Height	Dealer Cost
CU-1990	5½"	8¼"	8"	$2.75
CU-1984	7½"	8¼"	8"	3.20
CU-1985	9½"	8¼"	8"	3.57
CU-1986	11½"	8¼"	8"	3.91
CU-1987	13½"	8¼"	8"	4.56
CU-1988	15⅛"	8¼"	8"	5.06
CU-1989	17⅛"	8¼"	8"	5.72
CU-1991	7½"	13"	8"	5.40
CU-1992	9½"	19"	12"	7.65

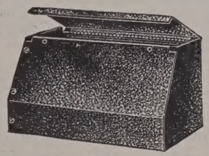
BUD METAL UTILITY CABINETS

The large number of sizes available makes this line useful for all sorts of electronic equipment, monitors, frequency meters, etc. These cabinets have two removable sides for easy accessibility and are finished in Black Wrinkle.



Cat. No.	Depth	Width	Height	Dealer Cost
CU-883	2"	4"	4"	$0.66
CU-728	3"	5"	4"	.75
CU-729	4"	5"	6"	.95
CU-1098	6"	6"	6"	1.00
CU-1099	5"	6"	9"	1.44
CU-879	7"	8"	10"	1.90
CU-1124	6"	7"	12"	1.90
CU-880	8"	10"	10"	2.40
CU-881	8"	11"	12"	3.00
CU-882	7"	9"	15"	3.35

BUD SLOPING PANEL CABINETS



The entire front panel is removable if desired. This cabinet is also provided with a hinged top for easy accessibility to tubes or other parts that are mounted on chassis. All cabinets are finished in Black Wrinkle only.

Catalog Number	Height	Width	Depth	Fits Chassis	Dealer Cost
C-1584	6½"	7¹⁄₁₆"	7¼"	7" x 6" x 2"	$2.88
C-1585	6½"	9¹⁄₁₆"	7¼"	7" x 8" x 2"	3.25
C-1586	6½"	11¹⁄₁₆"	7¼"	7" x 10" x 2"	3.60
C-1892	8"	13¹⁄₁₆"	8½"	8" x 12" x 2½"	4.32
C-1893	10"	18¹⁄₁₆"	10½"	10" x 17" x 3"	5.85

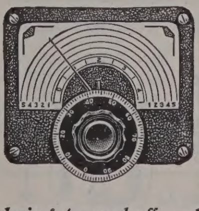
BUD BOX SHIELDS

This shield has many uses: Shielding power transformers and chokes, and for covering and protecting various other components in power supplies, transmitters, receivers and other electronic units.

Top and sides are one-piece steel. No. BS-1244 has perforated steel ends for ventilation. BS-1891 has solid ends. Flanges at bottom provide for mounting. Finished in Black Wrinkle Enamel only.

Cat. No.	Ends	Length	Depth	Height	Dealer Cost
BS-1244	Ventilated	7½"	4½"	5"	$1.45
BS-1891	Solid	7½"	4½"	5"	1.35

BUD VERNIER DIAL—GEARED TYPE



Freedom of back-lash is obtained by the use of spring-loaded laminated steel gears with a ratio of *ten to one*. Dial furnished with three paper dial scales on which calibration marks can be printed. Dial scales are printed with five calibration arcs for wave-band identification and each arc is divided into five equal sections over 180 degrees, which makes each section the equivalent of one rotation of the circular dial, or 100 dial divisions. *Automatic clutch and stop prevents pointer from being turned off scale and eliminates possibility of damage to the gears.*

The dial is furnished mounted, complete with all hardware. An escutcheon outlines the dial scale, which is further protected by a "Plastacele" window. Dial scale assembly mounts independent of the gear unit, and may be removed when desired without disturbing the dial drive.

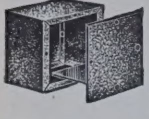
Mounting area of the dial 5¼" x 5¾". Depth behind panel 1½".

D-1729.................................Dealer Cost **$3.00**

Where materials are specified Black Wrinkle Finish, and Grey is desired, a charge of 15% additional will be made.

Prices slightly higher west of the Mississippi River

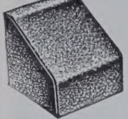
BUD MINIATURE UTILITY CABINETS *with attached Chassis*



Filling a long wanted need for a small cabinet with a chassis attached to the front panel, these cabinets are indispensable when building electronic devices using miniature tubes. Front and rear panels are removable and fastened with self-tapping screws, permitting easy accessibility. Especially useful for HF converters, television amplifiers and power supplies. Finished in black wrinkle.

Cat. No.	Height	Width	Depth	CHASSIS SIZE			Dealer Cost
C-1793	4″	4″	2″	1″	3⅛″	1⅞″	$ .95
C-1794	4″	5″	3″	1″	4⅛″	2⅞″	1.05
C-1795	5″	4″	3″	1¼″	3⅛″	2⅞″	1.05
P-1796	6″	5″	4″	1¾″	4⅛″	3⅞″	1.15
C-1797	5″	6″	4″	1¼″	5⅛″	3⅞″	1.15
C-1798	6″	6″	6″	1¾″	4⅞″	5⅞″	1.20

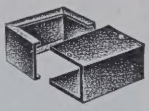
BUD SLOPING PANEL UTILITY BOX



A compact, sloping panel cabinet, providing a streamlined appearance and enough space to house conveniently a 2 or 3 miniature tube amplifier or gadget. A ⅜″ flange around the rear opening of the cabinet provides a convenient back cover mounting. Designed to accommodate a Bud miniature chassis. Finished in black wrinkle.

Cat. No.	Height	Width	Depth	Use Chassis No.	Dealer Cost
C-1602	4″	4″	4¼″	CB-1617	$1.10
C-1603	4″	5″	4¼″	CB-1618	1.20
C-1604	4″	6″	4¼″	CB-1619	1.30
C-1605	4″	7″	4¼″	CB-1620	1.50

BUD HANDY BOXES

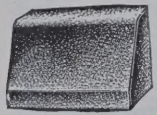


Something new in box design permits a large number of small components to be *easily* wired or serviced. The cover is held by 4 self-tapping screws. Black wrinkle finish.

Cat. No.	Height	Width	Depth	Dealer Cost
HB-1621	2¼″	4¼″	1½″	$ .90
HB-1622	2″	4″	2¾″	1.00

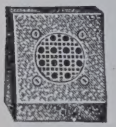
BUD SLOPING PANEL UTILITY CABINET

A metal box that can be used for numerous purposes. Finished in Black Wrinkle Enamel only.



Cat. No.	Height	Width	Depth	Dealer Cost
C-1578	4¼″	4″	4″	$ .90
C-1579	4¼″	5″	4″	1.05
C-1580	4¼″	6″	4″	1.20
C-1581	4¼″	7″	4″	1.45

BUD MIDGET SPEAKER CASES



A safe, convenient housing for midget 2″ and 3″ speakers. Size 4″ wide, 4″ deep, 4¼″ high. Furnished in Black Wrinkle Finish only.

Catalog Number	Hole Diameter	Speaker Size	Dealer Cost
CS-1685	2$\frac{3}{16}$″	2″	$1.25
CS-1686	2$\frac{13}{16}$″	3″	1.25

BUD MINIATURE AMPLIFIER FOUNDATION

With the increased use of miniature tubes, smaller cabinets can be used when designing a compact amplifier. This amplifier foundation was designed expressly for this purpose. The chassis is a 5″ x 7″ x 2″. The cover is made of perforated metal. A streamlined handle makes this cabinet portable. Finished in black wrinkle.

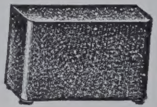
Cat. No.	Height	Width	Depth	Chassis Height	Dealer Cost
CA-1754	6″	7″	5″	2″	$3.00

BUD ALUMINUM MINIATURE CHASSIS

These small, open end aluminum chassis are just the thing for miniature tube applications or sub-assemblies. Made of hard aluminum with ¼″ flange on bottom, allowing the chassis to be fastened down or a bottom plate to be attached. Extremely useful for small receivers, outboard uses, such as narrow band FM adapters or any use where space is limited. Finish is etched aluminum.

Cat. No.	Depth	Width	Height	Fits Cabinet No.	Dealer Cost
CB-1623	2⅝″	2¾″	1¼″	C-1784	$ .30
CB-1624	1¾″	3⅛″	1″	CU-883	.33
CB-1625	3¼″	4½″	2″	C-1788	.36
CB-1626	2¾″	4⅛″	1″	CU-728	.36
CB-1627	3¾″	4⅛″	1½″	CU-729	.36
CB-1628	3″	6⅛″	1¼″	C-1785	.42
CB-1629	5¾″	4⅞″	1½″	CU-1098	.45
CB-1617	4″	3⅛″	1″	C-1602	.36
CB-1618	4″	4⅛″	1″	C-1603	.39
CB-1619	4″	5⅛″	1″	C-1604	.42
CB-1620	4″	6⅛″	1″	C-1605	.45

BUD STREAMLINED MULTI-PURPOSE CABINETS



Handsome streamlined metal cabinet, finished in grey wrinkle. Back of Cabinet open for ventilation.

Cat. No.	Height	Width	Depth	Use Chassis No.	Dealer Cost
C-1784	4½″	3⅝″	3⅛″	CB-1623	$1.35
C-1785	4½″	7⅛″	3⅛″	CB-1628	1.75
C-1787	6½″	5½″	3½″	CB-1625	1.70
C-1788	4½″	5½″	3½″	CB-1625	1.75

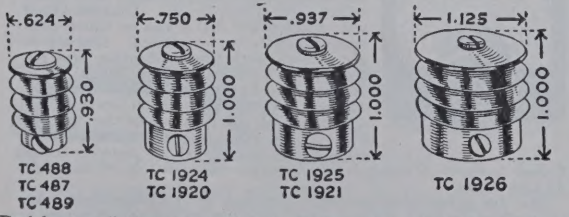
BUD STREAMLINED METER CASES

Designed for all applications requiring a modern meter case. All cases have a sloping front with top corner rounded. Meter cases CM-1241 and CM-1242 have insulators on top for leads to meter. CM-1965 and CM-1966 are furnished without indicators. Finished in Black Wrinkle.

Catalog Number	Hole Diameter	Fits Meter Size	Dealer Cost
CM-1241	2$\frac{3}{16}$″	2″	$1.12
CM-1242	2$\frac{13}{16}$″	3″	1.12
CM-1965	2$\frac{3}{16}$″	2″	.95
CM-1966	2$\frac{13}{16}$″	3″	.95

Prices slightly higher west of the Mississippi River.

HEAT RADIATING PLATE AND GRID TUBE CONNECTORS



Bud heat radiating connectors fit all sizes of industrial and transmitting vacuum tubes. These connectors serve a dual purpose, not only are they useful to make connections to plate or grid terminals, but they provide a large heat radiating surface that will dissipate heat from the glass seal and tube element.

Eight sizes fit all grid and plate leads and also provide sufficient heat radiation for any tube operating in the range of 50 to 2000 watts. All radiators are machined from special aluminum rod. Edges are rounded to minimize corona loss.

Table below lists Connectors to fit various Tubes

Cat. No.	Hole Size for Lead	Heat Radiating Connectors to Fit the Following Tubes	Dealer Cost
TC-488	.052	3C24, 24, 24G, 25T, 27	$ .36
TC-487	.062	UH50, HK24, 304B, 829B, 832A, 834	.36
TC-489	.072	35T, 35TG, 75TH, HK254, HK257B, 484, 8001	.36
TC-1924	.125	HK57, 152TH	.50
TC-1920	.375	4-125A, 150TH, 2-150D, 250R, 250TH, 250TL, 420A, 802, 803, 804, 807, 808 Grid, 814, 815, 828	.50
TC-1925	.125	304TH, 304TL	.60
TC-1921	.570	ZB60, HF60, HF100, 111H, 211H, 203H, HF175, HF300 Grid, 100R, HK357C, 450TH, 454, 750TH, 805, 806, 808, 809, 810, 811, 812, 813, 828, 833, 866, 854, 1500T, 2000T, 1054, 5331, 5332, 8000, 8003, 8005	.60
TC-1926	.810	WL468, WL463, WL460, HF200, HF201, HF300	.90

NOTE: TC-1923 Heat Radiating Connector with hole size of .110″, is still in our line and can be furnished. . . Dealer Cost $ .50

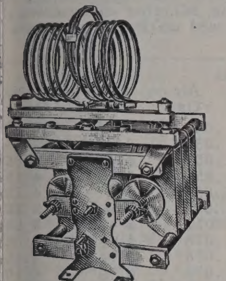
Copyright by U. P. Co., Inc.

BUD BUTTERFLY TRANSMITTER CONDENSERS

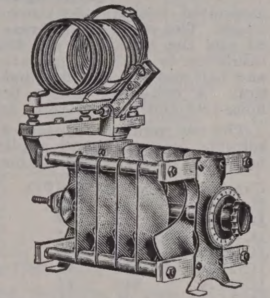
These Butterfly condensers are unequaled for mechanical and electrical balance in push-pull amplifier circuits. Where space behind the panel will not permit the use of our Giant or Master condensers, these dual condensers are ideal.

Rotor and Stator plates are made from .062" thick, highly polished aluminum with all edges rounded and surfaces highly polished to minimize corona loss and danger of peak voltage flash-over Steatite bars are used as insulators.

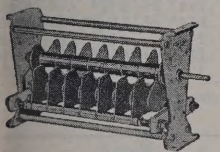
These condensers are so designed that a pair of single plate neutralizing condensers can be fastened to the end plate. Brackets for mounting coil jack bars are furnished with the condensers. All condensers that have an air gap of .5" are furnished with brackets for kilowatt coils and the condensers that have .3" air gap are furnished with brackets for the mounting of 500 watt coils. The height of the condensers is 6¼" and the width is 7".



Catalog Number	Overall Length	Mounting Hole Dim.	Air Gap	Capacity MMFD Per Section Max. — Min.	Capacity MMFD Sections in Series Max. — Min.	Dealer Cost
GC-1825	8 9/32"	6 25/32"	.500	25 — 13	13 — 7	$15.00
GC-1826	10½"	9 1/32"	.500	38 — 17	18 — 8	18.00
GC-1827	12 25/32"	11 9/32"	.500	54 — 25	28 — 13	22.50
GC-1828	15"	13 17/32"	.500	70 — 32	38 — 17	26.00
GC-1829	17 9/32"	15 25/32"	.500	86 — 38	43 — 19	29.50
GC-1830	6 19/32"	5 3/32"	.300	31 — 10	12 — 3	14.50
GC-1831	8½"	7 1/32"	.300	51 — 15	21 — 4	17.50
GC-1832	10"	8½"	.300	71 — 19	31 — 6	21.80
GC-1833	11½"	10"	.300	92 — 24	43 — 9	25.00
GC-1834	12⅞"	11⅜"	.300	114 — 29	51 — 11	29.00
GC-1835	A pair of Neut. Cond. for above condensers ...... per pair					3.75



BUD GIANT TRANSMITTER CONDENSERS—SINGLE SECTION



Modern design, plus precision production methods, makes BUD GIANT TRANSMITTER CONDENSERS the first choice of critical engineers for use in such applications as broadcast transmitters, high-power trans-oceanic communications equipment, and many other types of highly specialized electronic devices.

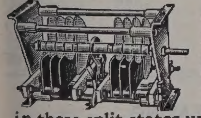
BUD GIANT TRANSMITTER CONDENSERS are built with a sturdy frame consisting of 3/16" thick aluminum end plates, connected by 5/8" diameter duraluminum rods. Formed brackets at top and bottom of end plates provide for mounting these units, and permit placing of associated inductances directly on the condenser.

Rotor and stator plates are accurately stamped from 0.064" thick highly polished aluminum with all edges rounded to minimize corona loss and danger of peak-voltage flash-over. The plates are separated by accurately machined duraluminum spacers that insure a constant air-gap throughout the entire length of the condenser.

The large two-finger rotor-contact spring, made from plated spring brass, assures positive contact with noise-free operation. Steatite bars insulate the stator, and are placed well outside the electrostatic field to keep dielectric losses at a minimum.

Catalog Number	Max. Cap. MMFD.	Min. Cap. MMFD.	No. of Plates	Air Gap	Mtg. Hole Spcg.	Over-All Length	Dealer Cost
GC-1800	195	24	15	.250"	8½"	12⅜"	$21.60
GC-1801	345	32	27	.250"	12¼"	16⅛"	30.25
GC-1802	530	48	41	.250"	16⅝"	20½"	41.00
GC-1803	55	19	7	.500"	7½"	11⅜"	17.25
GC-1804	95	25	15	.500"	12"	15⅞"	25.35
GC-1805	150	33	21	.500"	15⅜"	19¼"	29.00
GC-1806	255	52	35	.500"	23¼"	27⅛"	40.50
GC-1807	50	22	9	.750"	10⅝"	14½"	20.00
GC-1808	75	27	13	.750"	13⅞"	17¾"	24.25
GC-1809	110	40	19	.750"	18¾"	22⅝"	27.00
GC-1810	160	50	29	.750"	26⅞"	30¾"	38.75
GC-1811	55	30	11	1.000"	14¾"	18⅝"	23.25
GC-1812	85	40	17	1.000"	21⅛"	25"	29.80
GC-1813	105	45	23	1.000"	27½"	31⅜"	36.70

BUD GIANT TRANSMITTER CONDENSERS—DUAL SECTION



These GIANT DUAL-SECTION TRANSMITTER CONDENSERS compare in quality with the GIANT SINGLE-SECTION TUNING CONDENSERS described above, and have the same general constructional features. Insulated tie-rods in these split-stator units eliminate closed loops in the frame.

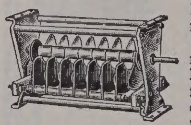
The rotor-contact consists of four fingers made from heavy-plated spring brass, placed in the center of the rotor assembly under heavy spring tension. This construction reduces series resistance and improves the efficiency of the unit at the higher frequencies.

When these dual condensers are used in split-stator circuits, the capacity is reduced to one-half the listed value and the voltage ratings are doubled.

Catalog Number	Cap. Per Sec. Max.	Cap. Per Sec. Min.	No. Plates Per Sec.	Air Gap	Mtg. Hole Spcg.	Overall Length	Dealer Cost
GC-1815	110	15	9	.250"	11 1/16"	15"	$29.00
GC-1816	215	23	17	.250"	16 1/16"	20"	39.00
GC-1817	320	30	25	.250"	21 1/16"	25"	50.00
GC-1818	55	18	7	.500"	13¾"	17 11/16"	28.00
GC-1819	80	22	11	.500"	18¼"	22 3/16"	34.50
GC-1820	110	25	15	.500"	22¾"	26 11/16"	41.50
GC-1821	30	15	5	.750"	13½"	17 7/16"	25.92
GC-1822	52	20	9	.750"	20"	23 15/16"	34.00
GC-1823	70	25	13	.750"	26½"	30 7/16"	38.80
GC-1824	35	18	7	1.000"	19¾"	23 11/16"	32.40

Panel space for mounting Giant Condenser 6¾" wide by 8 13/16" high.

BUD MASTER TRANSMITTING CONDENSERS—SINGLE SECTION

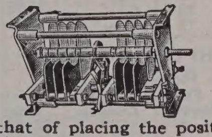


Each condenser is built in a rigid and sturdy frame consisting of two highly polished 1/8" thick aluminum end plates connected by four 5/16" diameter tie-rods. The end-plates have formed angles on top and bottom to facilitate mounting and to enable the associated inductance to be attached directly to the condenser itself.

The rotors and stators are assembled with plates made from 0.051" thick aluminum on which the edges have been rounded and highly polished. These plates are separated by accurately machined spacers. Large surface cone bearings assure proper alignment and smooth running of rotor with correct tension. Laminated, phosphor bronze wiper springs are placed at each end of the condenser bracket to assure positive rotor contact and noise-free operation. The stator assembly is insulated from the unit by large Steatite bars which are placed outside the electrostatic field. Rotor shaft is 1/4" diameter.

Catalog Number	Cap. in MMFD. Max.	Cap. in MMFD. Min.	No. of Plates	Air Gap	Mtg. Hole Spcg.	Over-all Length	Dealer Cost
BC-1607	25	10	5	.200"	3 5/16"	4 15/16"	$5.40
BC-1609	50	13	11	.200"	4 13/16"	6 7/16"	6.00
BC-1610	75	16	15	.200"	5 13/16"	7 7/16"	6.60
BC-1611	100	20	21	.200"	7 5/16"	8 15/16"	7.50
BC-1612	145	35	29	.200"	9 5/16"	10 15/16"	8.40
BC-1613	35	14	9	.300"	5⅛"	6¾"	6.15
BC-1614	55	18	15	.300"	7 7/32"	8 27/32"	7.20
BC-1615	75	21	21	.300"	9 5/16"	10 15/16"	8.40
BC-1616	100	28	28	.300"	12⅛"	13¾"	9.00

BUD MASTER TRANSMITTING CONDENSERS—DUAL SECTION



While the general style and construction is identical with the single Master units, all tie-rods in this series are insulated by glazed Steatite pillars, thus completely eliminating all closed metallic loops in the condenser frame. A special outstanding feature, developed by BUD engineers, is that of placing the positive double wiping rotor contact between the two sections at the center of the rotor. These features contribute to perfect circuit balance and eliminate the majority of difficulties encountered in ultra-high frequency equipment due to parasitics, circulating currents and poor neutralization. Use BUD condensers throughout and be trouble free.

Catalog Number	Cap. Per Sec. Max.	Cap. Per Sec. Min.	No. Plates Per Sec.	Air Gap	Mtg. Hole Spcg.	Over-all Length	Dealer Cost
BC-1635A	25	9	5	.200"	6 13/32"	8 1/32"	$11.10
BC-1636A	35	12	7	.200"	7 13/32"	9 1/32"	12.15
BC-1637A	50	13	11	.200"	9 13/32"	11 1/32"	13.20
BC-1638A	75	16	15	.200"	11 13/32"	13 1/32"	14.30
BC-1633A	100	20	21	.300"	14 13/32"	16 1/32"	16.00
BC-1634A	50	15	13	.300"	12 13/16"	14 7/16"	14.00

Panel space for mounting Master Condensers 3¾" wide by 4⅞" high.

OHM'S LAW

$E = IR \qquad R = \frac{E}{I} \qquad I = \frac{E}{R}$

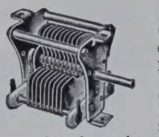
where:
R = resistance in *Ohms*
I = current in *Amperes*
E = electro-motive force in *Volts*

POWER

$P = I^2R \qquad P = EI \qquad P = \frac{E^2}{R}$

where:
P = power in *Watts*
I = current in *Amperes*
R = resistance in *Ohms*
E = electro-motive force in *Volts*

BUD JUNIOR SINGLE SECTION CONDENSERS

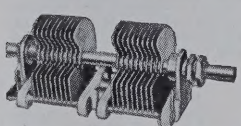


Construction of these condensers features BUD electro-soldered plate assemblies, assuring correct plate spacing, overall rigidity, and light weight. Losses are reduced to a minimum by this method of assembly. End-plates are rigidly constructed. Frame has formed angles on top and bottom for mounting the condenser in any position, allowing associated tuning inductance to be mounted on the condenser frame. The edges of the brass rotor and stator plates are rounded and the assemblies are finished in cadmium plating. Steatite insulation is used throughout. Large surface front sleeve bearing, and ball and cup rear bearings, provide consistently smooth operation. A two-finger spring brass pressure contact wiper assures noise-free and positive rotor contact at all times.

The low minimum capacities of these units make them especially suitable for multi-band applications where a high maximum-to-minimum capacity is desirable.

Catalog Number	Cap. in MMFD. Max.	Min.	No. of Plates	Air Gap	Length Overall	Dealer Cost
JC-1525	50	4	7	.051"	3 5/16"	$2.00
JC-1526	100	7	13	.051"	3 21/32"	2.25
JC-1527	145	9	19	.051"	4 3/32"	2.50
JC-1528	250	12	33	.051"	5 5/32"	3.10
JC-1529	340	15	43	.051"	5 29/32"	3.90
JC-1530	25	4	5	.078"	3 5/32"	1.95
JC-1532	55	8	11	.078"	3¾"	2.25
JC-1534	110	10	21	.078"	4 13/16"	2.76
JC-1535	150	11	29	.078"	5 19/32"	3.22
JC-1536	190	15	37	.078"	6 13/32"	4.00
JC-1537	245	17	47	.078"	7 7/16"	4.25
JC-1538	20	5	7	.144"	3¾"	2.25
JC-1540	55	10	17	.144"	5 7/16"	2.76
JC-1541	80	12	25	.144"	6 25/32"	3.15
JC-1542	105	15	33	.144"	8⅛"	3.66
JC-1543	18	6	7	.175"	3 15/16"	2.50
JC-1544	40	11	15	.175"	5 17/32"	3.15
JC-1545	55	13	19	.175"	6 5/16"	3.54
JC-1547	100	18	37	.175"	9 29/32"	4.70

BUD DOUBLE GANG MIDGET CONDENSERS



Where space is at a premium and split-stator capacitors are specified, BUD Double Gang Midgets are desirable.

Plate construction and finish, workmanship and materials, are identical with other Midget Condensers. These condensers are designed for chassis and panel mounting.

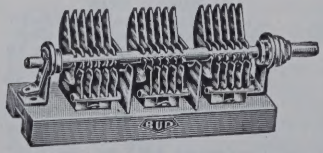
MID-LINE PLATE TYPE (STRAIGHT LINE WAVE LENGTH)

Catalog Number	Cap. Per Section Max.	Min.	Air Gap	No. Plates Per Section	Overall Length	Dealer Cost
MC-929A	50	5	.024"	7	3 7/32"	$2.70
MC-911A	100	6	.024"	14	4"	3.05
MC-912A	140	7	.024"	19	4⅜"	3.30
MC-942A	20	4	.060"	6	3 25/32"	2.85
MC-913A	35	5	.060"	11	4 15/32"	3.10
MC-330A	50	7	.060"	15	5 5/32"	3.40
MC-331A	75	8	.060"	23	6½"	3.55
MC-329A	35	9	.095"	15	6 11/32"	3.55

SEMI-CIRCULAR PLATE TYPE (STRAIGHT LINE CAPACITY)

Catalog Number	Cap. Per Section Max.	Min.	Air Gap	No. Plates Per Section	Overall Length	Dealer Cost
MC-1883A	50	5	.024"	7	3 7/32"	$2.60
MC-1882A	100	7	.024"	14	4"	2.90
MC-1884A	20	4	.060"	6	3 25/32"	2.75
MC-1885A	35	5	.060"	11	4 15/32"	2.95
MC-1887A	50	7	.060"	15	5 5/32"	3.30
MC-1888A	75	8	.060"	23	6½"	3.45

BUD MIDGET CONDENSERS TRIPLE SECTION

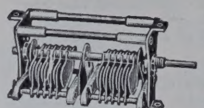


These mid-line plate type, three-gang condensers fill the need for a tuning unit suitable for short wave super-heterodyne receivers having an R.F. stage for gang-tuned exciters, and numerous other applications.

These condensers are mounted on a glazed ceramic base, assuring perfect rigidity. General construction is the same as other types of midget condensers. A shield plate is provided between each stator section. Base or panel mounting may be used.

Catalog Number	Cap. Per Section Max.	Min.	Air Gap	No. Plates Per Section	Length Behind Panel	Dealer Cost
MC-886	20	4	.060"	6	5¼"	$4.20
MC-887	35	6	.060"	11	5¼"	4.50
MC-888	100	6	.024"	14	5¼"	4.80
MC-889	140	7	.024"	19	5¼"	5.15

BUD JUNIOR DUAL SECTION CONDENSERS

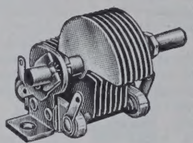


Rotor contact is made by a four-finger plated pressure spring placed at the center of the rotor shaft between the two sections thereby providing perfect balance and improving the high frequency characteristics The tie-rods are insulated at both ends with Steatite insulators to prevent inductive loops in condenser frame. All other constructiona features and materials are the same as used on Junior single section condenser.

Catalog Number	Capacity Per Section Max. MMFD.	Min. MMFD.	No. Plates Per Section	Air Gap	Length Over-all	Dealer Cost
JC-1550A	20	3	3	.051"	4 5/32"	$3.35
JC-1551A	50	5	7	.051"	4¾"	3.65
JC-1552A	70	6	9	.051"	5 1/16"	3.85
JC-1553A	100	7	13	.051"	5 21/32"	4.15
JC-1554A	145	9	19	.051"	6 9/16"	4.75
JC-1569A	200	10	25	.051"	7 15/32"	5.10
JC-1556A	250	12	33	.051"	8 21/32"	6.00
JC-1570A	25	4	5	.078"	4 11/16"	3.80
JC-1572A	55	8	11	.078"	5 29/32"	4.45
JC-1573A	80	9	15	.078"	6 23/32"	4.70
JC-1561A	110	10	21	.078"	7 15/16"	5.10
JC-1562A	150	11	29	.078"	9 9/16"	5.80
JC-1574A	20	5	7	.144"	5⅞"	4.40
JC-1575A	40	8	13	.144"	7 29/32"	4.90
JC-1576A	55	10	17	.144"	9¼"	5.10
JC-1566A	18	6	7	.175"	6¼"	4.75
JC-1567A	40	11	15	.175"	9 7/16"	5.25

Panel Space for mounting Junior Condensers, 2¾" wide by 2⅞" high.

BUD MIDGET CONDENSERS



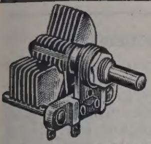
Small size, sturdy construction and high mechanical and electrical efficiency are the outstanding features. Insulation used is Steatite. Rotor and Stator plates are brass and are electro-soldered to their respective rods. All metal parts are cadmium plated. These condensers have both front and rear bearings and are furnished in either mid-line type plates (straight line wave length), or semi-circular plates (straight line capacity).

SEMI-CIRCULAR TYPE—DOUBLE BEARING

Catalog Number	Cap. in MMFD. Max.	Min.	Air Gap	Number Plates	Dealer Cost
MC-1850	15	3	.024"	3	$1.25
MC-1852	33	4	.024"	5	1.35
MC-1853	50	5	.024"	7	1.60
MC-1855	100	7	.024"	14	1.75
MC-1856	140	7	.024"	19	2.00
MC-1858	190	9	.024"	27	2.15
MC-1859	235	10	.024"	33	2.40
MC-1860	300	12	.024"	43	2.64
MC-1861	15	4	.060"	5	1.34
MC-1862	35	5	.060"	11	1.74
MC-1863	50	7	.060"	15	1.93
MC-1864	75	9	.060"	23	2.25
MC-1865	100	12	.060"	31	2.45
MC-1866	35	8	.095"	15	2.00
MC-1867	50	10	.095"	23	2.25
MC-1868	75	13	.095"	33	2.65

MID-LINE TYPE—DOUBLE BEARING

Catalog Number	Cap. in MMFD. Max.	Min.	Air Gap	Number Plates	Dealer Cost
MC-900	25	4	.024"	4	$1.40
MC-902	35	5	.024"	6	1.48
MC-903	50	6	.024"	8	1.67
MC-904	75	7	.024"	11	1.75
MC-905	100	7	.024"	15	1.88
MC-906	140	7	.024"	20	2.15
MC-908	190	9	.024"	27	2.25
MC-909	250	11	.024"	36	2.45
MC-910	300	13	.024"	43	2.75
MC-565	15	4	.060"	5	1.55
MC-897	35	6	.060"	11	1.75
MC-898	50	7	.060"	16	1.98
MC-899	75	8	.060"	23	2.30
MC-941	100	11	.060"	31	2.55
MC-965	35	8	.095"	15	2.15
MC-966	50	12	.095"	23	2.35
MC-967	75	14	.095"	33	2.75



BUD SINGLE BEARING MIDGET CONDENSERS

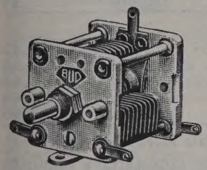
Construction of these condensers is identical to Midget Condensers described, with the exception that these condensers have a front bearing only.

SEMI-CIRCULAR TYPE — SINGLE BEARING

Catalog Number	Cap. in MMFD. Max.	Min.	Air Gap	Number Plates	Dealer Cost
MC-1870	15	3	.024"	3	$ .90
MC-1872	33	4	.024"	5	1.00
MC-1873	50	5	.024"	7	1.10
MC-1875	100	7	.024"	14	1.25
MC-1876	140	8	.024"	19	1.40
MC-1877	5	2	.060"	2	1.10
MC-1879	15	4	.060"	5	1.10
MC-1880	35	5	.060"	11	1.25
MC-1881	50	7	.060"	15	1.40

MID-LINE TYPE — SINGLE BEARING

Catalog Number	Cap. in MMFD. Max.	Min.	Air Gap	Number Plates	Dealer Cost
MC-324	10	2	.024"	2	$ .95
MC-323	25	4	.024"	4	1.05
MC-148	50	5	.024"	8	1.15
MC-901	75	6	.024"	11	1.30
MC-321	100	6	.024"	15	1.40
MC-396	140	7	.024"	20	1.50
MC-327	5	2	.060"	2	1.00
MC-311	15	4	.060"	5	1.15
MC-319	35	6	.060"	11	1.35
MC-312	50	7	.060"	16	1.55



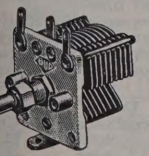
BUD "CE" MIDGET CONDENSERS SINGLE SECTION DOUBLE BEARING

These Midget Condensers were designed to meet the rigid requirements in design of efficient ultra-high frequency electronic devices and precision laboratory equipment. Brass rotor and stator plate stacks are assembled into permanent units by means of electro-soldering, which assures long life and accurate plate spacing. End-plates of Steatite insulate the mounting bushings and angles from the rotor and stator assemblies. A large front sleeve bearing and rear ball thrust bearing provide for smooth rotation. Special wiper contact provides noise-free tuning. All metal parts are cadmium plated.

Rotor plates are semi-circular shaped.

Provision for either panel or base mounting.

Catalog Number	Max. Cap. MMFD.	Min. Cap. MMFD	Air Gap	No. of Plates	Over-all Length	Dealer Cost
CE-2000	15	4	.030"	3	2 1/2"	$1.40
CE-2001	35	6	.030"	7	2 23/32"	1.55
CE-2002	50	7	.030"	9	2 27/32"	1.90
CE-2003	75	8	.030"	14	3 5/32"	2.80
CE-2004	100	9	.030"	18	3 11/32"	2.30
CE-2005	150	10	.030"	27	3 13/16"	2.50
CE-2006	200	11	.030"	35	4 1/4"	2.85
CE-2007	250	12	.030"	44	4 3/4"	3.20
CE-2008	300	15	.030"	52	5 3/16"	3.40
CE-2011	15	5	.060"	5	2 3/4"	1.60
CE-2012	35	7	.060"	11	3 1/4"	1.85
CE-2013	50	8	.060"	15	3 9/16"	2.25
CE-2014	75	10	.060"	23	3 1/4"	2.70
CE-2015	100	13	.060"	31	4 9/16"	2.95
CE-2016	35	9	.095"	15	4 1/16"	2.15
CE-2017	50	10	.095"	23	5 1/32'	2.45
CE-2018	75	14	.095"	33	6 7/32"	2.90

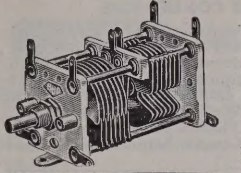


BUD "CE" MIDGET CONDENSERS SINGLE BEARING

Locking nuts on the rotors of these single-bearing condensers assure trouble-free, portable and mobile operation. A screw-driver slot in rotor provides means of adjustment. Either insulated panel mounting or bracket mounting can be used. General construction is same as "CE" double-bearing condensers.

Catalog Number	Max. Cap. MMFD.	Min. Cap. MMFD.	Air Gap	No. of Plates	Over-all Length	Dealer Cost
CE-2020	15	4	.030"	3	1 11/16"	$1.15
CE-2021	35	6	.030"	7	1 29/32"	1.30
CE-2022	50	7	.030"	9	2 1/32"	1.40
CE-2023	75	8	.030"	14	2 1/4"	1.60
CE-2024	100	9	.030"	18	2 15/32"	1.80
CE-2025	150	10	.030"	27	3"	2.00
CE-2028	15	5	.060"	5	1 15/16"	1.35
CE-2029	35	7	.060"	11	2 7/16"	1.60
CE-2030	50	8	.060"	15	2 25/32"	1.75

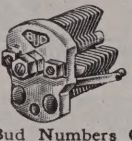
BUD "CE" TYPE DUAL MIDGET CONDENSERS



These well constructed dual condensers are similar in design to the double-bearing "CE" types. They feature a rotor wiping contact placed at center of the rotor assembly to assure maximum efficiency at ultra-high frequency. Opposed rotor construction assures perfect counterbalance and provides even torque at any position of rotation. Steatite insulation eliminates closed induction loop in frame.

Catalog Number	PER SECTION Max. Cap.	Min. Cap.	No. of Plates	Air Gap	Distance Behind Panel	Dealer Cost
CE-2032	35	6	7	.030"	3 1/32"	$2.50
CE-2033	50	7	9	.030"	3 1/4"	2.45
CE-2034	75	8	14	.030"	3 21/32"	2.95
CE-2035	100	9	18	.030"	4 3/32"	3.15
CE-2036	150	10	27	.030"	5 3/16"	3.75
CE-2039	15	5	5	.060"	3 1/32"	2.70
CE-2040	35	7	11	.060"	4 1/32"	3.15
CE-2041	50	8	15	.060"	4 23/32"	3.4

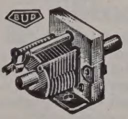
BUD TINY MITE PADDERS



For applications requiring a constant padder capacity under all temperature and humidity conditions, these units are ideal. They lend themselves readily to I. F. transformer applications, fixed tuned circuits for exciters, ganged condenser air trimers, and plug-in-coil padding as they fit inside of standard 1 1/2" diameter coil forms, Bud Numbers CF-125, CF-126 and CF-310. Rotor and stator assemblies are made up of brass plates (0.015" thick) and rods electrically soldered into a solid unit and then are bright cadmium plated. Insulation is Steatite. Each unit may be adjusted in capacity by either a screw-driver or a 1/4" hex. wrench.

Catalog Number	Max. Cap. MMFD.	Min. Cap. MMFD.	Air Gap	No. of Plates	Dealer Cost
LC-2076	15	2	.017"	5	$1.00
LC-2077	25	2.5	.017"	7	1.15
LC-2078	35	3	.017"	10	1.[illegible]0
LC-2079	50	3.9	.017"	14	1.25
LC-2080	75	4.5	.017"	20	1.40
LC-2081	100	5.5	.017"	27	1.55
LC-2082	140	6.5	.017"	37	1.[illegible]

BUD TINY MITE TUNING CONDENSER SINGLE SECTION

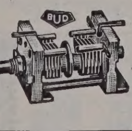


This series of condensers has been designed for applications where space or weight are limiting factors and for tuning of ultra-high frequency circuits. Rigid construction, close fitting bearing, positive rotor contact and Steatite insulation are the outstanding features. Cadmium plated, soldered, brass plates and rods insure high frequency efficiency.

Catalog Number	Max. Cap. MMFD.	Min. Cap. MMFD.	Air Gap	No. of Plates	Dealer Cost
LC-1640	8	2.5	.017"	3	$1.10
LC-1641	15	3	.017"	5	1.15
LC-1642	25	4	.017"	9	1.20
LC-1643	35	5	.017"	13	1.35
LC-1644	50	6	.017"	19	1.45
LC-1645	75	7	.017"	29	1.60
LC-1646	100	9	.017"	37	1.72
LC-1648	10	4	.037"	7	1.18
LC-1649	15	5	.037"	11	1.28
LC-1650	25	5.5	.037"	17	1.50
LC-1651	35	6	.037"	21	1.65
LC-1652*	50	8	.037"	35	2.10
LC-1653	6	3.5	.073"	5	1.25
LC-1654	15	5.5	.073"	15	1.52
LC-1655*	25	9	.073"	27	2.05

* Denotes double bearing.

BUD TINY MITE DUAL CONDENSERS

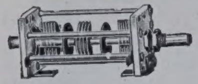


The construction of these units is similar to the regular Tiny Mite Tuning Condensers. The two end pieces are held together firmly with two tie-rods.

A separate round plate is soldered on rotor rod to shield the two stator sections. Large surface front-sleeve bearing, and ball and cup rear bearing, provide smooth rotation.

Catalog Number	CAP. PER SECTION Max. MMFD.	Min. MMFD.	Air Gap	No. Plates Per Section	Over-all Length	Dealer Cost
LC-1659	8	2.5	.017"	3	1 15/16"	$2.15
LC-1660	15	3	.017"	5	2 1/16"	2.35
LC-1661	25	4	.017"	9	2 11/32"	2.60
LC-1662	50	6	.017"	19	3 1/32"	2.72
LC-1663	100	9	.017"	37	4 1/4"	2.95
LC-1664	10	4	.037"	7	2 15/32"	2.25
LC-1665	15	5	.037"	11	2 15/16"	2.50
LC-1666	25	5.5	.037"	17	3 7/8"	2.65
LC-1667	35	6	.037"	21	4"	2.90

NEW BUD THREE-GANG TINY MITE CONDENSERS



Hams, Radio Constructors and Experimenters can find many uses for these compact, three-gang condensers. Designed particularly for high frequency use, they are adaptable for use in converters, preselectors and receivers covering the Amateur, Television and F.M. bands. Well constructed with soldered brass plates and ceramic brackets. Rotor shaft extended 1/4" at rear. Height $1\frac{5}{16}$". Width $1\frac{3}{16}$". Length behind panel $3\frac{3}{8}$". Mounting holes $2\frac{3}{16}$" apart.

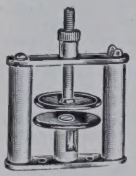
Catalog Number	Cap. Per Section Max.	Cap. Per Section Min.	No. of Plates Per Section	Dealer Cost
LC-1845	11	5	3	$3.00
LC-1846	17	5	4	3.20
LC-1847	25	6	5	3.45

MIDGET TRIMMER CONDENSERS

Primarily intended for antenna coupling, interstage coupling, tracking applications. Base made of ceramic.

Catalog Number	Capacity MMFD. Max.	Capacity MMFD. Min.	Dealer Cost
MT-833	3	36	$ .15
MT-828	94	420	.30

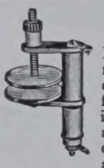
BUD NEUTRALIZING AND HIGH FREQUENCY TUNING CONDENSERS



This line of condensers will fill every neutralizing and high frequency tuning requirement that modern circuits pose. The two-pillar construction makes this unit unusually sturdy and eliminates any possibility of capacity variation due to vibration. The movable plate is adjusted by means of the threaded shaft to which it is attached, and it is permanently locked in any position by the lock-nut provided. Any loose thread is taken up by a special nut and locked to give smooth operation. All metal parts are of aluminum. Plates have rounded edges. Steatite insulation is used.

Catalog Number	Plate Diameter	MMFD. Capacity Max.	MMFD. Capacity Min.	Dealer Cost
NC-1000	$1\frac{27}{32}$"	11	1	$2.25
NC-1001	$2\frac{13}{16}$"	24	2	3.24
NC-1002	$4\frac{3}{4}$"	27	6	4.55

BUD FEED-THROUGH AND BASE MOUNTED NEUTRALIZING CONDENSERS

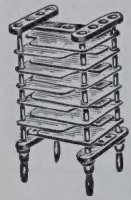


In circuits utilizing tubes with the grid lead terminated in the base, feed-through type of neutralizing condenser is particularly suited. One hole is required for mounting of feed-through condensers. Neutralizing condenser illustrated is feed-through type. Plates are made of aluminum, rounded at edges to cut down losses. After proper tuning is attained, movable plate can be locked with the knurled nut.

No. 890 and No. 852 are ideal neutralizers for popular low power beam tubes. No. 890 condenser is base mounted only.

Catalog Number	Plate Diameter	Size Hole for Mtg.	MMFD. Capacity Max.	MMFD. Capacity Min.	Dealer Cost
NC-852	1"	5/16"	6	.5	$1.00
NC-853	$1\frac{27}{32}$"	13/32"	11	1	2.25
NC-890	1"	.....	6	.5	1.00

BUD STAT-AIR CONDENSERS



It is difficult to design a radio-frequency amplifier to cover any large frequency range and maintain a proper L/C ratio due to variable condenser limitations. By paralleling the proper Stat-Air condenser in this series with the tuning condenser, this difficulty is easily overcome.

The finish of these electro-soldered brass plate assemblies is cadmium plating, and Steatite insulation is used. They are furnished in either Junior or Senior types.

JUNIOR TYPE—MOUNTING DIMENSIONS—$1\frac{1}{4}$" x $1\frac{1}{2}$"

Catalog Number	Cap. MMFD.	Air Gap	No. of Plates	Dealer Cost
FA-777	25	.144"	8	$2.35
FA-780	50	.144"	17	2.30
FA-544	75	.144"	23	3.20
FA-781	100	.144"	29	3.45
FA-782	100	.078"	19	3.00
FA-783	150	.078"	27	3.35

SENIOR TYPE—MOUNTING DIMENSIONS—2" x $2\frac{1}{4}$"

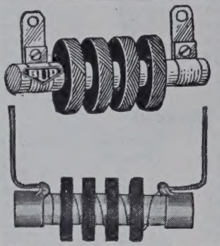
Catalog Number	Cap. MMFD.	Air Gap	No. of Plates	Dealer Cost
FA-778	25	.238"	5	$2.75
FA-784	50	.238"	11	3.20
FA-545	75	.238"	15	3.50
FA-786	100	.238"	19	3.90
FA-785	100	.100"	11	2.68
FA-787	150	.100"	15	3.30

COMPACT NEUTRALIZING CONDENSERS

In applications where space is the prime factor, these units are ideal for neutralizing and high frequency tuning. Low loss Steatite is used for dielectric. These condensers feature either one hole mounting or fastening to solder lugs provided. All brass parts are nickel plated. A knurled lock-nut permits locking of movable plate.

Catalog Number	Cap. Range in MMFD.	Overall Length	Max. Diam.	Dealer Cost
NC-1928	.75 to 4	$2\frac{13}{16}$"	5/8"	$ .55
NC-1929	1 to 6	$2\frac{7}{16}$"	3/4"	1.20
NC-1930	2 to 12	$3\frac{7}{16}$"	7/8"	1.55

PIE WOUND R. F. CHOKES



Each choke has a continuous winding of silk covered enameled copper wire and the pies constituting this winding are wound on a 1/4" diameter ceramic core. Chokes are made with both strap and wire leads. The CH-876 is a heavy duty choke intended for circuits, such as transmitter plate circuits, where high currents are present. All chokes in this series have an overall length of $1\frac{1}{2}$".

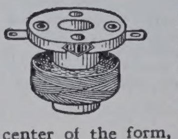
WITH STRAP LEADS

Catalog Number	Inductance mh.	D. C. Resistance	Current Rating	Dealer Cost
CH-920S	2.5	45 ohms	125 ma	$ .42
CH-922S	5.5	60 ohms	125 ma	.50
CH-923S	8.0	72 ohms	100 ma	.60
CH-924S	10.0	78 ohms	100 ma	.68
CH-876S	2.5	16 ohms	250 ma	.65

WITH WIRE LEADS

Catalog Number	Inductance mh.	D. C. Resistance	Current Rating	Dealer Cost
CH-920W	2.5	45 ohms	125 ma	$ .42
CH-922W	5.5	60 ohms	125 ma	.50
CH-923W	8.0	72 ohms	100 ma	.60
CH-924W	10.0	78 ohms	100 ma	.68
CH-876W	2.5	16 ohms	250 ma	.65

LATTICE WOUND R. F. CHOKES



For all general purpose applications requiring a high quality choke at a reasonable price, this line finds wide acceptance. Each choke is wound from silk-covered enameled copper wire on a white ceramic bobbin. Leads are terminated with two convenient soldering lugs. Chokes can be mounted with a 6–32 screw through the center of the form, and each winding is thoroughly impregnated against moisture. The wide range of sizes fills practically every choke requirement in standard radio circuits. Choke base diameter $1\frac{1}{16}$", distance between ends of leads $1\frac{5}{8}$".

Catalog Number	Inductance mh.	D. C. Res. Ohms	Current M. A.	Height	Dealer Cost
CH-1212	2.5	28	125	11/16"	$ .40
CH-1213	3.4	36	125	11/16"	.50
CH-1214	5.5	46	125	11/16"	.50
CH-1215	8.	60	125	11/16"	.60
CH-1216	10.	65	125	11/16"	.65
CH-1217	16.	84	125	11/16"	.68
CH-1218	30.	190	100	15/16"	.70
CH-1219	60.	279	90	15/16"	.80
CH-1220	80.	332	80	15/16"	.90

TRANSMITTING CHOKES

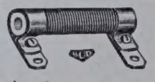
Here are two heavy duty R. F. Chokes that can really take it in high powered transmitter plate circuits. Each choke is wound on 9/16" dia. Steatite rod, has connection lugs and a mounting foot.

All chokes have a heavy ceramic coating which prevents moisture absorption and enables them to withstand momentary overloads without collapsing the individual pies.

Consists of five graduated pies wound in continuous winding. Care has been taken to prevent any of the pies from being resonant on an amateur band and to keep the distributed capacity at a minimum. Overall height $3\frac{1}{4}$".

Catalog Number	Inductance	Current Capacity	D. C. Resistance	Dealer Cost
CH-568	2.2 mh.	1 amp.	5 ohms	$1.65
CH-569	4.3 mh.	.6 amp.	12 ohms	1.50

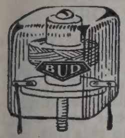
ULTRA HIGH FREQUENCY R. F. CHOKES



These chokes were designed to meet the requirements of builders of ultra-high frequency receivers and transmitters. Consists of ceramic rod with a single layer winding terminated with strap leads at each end. Particularly suitable for use on 2 or 6 meters. CH-570 is supplied with a mounting foot and is sometimes used as a filament choke in certain types of high frequency oscillator and amplifier circuits.

Catalog Number	Inductance mh.	Max. Current	D. C. Resistance	Lengths	Dealer Cost
CH-925	5.7 uh.	750 ma	1.4 ohms	$1\frac{1}{2}$"	$ .28
CH-570	1.5 uh.	1.7 a	0.2 ohms	$2\frac{3}{4}$"	.95

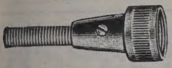
IRON CORE R. F. CHOKES



The efficiency of any circuit requiring an R. F choke will be definitely improved by utilizing one of these chokes with a finely divided molded metallic core. The improved "Q" possible with this construction results from the D. C. resistance of these chokes being from 40 to 50% less for a given inductance than for regular air-core types. Thus, the D. C. voltage drop through the choke is considerably less, yet the choking action is equally as good. Windings are made with silk-covered enameled wire terminated on convenient soldering lugs, and the chokes are mounted in small square shield cans measuring 1⅜" x 1⅜" x 1$\frac{7}{16}$".

Catalog Number	Inductance mh.	D. C. Resistance Ohms	Current ma.	Dealer Cost
CH-1277	1.5	11.5	125	$ .72
CH-1278	2.5	16.	125	.75
CH-1279	3.4	19.5	125	.81
CH-1280	5.5	27.5	125	.81
CH-1281	8.	36.	125	.87
CH-1282	10.	42.5	125	.87
CH-1283	16.	53.	125	.96
CH-1284	30.	82.	100	1.00
CH-1285	60.	131.	100	1.15
CH-1286	80.	163.	90	1.26
CH-1287	125.	221.	90	1.56
CH-294	Shield Can Only		....	.21

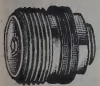
SINGLE CONTACT CABLE CONNECTORS



Positive unbreakable contacts for single-conductor microphone cable are provided by these shielded connectors. Body is made of brass, bright nickel-plated. Accidental disconnections are rendered impossible by coupling ring which, when tightened, insures perfect contact between soldered connections. Cord protectors of steel spring wire will take cables up to 1/4" diameter.

Catalog Number	Description	Length	Bushing Diameter	Dealer Cost
CN-244	Single Contact, Female	2"	23/32"	$ .33
CN-245	Single Contact, Male	1¾"	5/8"	.27

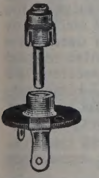
CHASSIS UNIT CONNECTOR



Male connector CN-246 is designed for chassis mounting in connection with CB-244. Where ground to chassis desired, mount in 3/8" hole; to insulate from chassis, mount in 15/32" hole; insulating washers are furnished.

Catalog Number	Description	Dealer Cost
CN-246	Chassis Connector Unit	$ .20

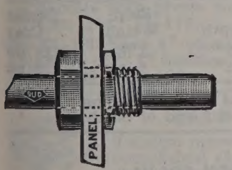
PHONO PLUG AND JACK



This is a pin plug and jack combination that will fit into a multitude of applications: Receivers, auto radio, recording and reproducing equipment, experimental units, etc.

Catalog Number	Description	Dealer Cost
PL-247	Plug	$ .06
JP-248	Jack	.09

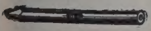
PANEL BEARING ASSEMBLIES



Nos. PB-530 and PB-531 consist of a regular 1/4" shaft bearing with 6" and 3" length of 1/4" brass rod inserted and held in place by washers to prevent shaft from shifting. These two assemblies will facilitate the panel control of condensers, potentiometers, etc., which must be mounted a distance from the panel. Bearing fits in 13/32" hole and on panels up to 5/16" thick. No. PB-532 is bearing only without shaft.

Catalog Number	Overall Length	Distance in front of panels	Dealer Cost
PB-530	6"	4¾"	$ .33
PB-531	3"	1¾"	.28
PB-532	Bearing Only	....	.12

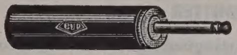
SOLDERING IRON TIPS



This tip is made of a special copper base rod. It is 3/8" diameter x 4" long and is made particularly as a replacement for American Beauty Irons. However, it will fit many other types of irons that are designed to accommodate 3/8" diameter tips.

Catalog Number	Fits American Beauty No.	Dealer Cost
IT-372	3138	$ .42

BUD PHONE PLUGS

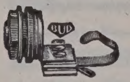


All metal parts on these excellent phone plugs are machined from brass, and are nickel plated. Unshielded plugs have handles of black bakelite; shielded types have attractive brass knurled handles, bright nickel plated.

No. FP-1946 is supplied *Without a Handle*, and is used as an adapter between a female microphone cable connector and a regular plug jack.

Catalog Number	Contacts	Handle	Overall Length	Bushing Diam.	Dealer Cost
FP-230	2	Bakelite	2¾"	3/4"	$ .30
FP-282	2	Shielded	2⅞"	3/4"	.54
FP-1057	3	Bakelite	2¾"	3/4"	.66
FP-284	3	Shielded	2⅞"	3/4"	.85
FP-1946	2	None	1$\frac{7}{16}$"	$\frac{11}{16}$"	.24

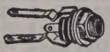
BUD MIDGET JACK



The construction of this jack allows its use in applicatons having limited space behind the panel. The spring brass contact assures a good connection. These jacks come with insulating washers and accommodate standard phone plugs.

Catalog No.	Type	Distance Behind Panel	Dealer Cost
J-232 A	Open Circuit	13/16"	$ .27
J-233 A	Closed Circuit	13/16"	.33

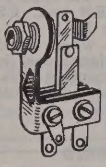
BUD SMALL JACKS



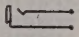
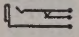
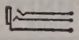
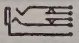
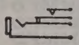
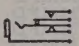
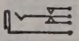
These panel mounting jacks are desirable for control panels and similar applications where space is at a premium. Parts are accurately machined, with nickel plated finish and contacts are formed from spring brass. Each jack comes complete with insulated washers and will accommodate standard plugs. Overall length 1⅝".

Catalog No.	Contacts	Distance Behind Panel	Dealer Cost
J-1038	2	15/16"	$ .30
J-1058	3	15/16"	.46

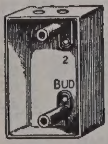
BUD ALL PURPOSE JACKS



Although small in size, this is one of the finest lines of jacks available. The careful design and high quality materials used in these components assure long, dependable service. Circuit opening contacts are made of pure silver and the laminated bakelite insulation prevents breakdown between springs at all ordinary voltages. Supplied with panel insulating washers. Height 1⅞", distance behind panel 7/8".

Catalog Number	Circuit Design	Contact Arrangement	Dealer Cost
J-1324		Open Circuit	$ .30
J-1325		Closed circuit	.36
J-1326		3-Contact open circuit	.39
J-1327		Break contact on tip and ring spring	.42
J-1328		Separate make-contact springs	.42
J-1329		Break contact on tip spring — separate make-contact spring	.48
J-1330		Break-make contact on tip spring	.45

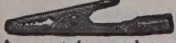
BAKELITE OUTLET BOX AND COVER



This bakelite outlet box is an ideal unit for housing numerous radio and electrical specialties in compact form. The box is 2⅞" wide x 4⅝" long x 1½" high. A solid bakelite cover is available for this item.

Catalog No.	Item	Dealer Cost
RO-400	Box	$ .54
RO-401	Cover	.15

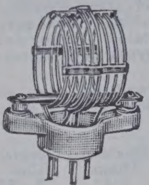
ALLIGATOR CLIPS



Accurately made; supplied with or without insulated ends. No. CL-485 Clip only. No. CL-486-R Alligator Clip with Red insulated end. No. CL-486-B Alligator Clip with Black insulated end.

Catalog No.	Type	Dealer Cost
CL-485	Regular	$ .06
CL-486	Insulated	.12

BUD 75-WATT TRANSMITTER COILS



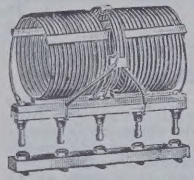
These coils are distinguished by their rigid construction, attractive appearance and conservative power rating. The ceramic mounting base keeps the coil a safe distance from the chassis—it also permits easy coil removal without disturbing the winding. All coils are air-wound and mount in 5 prong tube sockets.

OEP and OCP Coils are designed for use in circuits using Pentode tubes with high output capacity such as 6L6, 807, etc.

OEL coils have fixed link and are *not* tapped.
OCL have fixed center link with main winding center tapped.
OLS have adjustable center link, main winding center tapped.
OES have adjustable end link and are not tapped.
OEP have adjustable end link and are not tapped.
OCP have adjustable center link main winding center tapped.

Catalog No. Fixed End Link	Catalog No. Fixed Center Link	Cat. No. Adjustable Center Link	Cat. No. Adjustable End Link	Band	Capacity*	Dealer Cost
....	....	OLS-160	....	160 Meter	100 MMFD	$1.65
....	....	....	OES-160	160 Meter	86 MMFD	1 65
OEL-80	OCL-80	OLS-80	OES-80	80 Meter	75 MMFD	1.38
OEL-40	OCL-40	OLS-40	OES-40	40 Meter	52 MMFD	1 38
OEL-20	OCL-20	OLS-20	OES-20	20 Meter	40 MMFD	1.38
OEL-15	OCL-15	OLS-15	OES-15	15 Meter	30 MMFD	1 35
OEL-10	OCL-10	OLS-10	OES-10	10 Meter	25 MMFD	1.32
OEL-6	OCL-6	....	....	6 Meter	17 MMFD	1 08
....	....	OCP-10	OEP-10	10 Meter	45 MMFD	1 30
....	....	OCP-20	OEP-20	20 Meter	50 MMFD	1 38
AM-1299 Coil Base only						54

BUD ADJUSTABLE LINK TRANSMITTER COILS



Listed are two types of Coils. CL type of coil has an adjustable CENTER link. ES type of coil has an adjustable END link. The CL and ES can be used where fixed links are specified. No additional cost is involved and more efficient coupling is assured because of this special adjustable link, an *exclusive* BUD *feature*.

150 WATT RATING

Catalog No. Center Link Adjustable	Catalog No. End Link Adjustable	Band	Capacity*	Dealer Cost
RCL-160	RES-160	160 Meters	110 MMFD	$4.15
RCL-80	RES-80	80 Meters	68 MMFD	3.45
RCL-40	RES-40	40 Meters	36 MMFD	3.09
RCL-20	RES-20	20 Meters	27 MMFD	2.76
RCL-15	RES-15	15 Meters	27 MMFD	2.76
RCL-10	RES-10	10 Meters	25 MMFD	2.64
AM-1932 — Mounting Base for RCL and RES Coils				.85

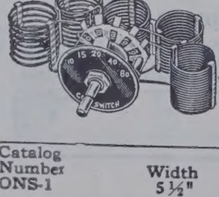
500 WATT RATING

VCL-160	VES-160	160 Meter	95 MMFD	$4.35
VCL-80	VES-80	80 Meter	71 MMFD	3.96
VCL-40	VES-40	40 Meter	26 MMFD	3.63
VCL-20	VES-20	20 Meter	21 MMFD	3.30
VCL-15	VES-15	15 Meter	23 MMFD	3.27
VCL-10	VES-10	10 Meter	26 MMFD	3.17
VCL-6	VES-6	6 Meter	13 MMFD	2.31
AM-1356 — Mounting Base for VCL and VES Coils				1.05

ONE KILOWATT RATING

MCL-80	MES-80	80 Meter	67 MMFD	$7.56
MCL-40	MES-40	40 Meter	38 MMFD	6.87
MCL-20	MES-20	20 Meter	23 MMFD	6.54
MCL-15	MES-15	15 Meter	30 MMFD	6.54
MCL-10	MES-10	10 Meter	25 MMFD	5.85
MCL-6	MES-6	6 Meter	18 MMFD	5.07
AM-1354 — Mounting Base for MCL and MES Coils.....				1.40

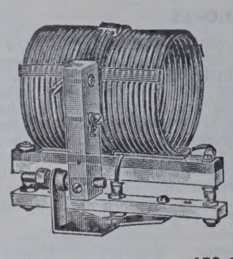
BUD 50 WATT BAND SWITCH ASSEMBLY



ONS-1 — 50 watt, 10–15–20–40–80 meter band switch assembly, ideal for all low-power oscillators, buffer or amplifier stages where the input power does not exceed 50 watts and where capacity coupling is used. A 5-position dial plate with suitable marking is furnished.

Catalog Number	Width	Height	Depth	Dealer Cost
ONS-1	5½"	2½"	3"	$5.40

BUD VARIABLE LINK TRANSMITTER COILS



The most effective method of varying the loading of an R. F. Stage is by the use of a variable link to the plate tank, a feature incorporated in all Bud Variable Link Coils. The link winding is connected to the jack bar into which the coils are plugged, and this link may be used with any of the coils regardless of the band being worked. The link winding is so arranged that it may be readily controlled from the panel by means of an extension shaft if required.

150 WATT RATING

Catalog Number	Band	Capacity*	Length Mounting Strip Dim.	Mounting Hole Dim.	Dealer Cost
RLS-160	160 M	95 MMFD	3½"	3⅛"	$3.15
RLS-80	80 M	78 MMFD	3½"	3⅛"	2.85
RLS-40	40 M	38 MMFD	3½"	3⅛"	2.46
RLS-20	20 M	30 MMFD	3½"	3⅛"	2.19
RLS-15	15 M	30 MMFD	3½"	3⅛"	2 19
RLS-10	10 M	28 MMFD	3½"	3⅛"	2 07
AM-1339 — Base and Link Assembly for 150 Watt Coils ...					3.00

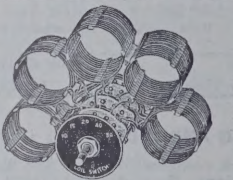
500 WATT COILS

VLS-160	160 M	85 MMFD	5½"	5"	$3 6
VLS-80	80 M	70 MMFD	5½"	5"	3 21
VLS-40	40 M	36 MMFD	5½"	5"	2 8
VLS-20	20 M	28 MMFD	5½"	5"	2 4
VLS-15	15 M	25 MMFD	5½"	5"	2 4
VLS-10	10 M	25 MMFD	5½"	5"	2 4
AM-1352 — Base and Link Assembly for 500 Watt Coils ...					4 9

ONE KILOWATT RATING

MLS-80	80 M	65 MMFD	8⅛"	5⅝"	$6.15
MLS-40	40 M	37 MMFD	8⅛"	5⅝"	5.49
MLS-20	20 M	33 MMFD	8⅛"	5⅝"	5.16
MLS-15	15 M	30 MMFD	8⅛"	5⅝"	5.16
MLS-10	10 M	25 MMFD	8⅛"	5⅝"	4.44
AM-1340 — Base and Link Assembly for Kilowatt Coils ...					6.00

BUD 100 WATT BAND SWITCH ASSEMBLY



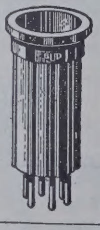
Made in two types, XCS-1 and XES-2. Each unit covers the 10–15–20–40 and 80 meter bands. XCS-1 is designed for use in push-pull plate or grid circuits or where plate neutralization is used. The coils in this assembly are center-tapped and center-linked. A dual section 200 mmfd. condenser is required to tune all bands. The JC-1569 condenser is especially recommended for circuit applications in order to obtain the highest possible efficiency on the high frequency bands.

XES-2 is designed for use in single-ended plate or grid circuits. The coils in this assembly are end-linked. A 100 mmfd. condenser such as Bud JC-1534 is required to tune all bands.

Catalog Number	Width	Height	Depth	Ship. Weight	Dealer Cost
XCS-1	8"	4¼"	5"	3 lbs.	$10.00
XES-2	8"	4¼"	5"	3 lbs.	9.00

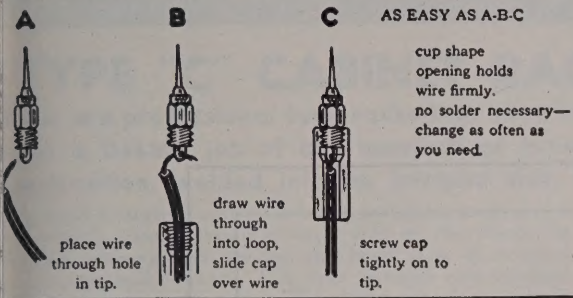
* Denotes tube plus circuit plus tank plus output coupling capacity required to resonate coil at low frequency end of band.

PLUG-IN COIL FORMS



Three sizes are available in these Plug-in Coil Forms to suit all requirements. The material used is a special bakelite having a very low loss factor. Eight ribs are molded on the walls of each form to hold the winding away from the form itself and give the coil higher efficiency. Each form has a molded flange at the top to aid in removing the coil from its socket, and the pins fit standard tube sockets.

Catalog Number	Prong	Diameter	Winding Space	Height	Dealer Cost
CF-734	4	2¼"	3¼"	3½"	$ .60
CF-735	5	2¼"	3¼"	3½"	.63
CF-736	6	2¼"	3¼"	3½"	.66
CF-125	4	1½"	2½"	2⅞"	.36
CF-126	5	1½"	2½"	2⅞"	.36
CF-310	6	1½"	2½"	2⅞"	.39
CF-594	4	1¼"	2⅛"	2¼"	.30
CF-595	5	1¼"	2⅛"	2¼"	.33
CF-596	6	1¼"	2⅛"	2¼"	.33

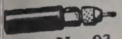

A
B
C
AS EASY AS A-B-C
cup shape opening holds wire firmly.
no solder necessary—change as often as you need.
place wire through hole in tip.
draw wire through into loop, slide cap over wire
screw cap tightly on to tip.

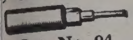
NEW SENSATIONAL!

BUD "VISE-GRIP" TEST PRODS
(Pat. applied for)

No longer is it necessary to use a soldering iron or screw-driver to replace a broken or worn lead on a test prod or plug. To install a wire in this unique, patented prod, merely insert end of wire in hole, screw down handle to finger tightness and a positive contact is assured. By far the fastest, most efficient way of doing this job.

BUD VISE-GRIP TEST PRODS WITH 1" PLASTIC HANDLE


Cat. No. 93

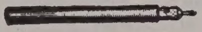

Cat. No. 94

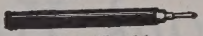
Cat. No. 477

Prod is made of brass rod, and is nickel plated. 1" plastic handle is threaded at one end and prod screws into same.

Needle Chuck — Black or Red.
Cat. No. TP-93............Dealer Cost $ .15
Phone Tip — Black or Red.
Cat. No TP-94...........Dealer Cost $ .15
Banana Plug — Black or Red.
Cat. No TP-477A.........Dealer Cost $ .15

BUD VISE-GRIP TEST PRODS WITH 4" PLASTIC HANDLE


Cat. No. 95


Cat. No. 96

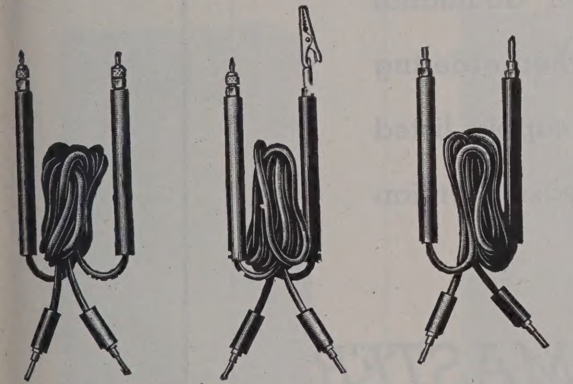
Cat. No. 97

Prods are identical to those described on the left. Plastic handle is 4" long and made of the best material obtainable.

Needle Chuck — Black or Red.
Cat. No. TP-95......Dealer Cost $ .27
Phone Tip — Black or Red.
Cat. No. TP-96.....Dealer Cost $ .25
Banana Plug — Black or Red.
Cat. No. TP-97......Dealer Cost $ .25

BUD SUPER TEST LEADS

All BUD Super Test Leads use BUD "Vise-Grip" Prods that screw nto the highly polished 4" or 1" plastic handles on each end of the eads. The finest, flexible, kinkless, rubber covered wire obtain-ible is used on all BUD Test Leads.

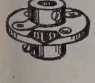


No. TL-178 is supplied with 4" handles at one end of the wires with removable needle points and on other end 1" handle with phone tips.
Cat. No. TL-178......................Dealer Cost $1.10

No. TL-179—4" handles, one with removable needle point and the other with phone tip and removable alligator clip. 1" handles with phone tips.
Cat. No. TL-179.....................Dealer Cost $1.25

No. TL-180 have 4" plastic handles with phone tips on one end. Other end, 1" handles with phone tips as illustrated above.
Cat. No. TL-180......................Dealer Cost $1.00

BUD INSULATED FLEXIBLE COUPLINGS



Tandem operation of two or more units is readily accomplished through the use of these couplers. Direct shaft alignment is not essential, and all couplers are made to fit 1/4" shafts.

Catalog No.	Diameter	Height	Insulation	Dealer Cost
FC-795	1 1/16"	11/16"	Ceramic	$ .39
FC-845	1 1/16"	5/8"	Bakelite	.30
FC-855	1 1/2"	11/16"	Bakelite	.35

BUD HIGH VOLTAGE FLEXIBLE COUPLINGS

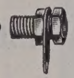
A new type spring construction in these couplings permits a wide gap between shaft connections, freedom from back-lash, and unusual flexibility. The springs are attached to glazed Steatite discs 1 1/2" in diameter and 3/16" thick, and the overall diameter of the finished coupling is 1 15/16". Coupling accommodates standard 1/4" shaft. Springs are also attached to Bakelite discs 1 1/2" in diameter.

Catalog No.	Insulation	Dealer Cost
FC-614	Steatite	$ .54
FC-619	Bakelite	.39

BANANA PLUGS AND JACKS
(Brass Nickel Plated)

Banana plug jack, threaded 1/4 – 28, supplied with nut and solder lug.
Cat. No. PJ-949
Dealer Cost $ .09

Banana plug
Overall Length 1 1/4"
Shank threaded 6–32, supplied with 6–32 nut.
Cat. No. PL-470
Dealer Cost $ .12

PJ-949


PL-470

PJ-478

PL-469

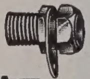
Insulated banana plug jack, complete with insulated washers, solder lug and nut.
Cat. No. PJ-478
Dealer Cost $ .12

Banana plug. Shank tapped for 6–32 screws. Nickel plated.
Cat. No. PL-469
Dealer Cost $ .09

GIANT BANANA PLUGS AND JACKS FOR HEAVY DUTY APPLICATIONS

Giant banana jack, complete with nut and solder lug. For mounting, drill 3/8" hole.
Cat. No. PJ-963
Dealer Cost $ .15

Giant plug, tapped 10–32. Positive spring action assures firm contact.
Cat. No. PL-962
Dealer Cost $ .18

PJ-963


PL-962

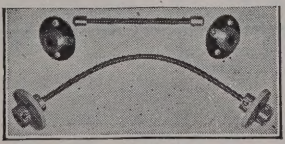
PJ-476A

PL-475A

Giant insulated banana plug jack, complete with insulated washers, solder lug and nut. To mount, drill 1/2" hole.
Cat. No. PJ-476A
Dealer Cost $ .24

High voltage insulated banana plug. Over all length 2 7/8". Excellent for heavy duty applications.
Cat. No. PL-475A
Dealer Cost $ .30

BUD FLEXIBLE SHAFTS AND COUPLERS



When construction necessitates the mounting of condensers or potentiometers away from the panel and at unusual angles, these Flexible Shafts simplify panel control problems. Both lengths are remarkably free from back-lash and will turn at any angle up to 90°.

Nos. FS-859 and FS-860 have 1/4" bushings sweated to each end to fit either plain or insulated couplings. Nos. FS-862 and FS-863 have Steatite insulated couplings attached to each end to fit 1/4" shafts.

Catalog Number	Overall Length	Dealer Cost
FS-859	3 1/4"	$ .33
FS-860	6 1/4"	.42
FS-862	4 1/4"	1.00
FS-863	7 1/4"	1.15

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

PAR-METAL RACKS · CHASSIS · CABINETS *for* ELECTRONIC APPARATUS

TYPE "C" CABINET RACKS—for 19″ Rack Panels

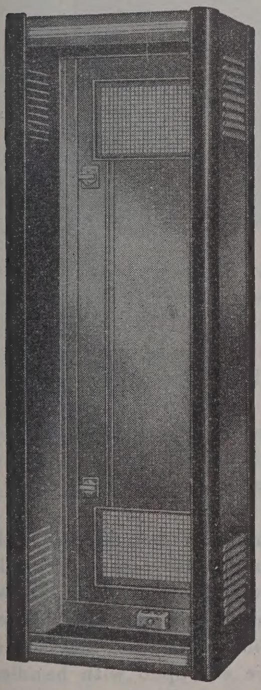
These are professional type racks that have been used on many commercial installations, and make a DeLuxe job of any amateur or broadcast transmitter. The racks are of all-steel construction, welded into an integral unit, to give a lifetime of service.

All panel mounting screws are concealed by means of a full length corner trim on each side at the front. In keeping with modern design, this front trim is rounded on the vertical corners. The rear corners are finished with regular angle trim. The front of the rack is trimmed with chrome moulding top and bottom. The door has a grille at top and bottom, and is hung on sturdy loose-joint hinges; it is held closed by two flush snap-action catches. Additional ventilation is provided by louvres at the sides. The panel mounting angle irons are 3/16″ thick, with mounting holes accurately drilled and tapped 12/24 thread on multiple 1¼″—½″ spacings. The rack is made from 1/16″ thick cold rolled steel, rigidly braced and reinforced throughout; the bottom is $\frac{7}{64}$″ thick steel. A rectangular opening is provided in the bottom for conduits, leads, etc. A duplex receptacle and outlet box are provided in the back under the door.

FINISHES: Either black ripple or slate grey ripple enamel. Corner trims are supplied in dull black, slate grey smooth enamel, or aluminum grey lacquer at extra cost.

RACKS WITHOUT LOUVRES: To permit racks to be set up in gangs or rows of two or more, the louvres at sides are omitted. Racks may be joined by a flat trim fastened to front of adjacent racks, overlapping both racks. Shipped with corner trim as illustrated; where specified, front joining trim will be substituted in place of corner trim at same price. Front joining Trims cannot be used on racks with front doors.

WITH LOUVRES



*BLACK RIPPLE ENAMEL

15¼″ Deep Racks

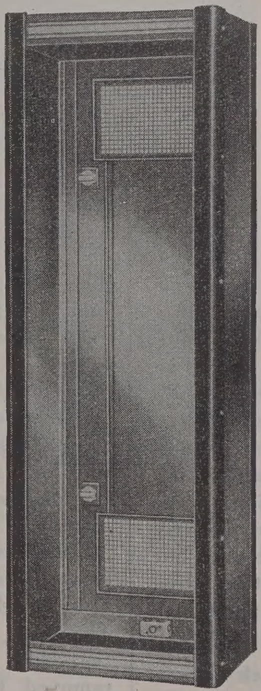
Cat. No.	Overall Size	Panel Space	Wt. lbs.	Net Price
R-3675	42⅞x22x15¼″	36¾″	150	$49.50
R-6625	67⅜x22x15¼″	61¼″	210	66.00
R-8325	83⅛x22x15¼″	77″	240	87.00

18″ Deep Racks

Cat. No.	Overall Size	Panel Space	Wt. lbs.	Net Price
R-3618	42⅞x22x18″	36¾″	160	54.00
R-6618	67⅜x22x18″	61¼″	230	72.00
R-8318	83⅛x22x18″	77″	280	93.00

*If slate grey ripple enamel is required substitute letters "RG" instead of "R" when ordering.

WITHOUT LOUVRES



*BLACK RIPPLE ENAMEL

15¼″ Deep Racks

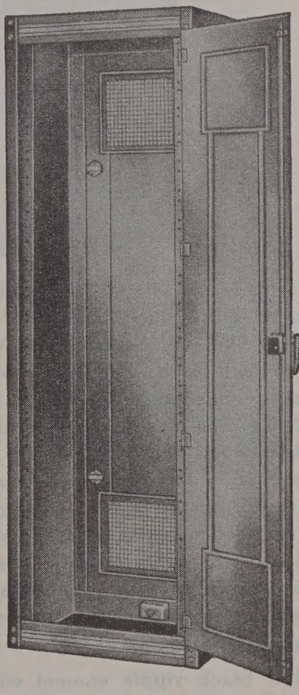
Cat. No.	Overall Size	Panel Space	Wt. lbs.	Net Price
P-3675	42⅞x22x15¼″	36¾″	150	$49.50
P-6625	67⅜x22x15¼″	61¼″	210	66.00
P-8325	83⅛x22x15¼″	77″	240	87.00

18″ Deep Racks

Cat. No.	Overall Size	Panel Space	Wt. lbs.	Net Price
P-3618	42⅞x22x18″	36¾″	160	$54.00
P-6618	67⅜x22x18″	61¼″	230	72.00
P-8318	83⅛x22x18″	77″	270	93.00

*If slate grey ripple enamel is required, substitute letters "PG" instead of "P" when ordering.

WITH FRONT DOORS



*BLACK RIPPLE ENAMEL

Racks are 22″ wide, 18″ deep. Panels mount 2″ from front allowing 14″ clear inside depth behind panels to rear door.

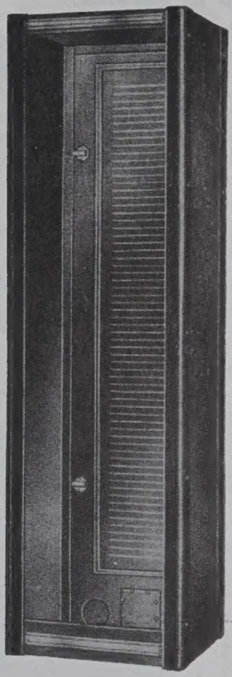
	Catalog F-6618	Number F-8318
Overall Height	67⅜	83⅛
Available panel space	61¼	77
Clear inside width (front)	19⅛	19⅛
Clear inside width (rear)	17¾	17¾
Net Price	$96.00	$120.00

*If slate grey ripple enamel is required, substitute letters "FG" instead of "F" when ordering.

ALL PRICES F.O.B. LONG ISLAND CITY, N. Y.

TYPE "C" TRANSMITTER RACKS

STANDARD TYPE—for 19″ & 30″ Rack Panels



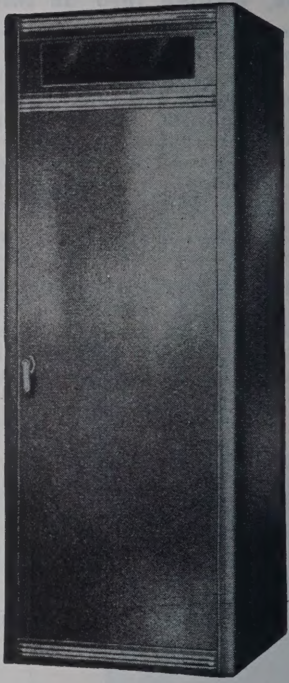
Similar to standard type "C" racks listed on page J-85 except that they have been reinforced at rear corners for use with heavier apparatus. At the rear, knockouts are provided for conduit and 4″ square duct, as well as a double convenience outlet with receptacle. Knockouts are also supplied at sides for conduit, suitable for entry of cables when units are ganged. The rear door, which is removable, has ample louvres for ventilation, and is covered on the inside with mesh screening. Front trim rounded on vertical corners. Racks are regularly supplied with corner trim for use as a single unit, but will be furnished with suitable front connecting strips for ganging in rows of two or more without additional charge.

FINISH: Black ripple enamel with dull black corner trim is standard. Slate grey ripple enamel furnished without additional charge, if so specified. For aluminum grey lacquer finish, add 10% to prices.

PANELS: Type "C" panels to fit the G-2218 and G-2219 racks are listed on page J-89. For cost of 30″ blank panels to fit the G-3024 rack, add 100% to prices of 19″ panels on page J-89.

Catalog No	Overall Size	Panel Space	Clear Depth	Ship. Wt. Lbs.	Net Price
G-2218	76⅛ x 22 x 18″	70 x 19″	16⅞″	270	$96.00
G-2219	83⅛ x 22 x 18″	77 x 19″	16⅞″	290	106.50
G-3024	76⅛ x 33 x 24″	70 x 30	22⅞″	450	159.00

DELUXE TYPE—for 24″ Rack Panels



This rack is undoubtedly the finest standard transmitte rack which we have ever made. It is constructed of 1/16″ sheet steel, with a base of ⅛″ steel, and is reinforced for use with heavy duty apparatus. The meter panel at the top is 7″ high, has a glass front, and is provided with a blank bakelite sub-panel. The inner sides of the rack are reinforced with ⅛″ steel channels, to which may be attached angle brackets to support the chassis. These channels may also be used as wiring ducts.

The rack will accommodate panels 24″ wide; the front panel mounting angles are recessed to allow 2″ clearance behind the front door for dials, knobs, etc. The front door is mounted on concealed hinges; the rear door has loose-joint hinges so that it may be removed. Both doors are equipped with handles, and the front door also has a lock. Blank panels 24″ wide can be supplied at prices listed on page J-89 plus 50%.

No. G-8024

Overall dimensions: 83⅛″ x 30½″ x 27″.
Available panel space: 70″ x 24″.
Clear inside width at front: 24″
Clear inside width at rear: 26½″.
Clear inside depth behind front panels: 23″.
Shipping weight: 540 lbs.
Net Price: **$225.00.**

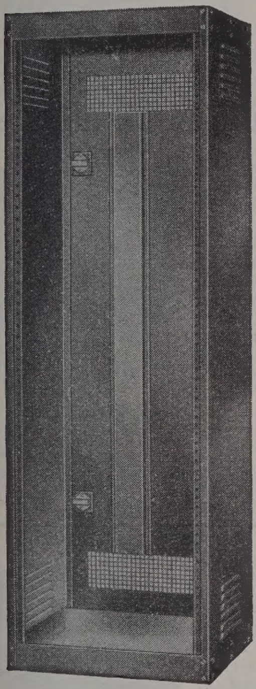
Black ripple enamel finish is optional.

PAR-METAL RACKS · CHASSIS · CABINETS *for* ELECTRONIC APPARATUS

TYPE "A" ENCLOSED RELAY RACKS FOR 19" RACK PANELS

All of the racks on this page are shipped "knocked-down" for easy assembly with all necessary bolts supplied. Made for standard 19" wide panels, they are substantially constructed from 1/16" cold rolled steel; panel mounting angles are of $\frac{7}{64}$" steel, accurately drilled on universal centers for either "Amateur" or type "C" panels, tapped for 10/32 machine screws. Panels fit into a recess, so that edges are not exposed. Louvres in sides and screen sections in rear door provide ample ventilation. Rear door is hung on sturdy loose-joint hinges, and closed by a flush snap catch. Ample panel mounting screws and washers supplied with each rack.

STANDARD TYPE



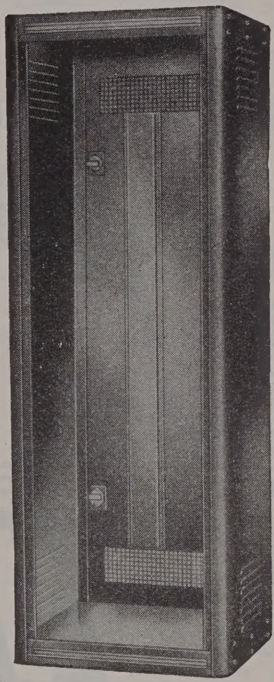
This completely enclosed rack will give your job the "professional appearance" so desirable on transmitters, test equipment, public address systems, etc. It is made in three heights in accordance with specifications below:

*BLACK RIPPLE ENAMEL

Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
ER203	42 x21x16½"	36¾"	85	$24.00
ER205	66½x21x16½"	61¼"	120	36.00
ER207	82¼x21x16½"	77"	145	44.10

*Slate grey ripple is optional

ROUNDED CORNER TYPE



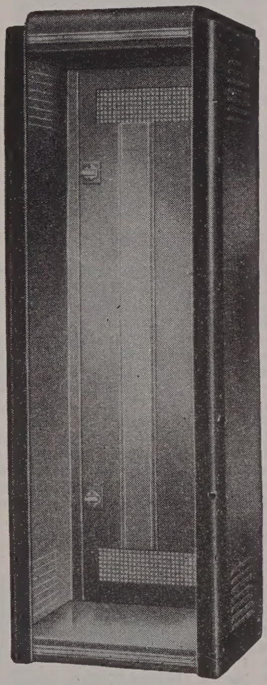
The ideal streamlined rack for your next transmitter or P.A. system. The vertical corners at the front of the rack are rounded, and the top and bottom are nicely trimmed with red striped chrome finished mouldings. The uniform slate grey ripple finish gives the assembly a superb exterior appearance. Combines modern styling and an attractive price.

*SLATE GREY RIPPLE ENAMEL

Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
ER213	42 x22x16½"	36¼"	85	$28.50
ER215	66½x22x16½"	61¼"	125	42.30
ER217	82¼x22x16½"	77"	150	50.40

*Black ripple is optional.

DELUXE TYPE



Produced in the new "streamlined" style, this rack is fully in keeping with modern design. The removable vertical corner mouldings are rounded and cover the panel mounting screws, the same as is used on our Type "C" commercial racks. The top, which has also been "streamlined," is perforated at the back to provide additional ventilation. The top and bottom are trimmed with red striped chrome finished mouldings.

*SLATE GREY RIPPLE ENAMEL

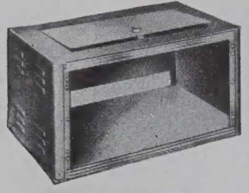
Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
ER223	43¼x22x18"	36¾"	90	$39.30
ER225	67¾x22x18"	61¼"	135	50.10
ER227	83½x22x18"	77"	165	59.70

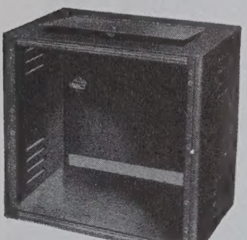
*Black ripple is optional.

PAR-METAL RACKS · CHASSIS · CABINETS *for* ELECTRONIC APPARATUS

DELUXE TYPE "A" DESK PANEL CABINET RACKS

For Standard 19" Rack Panels
Black Ripple Finish





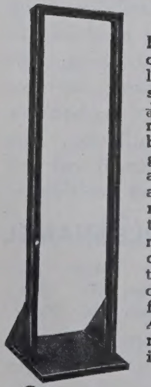
Streamlined styling. In keeping with our other Deluxe racks, the vertical front corners are rounded and the top and bottom are trimmed with chrome finished mouldings. Panels fit into a recess, so that the edges are not exposed. Panel mounting holes accurately drilled on universal centers, for either "Amateur" or type "C" panels; holes are tapped for 10/32 machine screws. May be used with any chassis up to 13" x 17" in size. All cabinets constructed of $\frac{1}{16}$" thick sheet steel. Louvres provide ample ventilation through sides and back. Piano type hinges are used on the top doors, which are provided with snap catches. Panel mounting screws and washers are furnished. Black ripple enamel is standard. Slate grey is optional at same price.

Cat. No.	Overall Size	Panel Space	Net Price
	With door in top only		
DL128	10½ x 21½ x 15" deep	8¾"	$10.08
DL1225	14 x 21½ x 15" deep	12¼"	12.30
DL1413	15¾ x 21½ x 15" deep	14"	13.86
	With door in top and door on rear panel		
DL1713	19¼ x 21½ x 15" deep	17½"	16.95
DL2613	28 x 21½ x 15 deep	26¼"	19.20
DL3513	36¾ x 21½ x 15" deep	35"	21.60

TYPE "A" CHANNEL RELAY RACKS

For Standard 19" Rack Panels

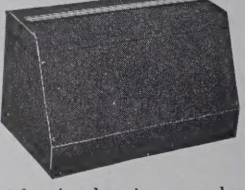
Black Ripple Finish



Ideal for use on all types of transmitters and public address systems. Substantially constructed of $\frac{7}{64}$" pressed steel. Vertical members and top crossbrace securely welded together. Base is 22" deep and extends both front and rear on the RR-195 rack; it is 19" deep on the RR-193 rack. Panel mounting holes accurately drilled on universal centers for either "Amateur" or type "C" panels, tapped for 10/32 machine screws. Ample supply of panel mounting screws and finishing washers supplied.

Cat. No.	Overall Size	Panel Space	Shpg. Wt. lbs.	Net Price
RR-195	73¼x20x20⅞"	71¾"	85	$17.40
RR-193	38¼x20x18⅜"	36¾"	57	14.55

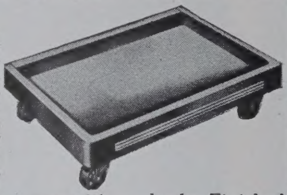
SLOPING FRONT CABINETS



Adaptable as instrument cases for studios, laboratories, etc. Top corner rounded and trimmed with chrome moulding. Slate grey ripple finish. A chassis may be mounted to front panel and removed as a unit. Rear of case ventilated, with opening for connections. Prices do not include chassis.

Cat. No.	H. W. D.	Size of Chassis	Net Price
SF-500	8 x 8 x 8"	7 x 7 x 2"	$3.30
SF-501	8 x 10 x 8	7 x 9 x 2"	3.54
SF-502	8 x 14 x 8"	7 x 13 x 2"	3.93
SF-503	9 x 18 x 8"	7 x 17 x 3"	5.70
SF-504	12 x 18 x 12"	10 x 17 x 3"	7.20

ROLLER TRUCKS FOR RACKS



Designed for use on our racks. Overall size 3" wider than racks for better distribution of weight. Has rubber composition wheels. Finished in slate grey ripple, with chrome trim.

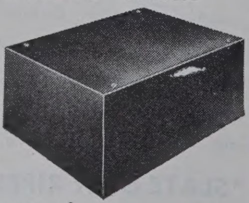
Cat. No.	Will Fit Rack No.	Price
RT-401	ER-203, ER-205, ER-207	$7.50
RT-410	DL-2613, DL-3513	8.25
RT-411	ER-213, ER-215, ER-217	9.30
RT-412	All 18" deep racks	10.50
RT-415	All 15¾" deep racks	10.65

TABLE TYPE RELAY RACKS

Useful where a regular floor type heavy duty rack is not required. Mounting holes accurately drilled on universal centers. Tapped for 10/32 screws. Finished in black ripple enamel and shipped "knocked-down" with all necessary screws. Shipping weight of rack is 20 pounds.

Cat. No.	Overall Size	Panel Space	Net Price
TR-2520	25 x 21 x 12"	21 x 19"	$5.55
TR-3220	32 x 21 x 12"	28 x 19	6.93

STEEL UTILITY CASES



These cases have flat tops and bottoms, which are removable. Made from 20 gauge sheet steel, with flanged edges and spot-welded corners. Finished in black ripple enamel.

Cat. No.	Overall Size	Ship Wt. Lbs.	Net Price
MC- 442	4 x 4 x 2"	2	$0.66
MC- 453	4 x 5 x 3"	3	.75
MC- 596	5 x 9 x 6"	5	1.44
MC- 666	6 x 6 x 6"	3	.99
MC-8101	8 x 10 x 10"	7	2.34
MC-1128	11 x 12 x 8"	9	2.55
MC-1576	15 x 7¾ x 6½"	11	2.22
MC-1597	15 x 9 x 7"	9	2.61
MC-8107	8 x 10 x 7"	6	1.92

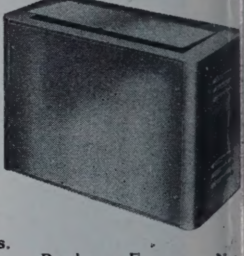
HINGED STEEL CABINETS

DE LUXE TYPE

Has double roll on front vertical corners, and chrome finished mouldings. Ventilating louvres are stamped in each end, and a full width opening i provided at the rear for leads, etc. Fin ish is slate grey ripple enamel. Price do not include chassis.

Cat. No.	H. L. D.	Panel Size	For Chassis	Ne Pri
CA-300	8½x12¾x 8"	8½x10"	7x 9x2"	$4.8
CA-301	8½x16¾x 8"	8½x14"	7x13x2"	5.5
CA-302	9½x17¾x11"	9½x15"	10x14x3"	7.9
CA-303	9½x20¾x 9"	9½x18"	8x17x3"	7.9
CA-304	12½x20¾x12"	12½x18"	10x17x3"	8.7

ROUNDED CORNER TYPE



Front vertical corners are streamlined, and a panel type door is provided. Rear opening allows for necessary leads, etc. Slate grey ripple finish. Prices do not include chassis.

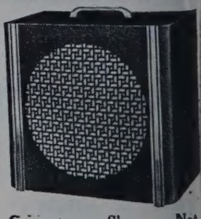
Cat. No.	H. L. D.	Panel Size	For Chassis	Net Pric
CA-200	8 x 10 x 8"	8 x 8"	7 x 7 x 2"	$3.1
CA-201	8 x 12 x 8"	8 x 10"	7 x 9 x 2"	3.3
CA-202	8 x 16 x 8"	8 x 14"	7 x 13 x 2"	4.2
CA-203	9 x 17 x 11"	9 x 15"	10 x 14 x 3"	6.6
CA-204	12 x 20 x 12"	12 x 18"	10 x 17 x 3"	7.8

STANDARD TYPE

Full piano hinged doors, front panels removable. Top corner at front is rounded. Finished in black ripple. Prices do not include chassis bases.

Cat. No.	H. L. D	For Chassis	Net Price
CA-100	7¼ x 10½ x 6"	5½ x 9½ x 1½"	$2.52
CA-101	7¼ x 8 x 8"	7 x 7 x 2"	2.52
CA-102	7¼ x 10 x 8"	7 x 9 x 2"	2.8
CA-103	7¼ x 14 x 8"	7 x 13 x 2"	3.24
CA-104	9 x 15 x 10¾"	10 x 14 x 3"	5.19
CA-105	12 x 18 x 12"	10 x 17 x 3"	6.0

De Luxe Speaker Cabinets



To match streamlined metal equipment. Rounded corners with chrome mouldings and handles. New modern grille. Finished in slate gray ripple enamel. Removable back cover.

Cat. No.	Hole Size	Spkr. Size	Cabinet Size	Shpg. Wt.	Net Price
SC1060	4¾"	6"	10 x 10 x 6"	8 lbs.	$3.7
SC1270	6½"	8"	12 x 12 x 7"	9 lbs.	4.5
SC1480	9"	10"	14 x 14 x 8"	15 lbs.	5.8
SC1680	11"	12"	16 x 16 x 8"	20 lbs.	7.5

Net

ALL PRICES F.O.B. LONG ISLAND CITY, N. Y.

PAR-METAL RACKS · CHASSIS · CABINETS *for* ELECTRONIC APPARATUS

TYPE "C" RACK PANELS—19″ WIDE

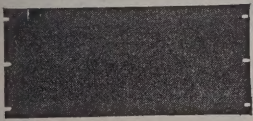
nless otherwise indicated, these panels are made from 8″ thick steel and are uniformly slotted to fit type C" cabinet racks and all type "A" racks. They will lso fit any other rack equipment having multiple 1¼″ - ½″ spacings or what is commonly termed as "W.E. spacing." They may be obtained in either black ripple enamel or slate grey ripple enamel. Panels can be furnished in aluminum grey lacquer at extra charge.

BLANK PANELS ⅛″ STEEL

hese panels are made from ⅛″ thick teel and are uniformly slotted to fit ype "C" cabinet racks made for 19″ anels, and all type "A" racks. They will lso fit any other rack equipment having ultiple 1¼x″½ spacings or what is ommonly termed as "W.E. spacing." hey may be obtained in either black pple enamel or slate grey ripple enamel.

at. No. Black	Cat. No. Grey	Height	Net Price
6600	G-6600	1¾″	$0.60
6601	G-6601	3½″	.69
6602	G-6602	5¼″	.84
6603	G-6603	7″	.93
6604	G-6604	8¾″	1.08
6605	G-6605	10½″	1.32
6606	G-6606	12¼″	1.59
6607	G-6607	14″	1.80
6608	G-6608	15¾″	2.10
6609	G-6609	17½″	2.28
6610	G-6610	19¼″	2.46
6611	G-6611	21″	2.76

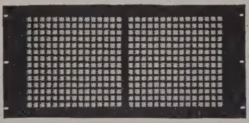
BLANK PANELS ⅛″ ALUMINUM



hese panels are similar to those listed bove, except that they are made from 8″ aluminum. They can also be supplied rom 3/16″ stock, at an additional cost of 0%.

at. No. Black	Cat. No. Grey	Height	Net Price
6675	G-6675	1¾″	$0.96
6676	G-6676	3½″	1.38
6677	G-6677	5¼″	1.74
6678	G-6678	7″	2.04
6679	G-6679	8¾″	2.49
6680	G-6680	10½″	3.18
6681	G-6681	12¼″	3.75
6682	G-6682	14″	4.26
6683	G-6683	15¾″	4.74
6684	G-6684	17½″	5.07
6685	G-6685	19¼″	5.73
6686	G-6686	21″	6.72

GRILLE PANELS ⅛″ STEEL

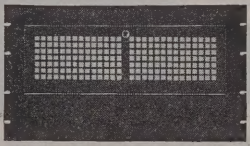


This modern type ventilating grille is stamped into the panel itself; it is not a pieced assembly.

Cat. No. Black	Cat. No. Grey	Panel Size	Grille Size	Net Price
P-661	G-661	5¼″	3⅜ x 14⅜″	$2.31
P-662	G-662	7	4⅞ x 14⅜	2.46
P-663	G-663	8¾″	6⅞ x 14⅜″	3.00
P-664	G-664	8¾″	*3⅞ x 14⅜″	2.70
P-665	G-665	10½″	8⅜ x 14⅜″	3.30
P-666	G-666	10½″	*5⅞ x 14⅜	3.00
P-667	G-667	12¼″	*7⅜ x 14⅜″	3.45

*Allows 3½″ space at bottom for chassis mounting.

GRILLE DOOR PANELS ⅛″ STEEL



These panels have flush hinged doors with modern type ventilating grille. Doors are equipped with piano hinges, knob and concealed catch. All doors start 1″ from top to allow space for chassis at bottom. Regular chassis brackets may be used.

Cat. No. Black	Cat. No. Grey	Panel Size	Door Size	Net Price
P-680	G-680	8¼″	4½ x 15⅜″	$4.35
P-681	G-681	10½″	6 x 15⅜″	4.65
P-682	G-682	12¼″	7½ x 15⅜″	5.25

SOLID DOOR PANELS ⅛″ STEEL

These panels have flush hinged doors with full length piano hinges; they are equipped with a knob and concealed catch. All doors are located 1″ from top to allow space for chassis at bottom. Regular chassis brackets may be used.

Cat. No. Black	Cat. No. Grey	Panel Size	Door Size	Net Price
P-670	G-670	8¾″	4½ x 15⅜″	$3.15
P-671	G-671	10½″	6 x 15⅜″	3.45
P-672	G-672	12¼″	7½ x 15⅜″	3.90

RECESSED METER PANELS ⅛″ STEEL

These panels are made so that the meters may be recessed from the front of the panel. Meters are protected by a plate glass insert, allowing ¾″ clearance in back of panel. A blank bakelite sub-panel is provided. The clear sub-panel space is 4⅛″x15″ on the 19″ wide panel which is sufficient for 4-3″ meters. On the 24″ and 30″ wide panel the clear sub-panel space is 5¾″x20″ and 5¾″x26″ respectively.

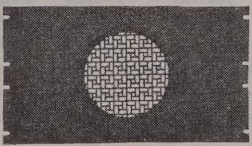
Cat. No. Black	Cat. No. Grey	Size	Net Price
P-690	G-690	5¼″ x 19″	$4.80
P-691	G-691	7 x 24	8.40
P-692	G-692	7 x 30″	11.40

METER PANELS ⅛″ STEEL

All meter panels are 5¼″ x 19″.

Cat. No. Black	Cat. No. Grey	No. of Holes	Meter Size	Net Price
MP-632	MG-632	3	2″	$1.14
MP-652	MG-652	5	2″	1.65
MP-633	MG-633	3	3″	1.14
MP-653	MG-653	5	3″	1.65

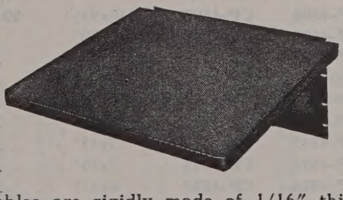
SPEAKER PANELS ⅛″ STEEL



To fit either 6″, 8″, 10″, or 12″ speakers. The opening is covered with a steel grille.

Cat. No. Black	Cat. No. Grey	Panel Size	Speaker Size	Net Price
SP- 875	SG- 875	8¾ x 19″	6″	$1.95
SP-1050	SG-1050	10½ x 19″	8″	2.40
SP-1225	SG-1225	12¼ x 19″	10″	3.00
SP-1400	SG-1400	14 x 19″	12″	3.30

STANDARD DESK PANELS



Tables are rigidly made of 1/16″ thick steel. Securely mounted to regular ⅛″ steel panels, size 10½″ x 19″. Tables 22″ wide give full working space across front of racks when mounted in place.

Cat. No.	Width	Depth	Finish	Net Price
BT-2220	22″	20″	Black enamel	$12.30
BT-2216	22″	16″	Black enamel	11.70
AT-2220	22″	20″	Aluminum grey	13.80
AT-2216	22″	16″	Aluminum grey	12.90

ALL PRICES F.O.B. LONG ISLAND CITY, N. Y.

PAR-METAL RACKS · CHASSIS · CABINETS *for* ELECTRONIC APPARATUS

BLANK STEEL CHASSIS BASES

STANDARD TYPE

Construction is the same as our heavy-duty chassis. Stamped from one piece of cold rolled steel, and have four solid sides with welded corners. Bottom edges are flanged in on four sides to provide additional reinforcement, and they are drilled for bottom plates. The chassis are made from #20 gauge steel, except those marked (*) which are stamped from 1/16″ steel exactly like our heavy-duty type.

Black Ripple Cat.No.	Net Price	Size	Zinc Plated Cat. No.	Net Price
B-4500	$0.60	5½x9½x1½″	C-4500	$0.66
B-4508	.84	5x10x3″	C-4508	.96
B-4509	.99	6x14x3″	C-4509	1.11
B-4510	.69	7x 7x2″	C-4510	.72
B-4511	.81	7x 9x2″	C-4511	.87
B-4512	.90	7x11x2″	C-4512	.93
B-4513	.96	7x13x2″	C-4513	1.02
B-4514	1.23	7x15x3″	C-4514	1.32
B-4518	1.02	4x17x3″	C-4518	1.14
B-4515	1.20	7x17x3″	C-4515	1.26
B-4531	1.32	8x17x2″	C-4531	1.38
B-4532	1.38	8x17x3″	C-4532	1.44
B-4525	1.32	10x12x3″	C-4525	1.38
B-4524	1.38	10x14x3″	C-4524	1.44
B-4528	1.38	10x17x2″	C-4528	1.44
B-4529	1.74	10x17x4″	C-4529	1.89
B-4526	1.32	10x17x3″	C-4526	1.44
B-4527	1.74	10x23x3″	C-4527	1.89
B-4533*	1.74	11x17x2″	C-4533*	1.95
B-4534*	1.92	11x17x3″	C-4534*	2.28
B-4516	1.50	12x17x2″	C-4516	1.62
B-4517	1.62	12x17x3″	C-4517	1.74
B-4530	1.86	12x17x4″	C-4530	2.04
B-4535*	2.10	13x17x2″	C-4535*	2.22
B-4536*	2.22	13x17x3″	C-4536*	2.49
B-4537*	2.64	13x17x4″	C-4537*	3.03

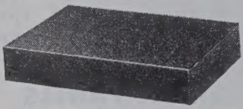
* Made from 1/16″ thick steel.

BOTTOM PLATES

Bottom plates have holes to match the chassis, and have pressed "bumpers" at the corners.

Black Ripple Cat. No.	Zinc Plated Cat. No.	Size	Net Price
BP-4500	CP-4500	5½x9½″	$0.33
BP-4508	CP-4508	5x10″	.36
BP-4509	CP-4509	6x14″	.48
BP-4510	CP-4510	7x 7″	.36
BP-4511	CP-4511	7x 9″	.39
BP-4512	CP-4512	7x11″	.45
BP-4513	CP-4513	7x13″	.51
BP-4514	CP-4514	7x15″	.57
BP-4518	CP-4518	4x17″	.45
BP-4515	CP-4515	7x17″	.60
BP-4531	CP-4531	8x17″	.60
BP-4525	CP-4525	10x12″	.60
BP-4524	CP-4524	10x14″	.63
BP-4528	CP-4528	10x17″	.78
BP-4527	CP-4527	10x23″	1.05
BP-4533	CP-4533	11x17″	.81
BP-4516	CP-4516	12x17″	.87
BP-4535	CP-4535	13x17″	.93

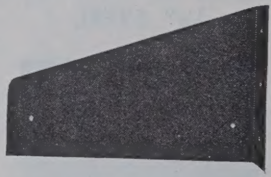
HEAVY DUTY TYPE



All of the chassis listed on this page may be used with the various Par-Metal racks and cabinets. Substantially constructed for "heavy duty" uses, being formed from one piece of 1/16″ sheet steel, with all corners and bottoms reinforced. Bottom covers and mounting screws supplied. Ends drilled to fit standard brackets listed below. Finished in either uniform black ripple enamel or zinc plated.

Black Ripple Cat.No.	Net Price	Dimensions W.L.D.	Zinc Plated Cat. No.	Net Price
15280	$2.16	8x17x2″	15208	$2.34
15281	2.40	8x17x3″	15209	2.64
15282	2.43	11x17x2″	15218	2.76
15210	2.64	11x17x3″	15219	3.06
15212	2.85	13x17x2″	15214	3.15
15213	3.12	13x17x3″	15215	3.39
15216	3.45	13x17x4″	15217	3.93
15283	4.65	17x17x4″	15284	5.25

CHASSIS MOUNTING BRACKETS



These brackets will fit any of the chassis listed above, as the mounting holes are drilled to match. Panels must be at least 7″ high. Finished in black enamel.

Cat.No.	Dimensions	Shpg. Wt.	Net Price
SB- 78	For 8″ Base	2 lbs.	$0.69
SB-710	For 10″ Base	2 lbs.	.93
SB-711	For 11″ Base	3 lbs.	1.02
SB-713	For 13″ Base	3 lbs.	1.23
SB-717	For 17″ Base & larger	5 lbs.	1.86

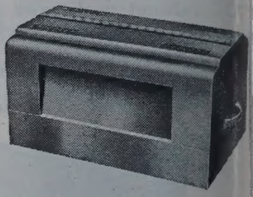
STANDARD TYPE
Amplifier Foundation Chassis

Rounded corners effectively streamline the covers on these units. Grille type ventilation gives them a modern appearance. Chassis stamped from one piece of cold rolled steel, with corners securely spot welded. Covers finished in slate grey, chassis in black ripple enamel. Chassis are drilled for bottom plates.

Cat.No.	Size	Depth of Cover	Shpg. Wt.	Net Price
F-510	5x10x3″	6″	9 lbs.	$2.25
F-615	6x14x3″	6″	10 lbs.	2.55
F-717	7x17x3″	6″	11 lbs.	3.15
F-1012	10x12x3″	6″	11 lbs.	3.15
F-1017	10x17x3″	6″	11 lbs.	3.81
F-1317	13x17x3″	6″	15 lbs.	4.50

DELUXE TYPE
Amplifier Foundation Chassis

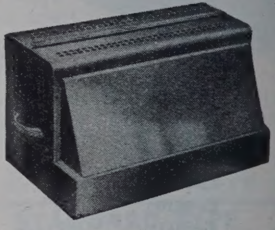
For those who prefer a deluxe unit with Recessed Panel.



Panel slopes slightly and attaches to chassis with screws. Screen cover may be raised without disturbing the panel. Cover finished in slate grey ripple. Chassis finished in black ripple and is drilled for bottom plates.

Cat. No.	Chassis Size	Depth of Cover	Panel Size	Net Price
FC- 510	5 x 10 x 3″	6″	4 x 7″	$4.50
FC- 615	6 x 14 x 3″	6″	4 x 10″	5.10
FC- 717	7 x 17 x 3″	6″	4 x 13″	5.70
FC-1012	10 x 12 x 3″	6″	4 x 9″	5.55
FC-1017	10 x 17 x 3″	6″	4 x 13″	6.60
FC-1317	13 x 17 x 3″	6″	4 x 13″	7.35

SLOPING FRONT TYPE
Amplifier Foundation Chassis

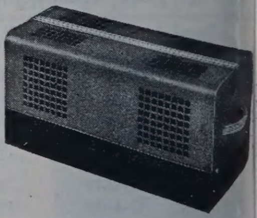


Latest trend in amplifier design. Combination of sloping front panel and streamlined cover enables you to build up a job similar to that used on commercial deluxe type amplifiers. All parts finished in slate grey ripple enamel trimmed with chrome moulding and handles. Front panel removable and protrudes 3″ from face of screen cover. Chassis supplied complete WITH bottom plates.

Cat. No.	Chassis Size	Screen Cover	Net Price
F10120	10x12x3″	6½″ high	$5.70
F10170	10x17x3″	6½″ high	6.60
F13170	13x17x3″	6½″ high	7.35

ROUNDED CORNER TYPE
Amplifier Foundation Chassis

Modern professional type. Rounded corners on screen cover. Chrome mouldings & handles. Cover finished in slate gray, with black ripple chassis.



Cat.No.	Chassis Size	Depth of Cover	Shpg. Wt.	Net Price
DF510	5x10x3″	6″	9 lbs.	$3.21
DF615	6x14x3″	6″	10 lbs.	3.75
DF717	7x17x3″	6″	11 lbs.	4.29
DF1012	10x12x3″	6″	11 lbs.	4.29
DF1017	10x17x3″	6″	13 lbs.	5.10
DF1317	13x17x3″	6″	15 lbs.	5.85

Net

ALL PRICES F.O.B. LONG ISLAND CITY, N. Y.

MIDDLETOWN MANUFACTURING CO.

METAL PRODUCTS — ELECTRONIC DIVISION

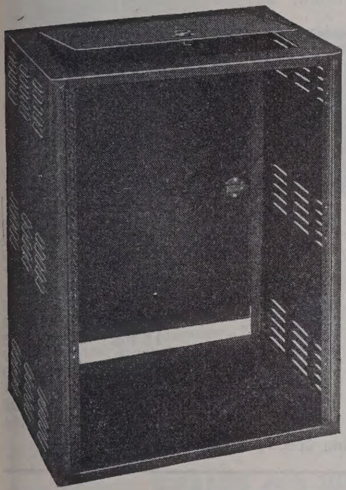
CABINETS • CHASSIS • CASES • PANELS

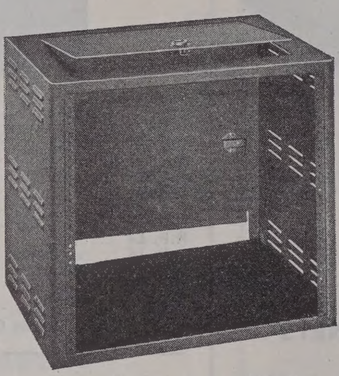
D.C. DELUXE CABINET RACKS—USE 19" RACK PANELS

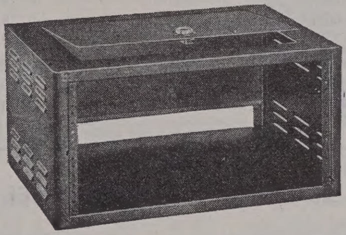
Middletown D. C. Cabinets conform to the conventional design of streamlined cabinets used by builders of amateur and commercial equipment.

FEATURES

- ★ **Constructed of heavy gauge 1/16" steel, electrically welded.**
- ★ **Adequate ventilation is provided by sufficient louvres in sides, and ventilation in back.**
- ★ **Front Vertical posts rounded.**
- ★ **Flush panel mounting (recessed).**
- ★ **Drilled and tapped for 10/32" screws on universal centers.**
- ★ **Flush door in top fitted with flush snap-lock and piano hinges.**
- ★ **Black Wrinkle finish. *Grey Wrinkle if desired.***







Cat. No.		Net Price
D.C. 108	Panel Size 8¾" x 19". Size of Cabinet 10½" x 21"½ x 15". Single Unit	$11.10
D.C. 1412	Panel Size 12¼" x 19". Size of Cabinet 14" x 21½" x 15". Single Unit	13.50
D.C. 1514	Panel Size 14" x 19". Size of Cabinet 15¾" x 21½" x 15". Single Unit	15.21

Cat. No.		Net Price
D.C. 1917	Panel Size 17½" x 19". Size of Cabinet 19¼" x 21½" x 15". Double Unit—Door Top and Back	$18.49
D.C. 2826	Panel Size 26¼" x 19". Size of Cabinet 28" x 21½" x 15". Triple Unit—Door Top and Back	20.88
D.C. 3635	Panel Size 35" x 19". Size of Cabinet 36¾" x 21½" x 15". Quad. Unit—Door Top and Back	23.94

BLANK STEEL CHASSIS
Heavy Duty

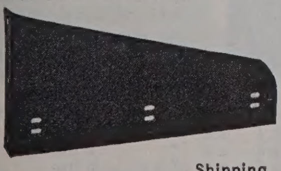
Middletown heavy duty Chassis are made from one piece of 1/16" sheet steel—Spot Welded at all four corners. Bottom edges are folded over on all four sides for additional rigidity and drilled to match bottom plates. Ends are drilled to fit standard Middletown brackets. Bottom plates are supplied with these Chassis.

Stock Sizes

Cat. No.	Size	Net Price Black	Net Price Cadmium
H.D. 8172	8 x 17 x 2"	$2.28	$2.46
H.D. 8173	8 x 17 x 3"	2.52	2.76
H.D. 11172	11 x 17 x 2"	2.70	2.97
H.D. 11173	11 x 17 x 3"	2.79	3.21
H.D. 13172	13 x 17 x 2"	3.12	3.33
H.D. 13173	13 x 17 x 3"	3.30	3.60
H.D. 13174	13 x 17 x 4"	3.66	4.08

CHASSIS BRACKETS
Mounting

These brackets are for chassis listed above. Front end of the bracket is seven inches high. Finished in black wrinkle.



Cat. No.	Size	Shipping Weight	Net Price
C.B. 8	For 8" Base	2 lbs.	$ .75
C.B. 11	For 11" Base	3 lbs.	1.08
C.B. 13	For 13" Base	3 lbs.	1.32

BLANK STEEL CHASSIS
Standard Type

Middletown Chassis are made from one piece of No. 20 gauge steel spot-welded at all 4 corners—bottom edges are folded over on four sides for additional rigidity and drilled to match bottom plates.

Bottom plates are drilled to match holes on flange of chassis and have pressed bumpers at corners. Material No. 20 gauge steel.

Standard Stock Sizes

Cat. No.	Size	Net Price Black	Net Price Cadmium
B.S. 442	4 x 4 x 2"	$ .60	—
B.S. 591	5½ x 9½ x 1½"	.72	$ .78
B.S. 5103	5 x 10 x 3"	.99	1.02
B.S. 4173	4 x 17 x 3"	1.08	1.20
B.S. 6143	6 x 14 x 3"	1.08	1.20
B.S. 772	7 x 7 x 2"	.78	.87
B.S. 792	7 x 9 x 2"	.96	1.05
B.S. 7112	7 x 11 x 2"	1.02	1.14
B.S. 7132	7 x 13 x 2"	1.08	1.17
B.S. 7153	7 x 15 x 3"	1.29	1.41
B.S. 7173	7 x 17 x 3"	1.35	1.47
B.S. 8172	8 x 17 x 2"	1.38	1.50
B.S. 8173	8 x 17 x 3"	1.44	1.56
B.S. 10123	10 x 12 x 3"	1.41	1.56
B.S. 10143	10 x 14 x 3"	1.47	1.62
B.S. 10172	10 x 17 x 2"	1.47	1.62
B.S. 10173	10 x 17 x 3"	1.47	1.62
B.S. 11172*	11 x 17 x 2"	1.89	2.10
B.S. 11173*	11 x 17 x 3"	1.98	2.22
B.S. 12172	12 x 17 x 2"	1.59	1.74
B.S. 12173	12 x 17 x 3"	1.71	1.86
B.S. 12174	12 x 17 x 4"	1.95	2.19
B.S. 13172*	13 x 17 x 2"	2.22	2.37
B.S. 13173*	13 x 17 x 3"	2.40	2.64
B.S. 13174*	13 x 17 x 4"	2.76	3.12

*Made from 1/16" Stock.

Bottom Plates

Cat. No.	Size	Net Price Black	Net Price Cadmium
B.P. 59	5½ x 9½"	$ .33	$ .36
B.P. 510	5 x 10"	.36	.39
B.P. 417	4 x 17"	.48	.54
B.P. 614	6 x 14"	.51	.57
B.P. 77	7 x 7"	.36	.39
B.P. 79	7 x 9"	.39	.42
B.P. 711	7 x 11"	.45	.51
B.P. 713	7 x 13"	.51	.57
B.P. 715	7 x 15"	.57	.63
B.P. 717	7 x 17"	.60	.66
B.P. 817	8 x 17"	.60	.66
B.P. 1012	10 x 12"	.60	.66
B.P. 1014	10 x 14"	.66	.72
B.P. 1017	10 x 17"	.81	.87
B.P. 1117	11 x 17"	.84	.90
B.P. 1217	12 x 17"	.87	.93
B.P. 1317	13 x 17"	.93	.99

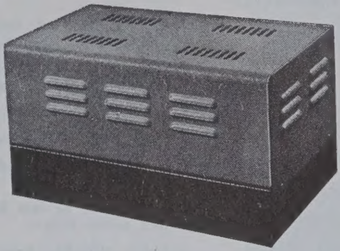
MIDDLETOWN MANUFACTURING CO.

METAL PRODUCTS — ELECTRONIC DIVISION

CABINETS • CHASSIS • CASES • PANELS

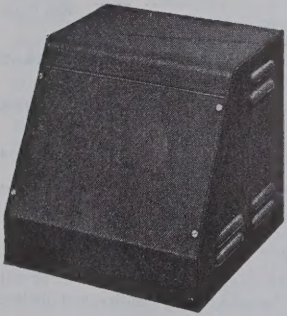
AMPLIFIER FOUNDATIONS—DeLuxe Models

This unit is designed to meet the most critical requirements. It has rounded corners, special Middletown designed louvres on all 4 sides and elongated holes on top to give maximum ventilation. Chassis are finished in Black wrnkle. Covers are finished in Grey wrinkle. Chassis are drilled for bottom plates which are listed separately Covers all have a depth of 6″.



Cat. No.	Size	Net Price
A.F.-5103	5 x 10 x 3″	$2.31
A.F.-6143	6 x 14 x 3″	2.64
A.F.-7173	7 x 17 x 3″	3.24
A.F.-10123	10 x 12 x 3″	3.36
A.F.-10173	10 x 17 x 3″	3.90
A.F.-13173	13 x 17 x 3″	4.65

SLOPING FRONT PANEL CABINETS



Sloping front panel cabinets have a wide application in the electronic field snce they are adaptable for various uses. They are constructed of heavy gauge steel electrically spot-welded. Top corner is rounded, front panel is removable, and louvres on sides provide ventilation.

Back panel is ventilated on top and an opening is provided on the bottom so that connections can be made directly to the rear of the chassis. Finished in Grey wrinkle.

Cat.No.	H.W.D.	Chassis Size	Net Price
S.F.-888	8 x 8 x 8″	7 x 7 x 2″	$3.36
S.F.-8108	8 x 10 x 8″	7 x 9 x 2″	3.60
S.F.-8148	8 x 14 x 8″	7 x 13 x 2″	4.02
S.F.121812	12 x 18 x 12″	10 x 17 x 3″	7.35

STEEL RACK PANELS — 19" LONG

These panels are made from ⅛″ steel and are slotted for standard amateur mounting. Twelve standard sizes. Furnished in black or grey wrinkle finish. These panels are also supplied with commercial (W.E.) slotting. When ordering commercial type indicate by adding W to our catalogue number below.

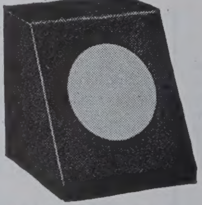
Cat. No.	Width	Weight	Net Price
R.P. 1	1¾″	2 lbs.	$ .60
R.P. 3	3½″	5 lbs.	.75
R.P. 5	5¼″	7 lbs.	1.11
R.P. 7	7 ″	8 lbs.	1.41
R.P. 8	8¾″	9 lbs.	1.59
R.P. 10	10½″	10 lbs.	1.92
R.P. 12	12¼″	12 lbs.	2.28
R.P. 14	14 ″	13 lbs.	2.67
R.P. 15	15¾″	14 lbs.	3.09
R.P. 17	17½″	15 lbs.	3.54
R.P. 19	19¼″	16 lbs.	4.02
R.P. 21	21 ″	17 lbs.	4.44

When Ordering Specify Black or Grey.

METER PANELS

Middletown Meter Panels are made 5¼″ high and are made to the same specifications as our Rack Panels — are available to fit 3″ meters.

Cat. No.	Holes	Hole Size	Net Price
R.P.M. 33	3	2 3/16″	$1.41
R.P.M. 35	5	2 3/16″	1.92

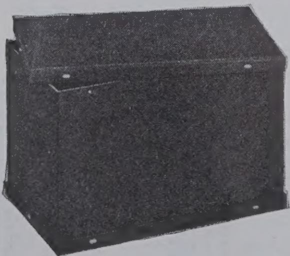


METER CASES

These cases have sloping front panel with rounded top corner which blends with streamline equipment. They are sturdily constructed from sheet steel with welded joints.

Cat. No.	Meter	Hole Size	H.W.D.	Net Price
M.C. 13	Single 3″	2 13/16″	4½ x 4 x 4	$1.02
M.C. 33	3-3″ Meters	2 13/16″	4½ x 11¼ x 4	2.40

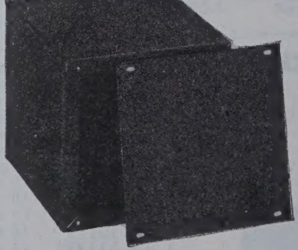
STEEL UTILITY CANS



These Utility Cans are substantially made from sheet steel with spot welded reinforced corners. Tops and bottoms are removable and are flanged on all four sides. Held in place with self-tapping screws.

Cat. No.	Size	Weight	Net Price
U.C. 565	5½ x 6 x 5½″	3 lbs.	$ .99
U.C. 596	5 x 9 x 6″	5 lbs.	1.47
U.C. 8107	8 x 10 x 7″	6 lbs.	1.98
U.C. 81010	8 x 10 x 10″	7 lbs.	2.40
U.C. 11128	11 x 12 x 8″	9 lbs.	2.61

STEEL CASES — STANDARD

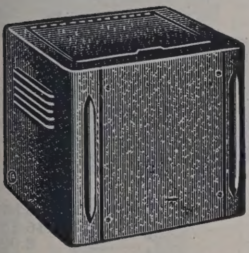


These cases are similar to our standard steel utility cans except they have flat tops and bottoms which are held in place with self tapping screws and are removable. These cases are of sturdy construction and have spot welded corners. Case has flanges on all edges. Furnished in black wrinkle.

Cat. No.	Size	Weight	Net Price
S.C. 442	4 x 4 x 2 ″	2 lbs.	$ .69
S.C. 453	4 x 5 x 3 ″	3 lbs.	.81
S.C. 666	6 x 6 x 6 ″	3 lbs.	1.05
S.C. 1276	12 x 7 x 6 ″	5 lbs.	1.95
S.C. 1597	15 x 9 x 7 ″	9 lbs.	2.70
S.C. 1287	12 x 7¾ x 6½″	9 lbs.	1.98
S.C. 1576	15 x 7¾ x 6½″	11 lbs.	2.31

ICA INSULINE ICA
RADIO PRODUCTS

ICA DE LUXE HINGED STEEL CABINETS



The cabinets have rounded corners with specially designed Chrome plated "Air-Gate" ventilators on sides; and vertical Chrome Plated Trim moulding on front. Modern grille type ventilators are provided on the back panels which also have an opening on the bottom to allow for leads, cable connections, etc.

Bottoms have 4 embossed feet.

Finished in a beautiful Marine Gray Ripple Enamel.

No.	H.	W.	D.	Panel Size	List
3860	8"	10"	8"	8" x 8"	$7.25
3861	8"	12"	8"	8" x 10"	7.50
3862	8"	14"	8"	8" x 12"	9.00
3863	12"	20"	12"	12" x 18"	14.00

ICA STANDARD HINGED STEEL CABINETS

Designed in the same style and appearance as the De Luxe cabinets shown above except that the Chrome trim is eliminated. Sides and backs have ventilating louvres. Backs have opening for cable connections, etc. Top panel hangs on full sized piano type hinge. Bottoms have 4 embossed feet. Finished in Marine Gray Ripple Enamel.

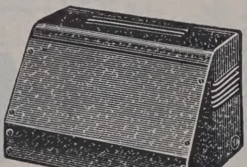
No.	H.	W.	D.	Panel Size	List
3925	8"	10"	8"	8" x 8"	$5.00
3926	8"	12"	8"	8" x 10"	5.50
3927	8"	14"	8"	8" x 12"	7.00
3928	12"	20"	12"	12" x 18"	13.00

CHASSIS FOR ICA CABINETS

No.	Size	For Cabinet Numbers	List
4024	7" x 7" x 2"	3860 and 3925	$1.40
4004	7" x 9" x 2"	3861 and 3926	1.50
4005	7" x 11" x 2"	3862 and 3927	1.65
4033	10" x 17" x 3"	3863 and 3928	2.20

ICA DE LUXE SLOPING PANEL CABINETS

The top corners are rounded and trimmed with an attractive striped chrome trim. The sides of the cabinets have the beautiful "Air-Gate" Chrome ventilators.
The front panel is removable so that the chassis can be attached to it and used as one unit.
Beautifully finished in Marine Gray Ripple Enamel.

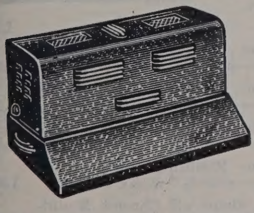


No.	H.	W.	D.	List
3990	8"	8"	8"	$6.60
3991	8"	10"	8"	7.25
3992	8"	14"	8"	9.50
3993	12"	18"	12"	12.75

CHASSIS FOR ICA CABINETS

No.	Size	For Cabinet Number	List
4024	7" x 7" x 2"	3990	$1.40
4004	7" x 9" x 2"	3991	1.50
4007	7" x 13" x 2"	3992	1.80
4033	10" x 17" x 3"	3993	2.20

ICA DE LUXE SLOPING CHASSIS AMPLIFIER UNITS

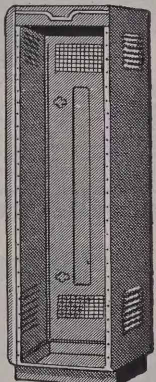


Chassis are sloped and are equipped with beautiful chrome trimmed handles. Slope provides ample space for mounting instruments. The top covers have beautiful Chrome Plated "Air-Gate" Ventilators with striped chrome trim. Supplied with ventilating louvres on sides and back. Have raised rectangular screen opening on the tops, embellished with chrome moulding. Marine Gray Ripple finish.

No.	Overall Size	Chassis Bottom	Chassis Height	Slope Size	List
3962	7" x 17" x 9½"	10" x 17"	3½"	4"	$10.25
3963	10" x 14" x 9½"	13" x 14"	3½"	4"	11.00
3964	10" x 17" x 9½"	13" x 17"	3½"	4"	11.50

ENCLOSED RELAY RACKS

A beautifully streamlined designed rack for transmitters and public address systems. Front vertical; corners rounded. Rack is fabricated of 1/16" cold rolled steel; panel mounting angles of 1/8" steel. Universally drilled for either Amateur or Western Electric type panels. Panels fit into recess so edges are not exposed. Screen ventilators on rear door and louvres on sides afford proper ventilation. Rear door hung on sturdy hinges and equipped with two flush snap catches. Shipped "KNOCKED DOWN" with all necessary hardware. Finished in Marine gray ripple finish. Black Ripple furnished only if specified.



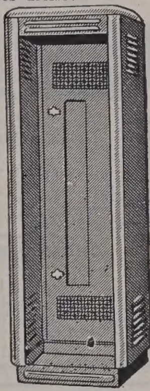
No. 3870
List $43.50
Overall Size ....42"x22"x16½"
Panel Space ....36¾"x19"
Interior Width ....17⅝"
Interior Depth ....15¼"
Shipping Weight 97 Lbs.

No. 3871
List $63.50
Overall Size 66½"x22"x16½"
Panel Space ....61¼"x19"
Interior Width ....17⅝"
Interior Depth ....15¼"
Shipping Weight 145 Lbs.

No. 3872
List $74.50
Overall Size 82¼"x22"x16½"
Panel Space ....77"x19"
Interior Width ....17⅝"
Interior Depth ....15¼"
Shipping Weight 172 Lbs.

ICA DE LUXE TRANSMITTER RACKS

New modern design, streamlined transmitter and public address racks. Removable vertical corner mouldings are rounded and completely cover panel edges and mounting screws. Chrome trim. Rack is made of 1/16" cold rolled steel. Panel mounting angles drilled for either Amateur or Western Electric type panels. Screen ventilators on rear door and louvres afford ample ventilation. Easily assembled. Supplied in Marine gray ripple finish. Black ripple finish furnished only on specification.

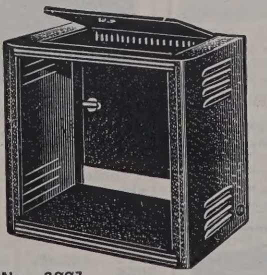


No. 3865
List $61.75
Overall Size .. ..43¼"x22"x18"
Panel Space ....36¾"x19"
Interior Width ....17⅝"
Interior Depth ....16¾"
Shipping Weight 110 Lbs.

No. 3866
List $78.90
Overall Size ....67¾"x22"x18"
Panel Space ....61¼"x19"
Interior Width ....17⅝"
Interior Depth ....16¾"
Shipping Weight 162 Lbs.

No. 3867
List $94.50
Overall Size ....83½"x22"x18"
Panel Space ....77"x19"
Interior Width ....17⅝"
Interior Depth ....16¾"
Shipping Weight 190 Lbs.

ICA MULTI-USE METAL CABINETS



An ideal unit for public address systems, transmitters, receivers, test equipment, etc. Has rounded corners on front of Cabinet. Trimmed with handsome chrome trim moulding. Equipped with hinge doors, and nickel brass snap locks. Completely assembled, ready for use. Finished in Black or Marine Gray Ripple Enamel. Black will be supplied unless Gray is specified.

SINGLE UNITS List

No. 3880 .... $16.50
Size 10½" x 21" x 15" Deep.
Door on top only. Panel space 8¾" x 19".

No. 3881 .... 20.00
Size 14" x 21" x 15" Deep.
Door on top only. Panel space 12¼" x 19".

DOUBLE UNIT

No. 3882 .... 27.75
Size 19¼" x 21" x 15" Deep.
Doors on top and rear. Panel space 17½" x 19".

TRIPLE UNIT

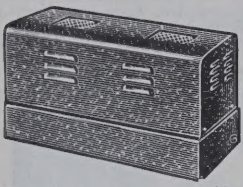
No. 3883 .... 32.00
Size 28" x 21" x 15" Deep.
Door on rear panel only. Panel space 26¼" x 19".

QUADRUPLE UNIT

No. 3884 .... 35.50
Size 36¾" x 21" x 15" Deep.
Door on rear panel only. Panel space 35" x 19".

ICA INSULINE ICA
RADIO PRODUCTS

ICA STANDARD AMPLIFIER FOUNDATION UNITS

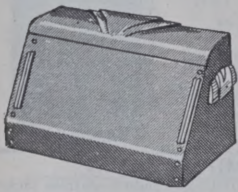


Top covers have rounded corners. The front, sides and back are equipped with louvre ventilators. The tops have raised screen openings for additional ventilation.

Finished in beautiful Marine Gray Ripple Enamel.

No.	Size	Height of Chassis	List
3980	5½″ x 10″ x 9″	3″	$3.75
3981	8″ x 12″ x 9″	3″	5.50
3982	7″ x 17″ x 9″	3″	5.75
3983	10″ x 14″ x 9″	3″	6.25
3984	10″ x 17″ x 9″	3″	6.50

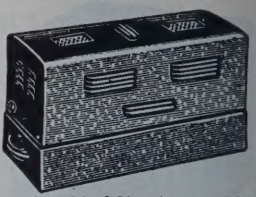
FUTURA STREAMLINED SLOPING PANEL CABINETS



Can be used as instrument cases in studios, laboratories, etc. Raised "Futura" design — streamlined corners. Ventilator openings for cable connectors. Removable front panel. Finished in Marine Gray Ripple enamel with chrome moulding.

No.	H.	W.	D.	List
3840	8″	x 8″	x 8″	$8.00
3841	8″	x 10″	x 8″	9.00
3842	8″	x 14″	x 8″	11.00
3843	8″	x 18″	x 8″	13.50
3844	12″	x 18″	x 12″	15.00

ICA DE LUXE AMPLIFIER FOUNDATION CHASSIS

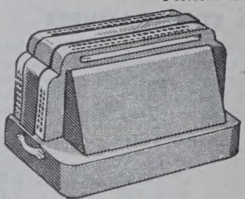


Top covers have rounded corners and fronts are embellished with the newly created Chrome plated "Air-Gate" Ventilators. Additional ventilation is obtained through the raised screen openings on the top as well as louvres on both sides and back.

Have beautiful Chrome mouldings and Chrome handles. Finished in Marine Gray Ripple Enamel.

No.	Size	Height of Chassis	List
3971	5½″ x 10″ x 9″	3″	$6.15
3972	8″ x 12″ x 9″	3″	8.00
3973	7″ x 17″ x 9″	3″	8.25
3974	10″ x 14″ x 9″	3″	9.00
3975	10″ x 17″ x 9″	3″	9.50

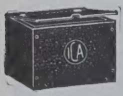
"SUPER" STREAMLINED SLOPING-FRONT AMPLIFIER CHASSIS



New, modern design amplifier chassis. Front panel sloped with streamlined top cover. Removable front panel Marine Gray Ripple finish with Chrome trim. Bottom plates supplied. Top cover 6½″ high.

No.	Chassis Size	List
3930	10″ x 12″ x 3″	$10.00
3931	10″ x 17″ x 3″	11.50
3932	13″ x 17″ x 3″	13.00

ICA HINGED COVER CABINETS



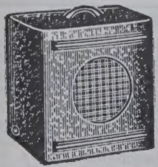
Supplied in knocked-down form for easy handling. Easily assembled.

Finished in Black Ripple Enamel.

No.	W.	D.	H.	List
3825	9″	x 5″	x 6″	$4.00
3826	10″	x 8″	x 7″	5.00
3828	12″	x 8″	x 7″	5.75
3829	12″	x 11″	x 8″	6.85
3830	14″	x 8″	x 7″	6.85
3831	18″	x 12″	x 9″	8.60

CHASSIS FOR ICA CABINETS

No.	W.	D.	H.	For Cabinet Number	List
4000	8½″	x 4¾″	x 1½″	3825	$1.05
4004	9″	x 7″	x 2″	3826	1.50
4005	11″	x 7″	x 2″	3828	1.65
4007	13″	x 7″	x 2″	3830	1.80
4023	17″	x 11″	x 3″	3831	3.30



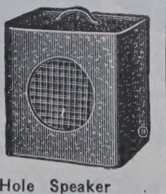
ICA DE LUXE SPEAKER CABINETS

Features rounded corners; neatly chrome trimmed front; equipped with chrome handle. Steel grille. Marine Gray Ripple finish.

No.	Size	Hole Size	Speaker Size	List
3935	10″ x 10″ x 6″	4¾″	6″	$7.00
3936	12″ x 12″ x 7″	6½″	8″	8.80
3937	14″ x 14″ x 8″	9″	10″	11.00
3938	16″ x 16″ x 8″	11″	12″	14.50

ICA STANDARD SPEAKER CABINETS

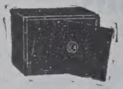
Finished in Black Ripple Enamel with plain black steel handles to match.



No.	Size	Hole Size	Speaker Size	List
3942	10″ x 10″ x 6″	4¾″	6″	$5.10
3943	12″ x 12″ x 7″	6½″	8″	6.10
3944	14″ x 14″ x 8″	9″	10″	8.00
3945	16″ x 16″ x 8″	11″	12″	10.75

ICA METAL CABINETS

Black Ripple Finish

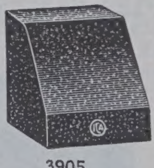


Have various uses such as input stages, mixers, transceivers, amplifiers, monitors, etc. Front and back covers are removable and can be fastened to cabinet with self tapping machine screws. Finished in Black Ripple Enamel.

No.	W.	D.	H.	List
3810	4″	x 2″	x 4″	$1.35
3811	4″	x 3″	x 5″	1.45
3800	6″	x 6″	x 6″	1.65
3801	9″	x 5″	x 6″	2.55
3802	10″	x 8″	x 7″	3.25
3803	10″	x 8″	x 10″	4.00
3804	12″	x 11″	x 8″	4.30

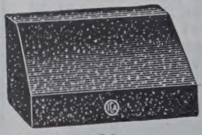
ICA SLOPING PANEL CABINETS

Small—Compact



3905

New streamlined cabinets, rugged, small and compact, have various uses such as speaker cabinets, oscillator cases, input stages, small receivers, teletalk systems, monitors, etc.

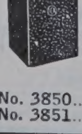


3906

Beautifully designed, with rounded corners and finished in marine gray ripple.

No.	W.	H.	D.	List
3905	4$\frac{3}{16}$″	x 4½″	x 4¼″	$2.15
3906	7½″	x 4½″	x 4¼″	3.85

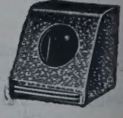
ICA PORTABLE STEEL CABINETS



Ideal for housing oscillators, transceivers, test equipment, etc. Both front and back panels are removable and are held with self-tapping screws which are supplied. Equipped with leather handle. Finished in black ripple.

No. 3850....Size 12″ x 7¾″ x 7″....List $4.25
No. 3851....Size 15″ x 7¾″ x 7″....List 4.95

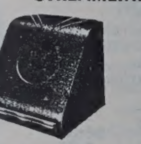
ICA DE LUXE METER CASES



Finished in Marine Gray Ripple Enamel with rounded tops and trimmed with beautiful Chrome band. Available for 2″ or 3″ meters.

No.	D.	W.	H.	Meter Hole	List
3995	4¼″	x 4$\frac{3}{16}$″	x 4½″	2$\frac{3}{16}$″	$2.25
3996	4¼″	x 4$\frac{3}{16}$″	x 4½″	2$\frac{13}{16}$″	2.25

STREAMLINED METER CASES

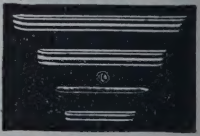


Modern streamlined cases, with raised "futura" design on top of cabinet. Finished in Marine Gray Ripple Enamel and trimmed with chrome band.

No.	D.	W.	H.	Meter Hole	List
3997	4¼″	x 4$\frac{3}{16}$″	x 4½″	2$\frac{3}{16}$″	$3.00
3998	4¼″	x 4$\frac{3}{16}$″	x 4½″	2$\frac{13}{16}$″	3.00

ICA CHROME TRIM MOULDING

Beautiful chrome trim mouldings to dress up any cabinet, chassis, receiver, speaker cabinet, transmitter, etc. Furnished with mounting tracks or clips.



No.		List
3510	Chrome Moulding with single Stripe—size $\frac{5}{16}$″ w. by 4″ l.	$ .80
3513	Chrome Moulding with double Stripe—size ¾″ w. by 8″ l.	1.30
3514	Chrome Moulding with double Stripe—size ¾″ w. by 12″ l.	1.50
3515	Chrome Moulding with double Stripe—size ¾″ w. by 18⅞″ l.	1.85
3505	Bullet Shape all Chrome Moulding—size $\frac{5}{16}$″ w. by 6″ l.	.80

ICA CHROME HANDLES

No. 3500—Length 4″; width $\frac{11}{16}$″......List $.75
No. 3501—Length 5¼″; width ½″..List .75

ICA INSULINE ICA
RADIO PRODUCTS

STEEL OR ALUMINUM CHASSIS BASES

For receivers, transmitters, etc. Bases are folded over on bottom for additional strength and drilled to permit attaching of bottom plates. Solidly constructed. STEEL BASES—one piece; heavy duty; zinc plated or black ripple finish. ALUMINUM BASES—First grade aluminum, electronically welded. Thickness: .055—¼ Hard.

Steel—Zinc Plated Finish No.	List	Steel—Black Ripple Finish No.	List	Gauge	Size	Aluminum No.	List
1560	$1.05	4000	$1.05	20	4½ x 8 x 1½	29000	$1.10
1530	1.10	4001	1.15	20	5 x 9½ x 1½	29001	1.30
1565	1.45	4002	1.40	20	5 x 9½ x 3	29002	1.65
1582	1.55	4032	1.55	20	5½ x 10 x 3	29004	1.95
1566	1.75	4003	1.75	20	5 x 13 x 3	29003	1.80
1526	1.40	4024	1.40	20	7 x 7 x 2	29005	1.60
1569	1.50	4004	1.50	20	7 x 9 x 2	29006	1.80
1570	1.65	4005	1.65	20	7 x 11 x 2	29007	1.95
1527	1.95	4006	1.90	20	7 x 12 x 3	29008	2.20
1571	1.80	4007	1.80	20	7 x 13 x 2	29009	2.10
1572	2.15	4008	2.15	20	7 x 15 x 3	29010	2.50
1528	2.15	4009	2.15	20	7 x 17 x 3	29011	2.65
1567	2.15	4013	2.15	20	8 x 12 x 3	29012	2.55
1573	2.30	4014	2.30	20	8 x 17 x 2	29013	2.80
1575	2.45	4035	2.45	20	8 x 17 x 3	29014	2.95
1520	2.35	4016	2.35	20	10 x 12 x 3	29015	2.85
1568	2.45	4017	2.45	20	10 x 14 x 3	29016	2.95
1583	2.20	4033	2.20	20	10 x 17 x 3	29017	3.20
1521	2.65	4018	2.65	18	10 x 17 x 3		
1522	3.30	4019	3.30	18	10 x 23 x 3	29018	3.95
1577	3.00	4027	3.00	18	11 x 17 x 2	29019	3.50
1519	3.30	4023	3.30	18	11 x 17 x 3	29020	3.85
1574	3.00	4020	3.00	18	12 x 17 x 2	29021	3.60
1578	3.30	4028	3.30	18	12 x 17 x 3	29022	3.95
1579	3.60	4029	3.60	18	13 x 17 x 2	29023	4.35
1524	4.15	4021	4.15	18	13 x 17 x 3	29024	4.85
1580	3.50	4030	3.50	18	10 x 17 x 4	29025	4.35
1581	4.70	4031	4.70	18	13 x 17 x 4	29026	5.65
					4 x 17 x 3	29027	2.40

ICA CHASSIS BOTTOM PLATES

Designed to fit all ICA Chassis Bases and amplifier units listed to the left. Four raised bosses prevent marring or scratching. Supplied in steel or aluminum.

Steel Zinc Plated	Steel Black Ripple	List Price	Size	Aluminum No.	Aluminum List Price
1601	4051	$ .65	5 x 9½		
1625	4075	.70	5½ x 10	8725	$ .90
1602	4052	.75	5 x 13	8702	.95
1623	4073	.75	7 x 7	8723	.90
1603	4053	.75	7 x 9	8703	.95
1604	4054	.90	7 x 11	8704	1.05
1605	4055	.95	7 x 12	8705	1.10
1606	4056	.95	7 x 13	8706	1.20
1607	4057	1.05	7 x 15	8707	1.25
1608	4058	1.10	7 x 17	8708	1.35
1612	4062	1.10	8 x 12	8712	1.30
1613	4063	1.15	8 x 17	8713	1.50
1615	4065	1.15	10 x 12	8715	1.45
1616	4066	1.20	10 x 14	8716	1.55
1617	4067	1.40	10 x 17	8717	1.75
1618	4068	1.80	10 x 23	8718	2.10
1622	4072	1.40	11 x 17	8727	2.00
1619	4069	1.50	12 x 17	8719	2.25
1620	4070	1.80	13 x 17	8720	2.35
1624	4074	1.50	13 x 14		

ICA SLOPING FRONT CHASSIS

Has a sloping front for mounting instruments. Has the effect of a beautiful open cabinet receiver, or amplifier unit, when used without top covers. Heavy Duty Steel, finished in Black Ripple Enamel.

No.	Top of Base	Bottom of Base	Hgt.	Size of Slope	List
3320	7x17"	10x17"	3½"	4"	$3.30
3321	10x14"	13x14"	3½"	4"	3.65
3322	10x17"	13x17"	3½"	4"	4.15

ICA CHASSIS MOUNTING BRACKETS

Made to fit on 17" relay rack chassis. Panels must be at least 7" high.

Black ripple finish.

No.		List
3955—For 8" base	Per Pair	$1.25
3958—For 10" base	Per Pair	1.70
3956—For 11" base	Per Pair	1.90
3957—For 13" base	Per Pair	2.20

ICA MASONITE RELAY RACK PANELS

Made of Tempered Masonite—a non-magnetic material, sturdy and tough yet easily drilled and worked with ordinary wood-working tools and punches. Finished in Black or Gray. Supplied in Black Ripple finish unless Gray is specified.

No.	Size	List
3662	1¾" x 19"	$.85
3663	3½" x 19"	1.10
3664	5¼" x 19"	1.45
3665	7" x 19"	1.60
3666	8¾" x 19"	2.00
3667	10½" x 19"	2.25
3668	12¼" x 19"	2.50
3669	14" x 19"	2.80
3670	15¾" x 19"	3.10
3671	17½" x 19"	3.60
3672	19¼" x 19"	4.00
3673	21" x 19"	4.35

SPECIAL SIZES RACK PANELS TO ORDER

We can supply Rack Panels in any thickness from ⅛" to ¼" in Steel, Aluminum or Masonite; in any finish to specifications.

STANDARD RELAY RACK PANELS

Supplied in Amateur Rack notching, first notch ⅞" from edge of panel and 1¾" between centers. 19" long. Completely slotted, ⅛" thick. Made of steel (in black ripple or gray finish) or aluminum.

Steel Black No.	Steel Gray No.	List Price	Size	Aluminum No.	Aluminum List Price
3600	3612	$1.10	1¾"	8600	$1.22
3601	3613	1.25	3½"	8601	1.61
3602	3614	1.45	5¼"	8602	1.92
3603	3615	1.55	7"	8603	2.58
3604	3616	1.95	8¾"	8604	2.99
3605	3617	2.20	10½"	8605	3.41
3606	3618	2.70	12¼"	8606	3.92
3607	3619	3.10	14"	8607	4.46
3608	3620	3.60	15¾"	8608	5.00
3609	3621	3.85	17½"	8609	5.58
3610	3622	4.15	19¼"	8610	6.11
3611	3623	4.70	21"	8611	6.68

ICA RELAY RACK BRACKETS

Black Ripple Finish.

Used to reinforce racks and for mounting of panels, shelves, chassis, etc.

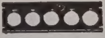
No.		List
3950— 5" Base Brackets	Per Pair	$1.05
3951— 8" Base Brackets	Per Pair	1.50
3952—11" Base Brackets	Per Pair	2.00

TABLE MOUNT RELAY RACKS

Sturdily constructed heavy duty table rack with one piece base. Accurately drilled mounting holes. Finished in black ripple. Supplied "KNOCKED DOWN" with all necessary hardware.

No.	W. H. D.	Panel Space	List
3910	21" x 25" x 12"	21" x 19"	$9.00
3911	21" x 32" x 12"	28" x 19"	10.50

ICA METER PANELS



Slotted to fit all standard racks. Finished in Baked Black or Gray Ripple. Size 5¼" x 19".
Black will be shipped unless Gray is specified.

STEEL PANELS

No.	No. Holes	Meter Size	Hole	List
3651	5	2"	$2\frac{3}{16}$"	$3.60
3652	3	2"	$2\frac{3}{16}$"	2.50
3653	5	3"	$2\frac{13}{16}$"	3.60
3654	3	3"	$2\frac{13}{16}$"	2.50

MASONITE PANELS

No.	No. Holes	Meter Size	Hole	List
3641	3	2¼"	2¼"	$2.25
3642	4	2¼"	2¼"	2.50
3643	3	$2\frac{3}{16}$"	$2\frac{13}{16}$"	2.25
3644	4	$2\frac{3}{16}$"	$2\frac{13}{16}$"	2.50

ICA STEEL PANELS

Thickness of Panels $\frac{1}{16}$"
Black Ripple Finish

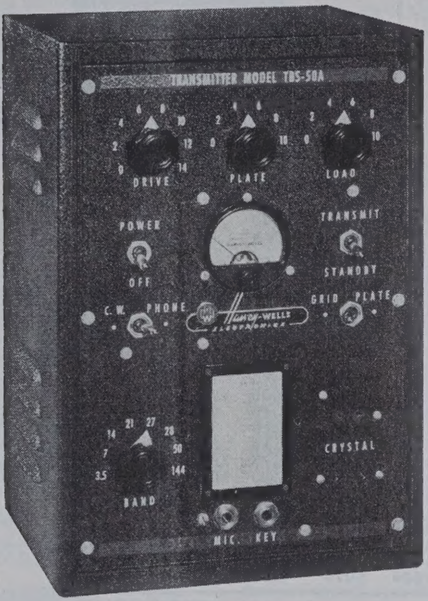
No.	Size	List
3175	7" x 10"	$.80
3176	7" x 12"	.90
3177	7" x 14"	1.20
3178	7" x 18"	1.50
3183	8" x 12"	1.15
3184	8" x 14"	1.30
3186	8" x 18"	1.50
3191	10" x 14"	2.00
3192	10" x 18"	2.35
3194	10" x 24"	2.75

ICA MASONITE PANELS

Black Ripple Finish
Thickness of panel $\frac{3}{16}$"

No.	Size	List
810	7" x 10"	$1.00
811	7" x 12"	1.10
812	7" x 14"	1.25
813	7" x 18"	1.50
814	7" x 21"	1.65
815	8" x 12"	1.35
816	8" x 14"	1.45
817	8" x 16"	1.65
818	8" x 18"	1.80

Harvey-WELLS ELECTRONICS, INC.
SOUTHBRIDGE, MASS.



TBS-50 TRANSMITTER

America's Most Versatile Small Transmitter

50 WATTS — 8 BANDS — PHONE OR CW
NO PLUG-IN COILS
80, 40, 20, 15, 11, 10, 6 and 2 METERS

(Completely wired and tested—not a kit)

Everything about the TBS-50 was designed to please any operator of this 50 Watter. Crystal controlled on all bands, yet requires no oscillator or multiplier tuning. Eight bands from 80 to 2 meters with band switch and no plug-in coils. Compact, the TBS-50 serves equally well for fixed station or mobile operation. Will operate from AC power packs up to 450 volts at 275. ma. or dynamotor supply for portable mobile operation. As an exciter unit, R.F. output is capable of driving 1000 watt Class C amplifier. Separate winding on modulation transformer permits audio system to be used to drive 500 watt modulator. Employs Pi antenna matching network. Separate coaxial output terminal for 144-148 Mc. antenna. Power input to final is 50 watts with 450 volt power supply on Bands 1 through 7, 30 watts on Band 8. All circuits are sufficiently broad to tune completely over any band with adequate excitation for any frequency on the first six bands. Retuning may be necessary to cover the entire 6 and 2 meter bands. No tuning adjustments are necessary except those necessary to resonate the final output to the antenna. TBS-50 may be mounted on rack panel with power supply.

CONTROLS: Band Switch, Excitation Control, Antenna Loading, Amplifier Tuning, Power On Switch, Carrier On Switch, Meter Switch, CW-Phone Switch. Antenna network will match non-reactive feeder of approximately 50-500 ohms. Microphone input designed to use inexpensive single button carbon type microphone. Frequency calibration chart on front panel as well as 0-10 ma. DC milliammeter.

TUBES: 6AQ5 Crystal Oscillator, 6AQ5 Buffer-Multiplier, 807 Final Amplifier, 2-6L6 Class B Modulators. In sturdy steel cabinet, 8" wide by 12" high by 8" deep.

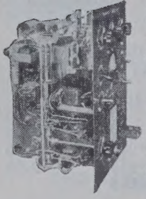
TBS-50 Complete with Tubes.............................. **$99.50**

TBS-50A WITH CRYSTAL-MICROPHONE AMPLIFIER

The TBS-50 amateur transmitter was originally designed to use a simple, inexpensive button carbon microphone. . . . There have been so many requests, however, for a crystal microphone model that we have developed a small three-tube preamplifier which is incorporated in the TBS-50A at time of manufacture. This preamplifier has sufficient gain so that any high impedance microphone having an output level of approximately —50 db can be used.

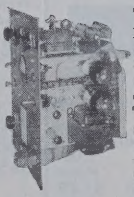
The first speech amplifier tube (6AU6) is pentode connected and feeds the second speech amplifier (6AU6) triode connected. This in turn drives a twin triode (12AU7) as phase inverter which drives the grids of the regular 6L6 modulators.

TBS-50A Complete with Tubes.............................. **$121.25**



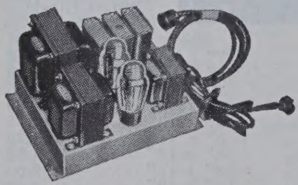
Left side view showing 807 final amplifier, band switch assembly and final tank coils.

Right side view showing 6AQ5 oscillator and multiplier tubes and 6L6G modulators.



POWER SUPPLIES

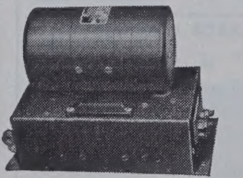
Developed specially for use with the TBS-50 and TBS-50A



APS-50

Delivers 425 volts at 275. ma. and 6.3 volts at 4 amps. With Hi-Lo switch. May be mounted on Rack Panel as shown at right.

APS-50—for 110 volt AC input..........$39.50



DPS-50

For portable operation. Delivers same voltages and current as APS-50.

DPS-50—for 6 volt operation 300 volts 275 ma...............$87.50

DPS-50—for 12 volt operation, same as APS-50............$54.30

RACK PANEL

TBS-1A

Size 12½" by 19" — Specially drilled for mounting TBS-50 or TBS-50A and Power Supply APS-50. In new black crackle finish.

$5.75

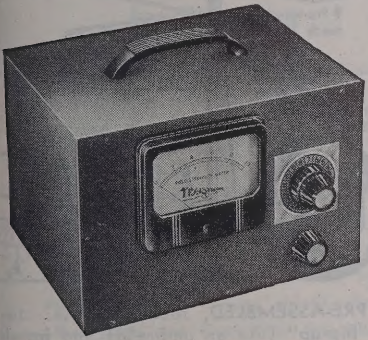
TELEVISION
KITS, CABINETS

TRANSVISION

INSTRUMENTS
COMPONENTS

Eliminate the Variables in Television Installation with the TRANSVISION FIELD STRENGTH METER

Do not depend on pictures—
Use absolute measurements—
Direct Meter Readings!



Improves Installations!!

Saves ½ the Work!!

Has numerous features and advantages, including — (1) Measures actual picture signal strength . . . (2) Permits actual picture signal measurements without the use of a complete television set . . . (3) Antenna orientation can be done exactly . . . (4) Measures losses or gain of various antenna and lead-in combinations . . . (5) Useful for checking receiver re-radiation (local oscillator) . . . (6) **12 CHANNEL SELECTOR** . . . (7) Amplitudes of interfering signals can be checked . . . (8) Weights only 5 lbs. . . . (9) **Individually calibrated** . . . (10) Housed in attractive metal carrying case . . . (11) Initial cost of this unit is covered after only 3 or 4 installations . . . (12) Operates on 110V, 60 Cycles, AC.

Model FSM-1, complete with tubes . . . Net

TELEVISION
Transvision

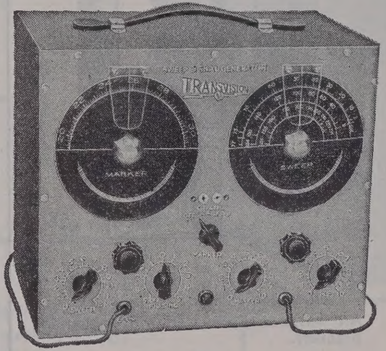
TRANSVISION "SERVICE NOTES"

The Key to Successful Television Servicing

Transvision's "Service Notes" is a compilation of confidential Television Notes and Information, the product of experience with over 20,000 television receivers, now made available to the public.

"Service Notes" is complete with photographs and diagrams. The information is worth a small fortune. The cost is low. Net

TRANSVISION TELEVISION and FM SWEEP SIGNAL GENERATOR

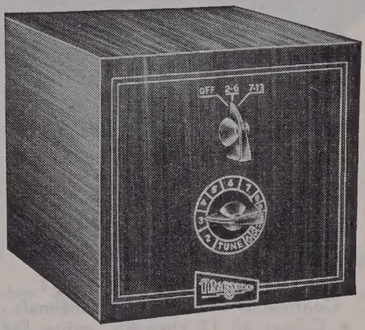


Complete frequency coverage from 0-227 MC with no band switching. . . . Sweep width from 0-12 MC completely variable. . . . Accurately calibrated built-in marker generator.

ADDITIONAL FEATURES: (1) Dial calibrated in frequency. . . . (2) Self-contained markers readable directly on the dial to .5% or better. (No external generator required to provide the marker signals.) . . . (3) Crystal controlled output makes possible any crystal controlled frequency from 5-230 MC. . . . (4) Plenty of voltage output—permits stage-by-stage alignment. . . . (5) Output impedance 5-125 ohms. . . . (6) Directly calibrated markers 20-30 MC for trap, sound and video IF alignment. . . . (7) RF for alignment of traps for IF channels when a DC volt meter is used as the indicating medium. . . . (8) Unmodulated RF signals to provide marker pips simultaneously with the main variable oscillator. . . . (9) Markers can be controlled as to output strength in the pip oscillator. . . . (10) Power supply completely shielded and filtered to prevent leakage. . . . (11) All active tubes are the new modern miniature type. . . . (12) Phasing control incorporated in the generator.

TRANSVISION ALL-CHANNEL TELEVISION BOOSTER

CONTINUOUS TUNING



To **assure television reception in weak signal areas,** or areas which are out of range of certain broadcasting stations, Transvision engineers have designed this new booster. It **increases signal strength on all television channels.** Tunes all television channels **continuously.** Can be used with any type of television receiver. Unusually high gain in upper television channels.

Model B-1......................................List

TRANSVISION Complete Line of TELEVISION COMPONENTS

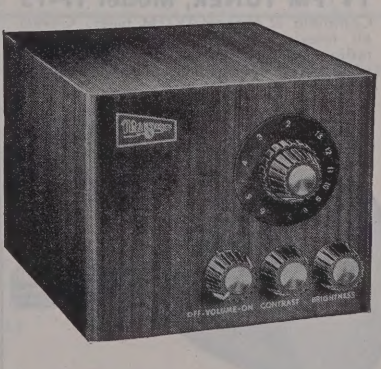
Essential units for building a quality television set . . . Transvision makes available a complete line of high quality parts competitively priced. Included in this line are **Filter Chokes,** all types of **Transformers, Focus Coils, Deflection Yokes, Coils**—and of course major units such as Picture Tubes, Antennas, Lenses, etc., etc.

WRITE FOR COMPONENTS FOLDER P-1

TRANSVISION'S NEW REMOTE CONTROL UNIT — for use with ANY TELEVISION SET

OPERATES *ANY* TELEVISION SET from a DISTANCE up to 50 feet.

Now you can sit back in your easy chair, a comfortable distance away, and operate your TV set. This new Transvision **REMOTE CONTROL UNIT** turns **ANY SET on, tunes in stations, controls contrast** and **brightness, turns** set off. Especially ideal for commercial installations where the TV set is inaccessible.



TUNER UNIT is a high gain, all-channel, **CONTINUOUS TUNING UNIT** (about 50 microvolt sensitivity).

Model TRCU Remote Control Unit with 25-ft. cable..Net
Also available without cabinet..Net

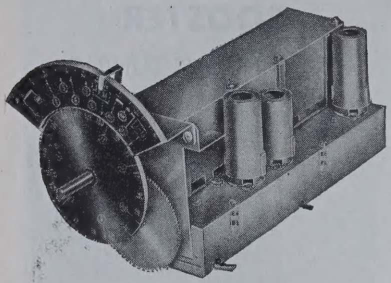
All Prices on Application

TV-FM TUNERS
ANTENNAS

TRANSVISION

LENSES
CR TUBES

DE LUXE TV/FM INPUTUNER MODEL IT-1



Distributed nationally, exclusively by Transvision

The finest TV/FM Tuner on the market today!

Continuous Tuning on All Channels

- Covers all 12 channels, entire FM range.
- Continuously tunes from 44 to 216 mc without a break. Requires no band switching for tuning from channel to channel.
- Complete with tubes and escutcheon.

Accessory kit available.

●

12-CHANNEL TV TUNERS
CONTINUOUS TUNING

Model CT-1 (part #653), for TV channels 2 to 13, is notable for its high gain, sensitivity, excellent image rejection ratio, and **CONTINUOUS TUNING** feature. May be used with any 7", 10", 12", or 15" kit.

Model CT-1 TV Tuner..........Net

Model TT-2 (part #301-1 or #301-2) covers **all TV channels, also FM band** (88-108 mc.). Available for 7", 10", 12" or 15" kits. Specify tube size.

Model TT-2 TV/FM Tuner..........Net

●

TRANSVISION 12 - Channel TV/FM TUNER, Model TF-13

Complete 12 channel TV/FM tuner. Covers all television stations and complete FM radio range from 88-108 MC. Has 1 stage of RF, three tubes (6BH6, 6AG5, 9002).

●

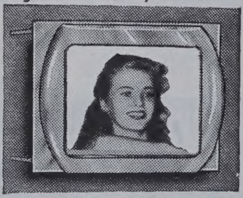
TRANSVISION TELEVISION PICTURE TUBES

TRANSVISION

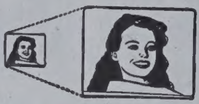
10BP4 Magnetic Deflection 10" picture tube.
12JP4 Magnetic Deflection 12" picture tube.
15AP4 Magnetic Deflection 15" picture tube.

TRANSVISION PICTURE ENLARGING LENSES

Enlarge and Clarify the Pictures



15" Picture Enlarging Lens

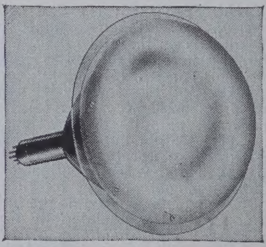


10" Lens (52 sq. in. picture)
12" Lens (75 sq. in. picture)
15" Lens (125 sq. in. picture)

All lenses are provided with mounting brackets.

●

TRANSVISION All-Angle LENSES for ALL TV SETS

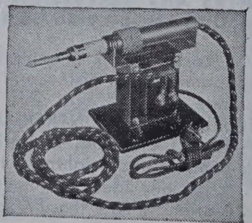


Give picture sizes up to 150 sq. in. **Exclusive patented feature makes image visible from wide angle.** Lenses come with adapter for installation on ANY 7" or 10" picture tube, and with color kits. **All Angle Lens** for 7" tubes (gives 75 sq. in. picture)..........**Net**

All-Angle Lens for 10" tubes (gives 150 sq. in. picture)..........**Net**

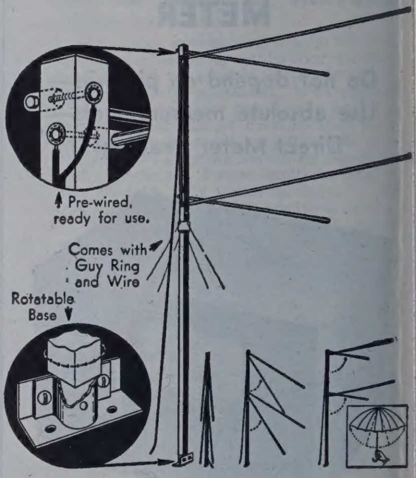
●

TRANSVISION "SOLDETRON"



FEATHERWEIGHT SOLDERING IRON
3 Ounces—Does Job of 200 Watt Iron—Interchangeable Tips; No Cleaning or Filing; Easy to Use for Every Type of Soldering.

"*Flip-Up*" TV ANTENNA

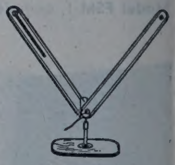


- **PRE-ASSEMBLED,** ready for use. Just "flip-up" (like an umbrella) and **install.**
- **PRE-WIRED**—just connect your lead-in to the two terminals.
- **RECEIVES ALL CHANNELS.**
- **ALL-DIRECTIONAL;** can be oriented for the weakest station in an area with assurance that all other channels will be brought in equally well.
- **EXTREMELY SENSITIVE. Unusual high gain on upper channels.** Ideal for fringe areas.

Completely assembled with rotatable base, 7-ft. mast, guy ring and guy wire.

Additional 7-ft. masts, to build antenna up to 19 ft., at small extra cost.

INDOOR TV ANTENNA



"TELEBIRD"

For Ideal Reception on All Channels - - All-directional Transvision's sensational new "Telebird" is the ideal indoor antenna. Excellent reception on all channels. Eliminates "ghosts". Install it in a jiffy; place it on window sill or anywhere in the room. Will out-perform many outdoor antennas. When not in use, just fold it up and put it away.

VISION FILTER

For 7", 10" or 12" sets. For 10BL or 15" sets.

MAGIC EYE KIT

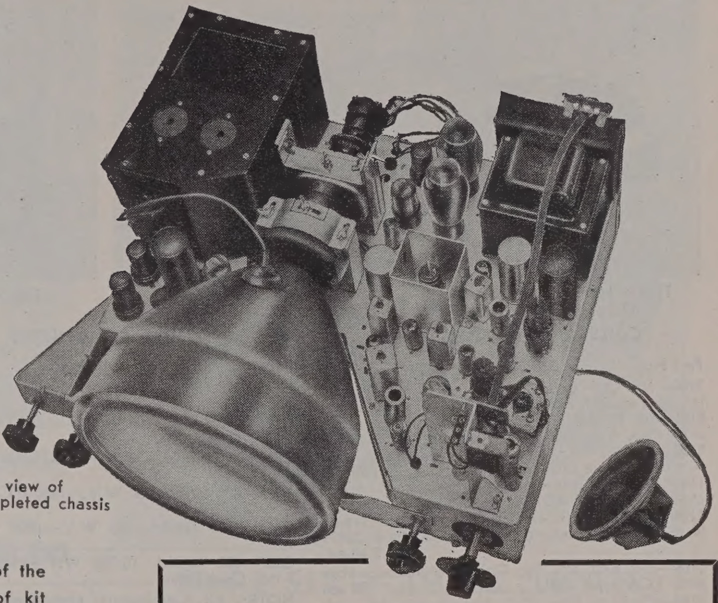
Magic eye kit—for 12/15" deluxe kits only. Includes eye, assembly, escutcheon, instructions.

All Prices on Application

Philmore *Pre-Aligned* TELEVISION KIT

TUNER, VIDEO and SOUND CHANNELS are completely wired and PRE-ALIGNED by Philmore

All components are mounted by Philmore



Top view of completed chassis

Experience has convinced us that pre-alignment of the vital channels is the only satisfactory method of kit assembly. That is why the Tuner, Video and Sound channels are completely wired and fully aligned in our laboratory. We also assemble to the chassis transformers, electrolytic condensers, tubes, high voltage shields, voltage divider shield, chokes. Sockets and other parts are riveted to the chassis which insures good contacts and eliminates any possibility of loose connections.

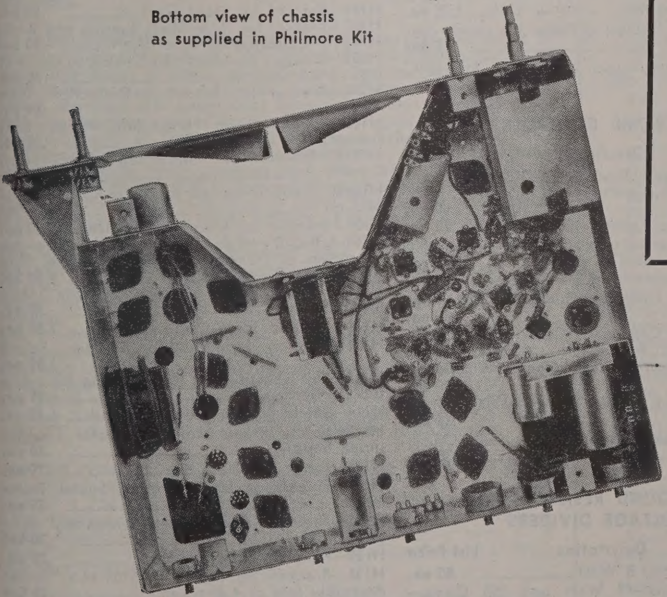
Similar to famous RCA 630TS and 830TS Circuits

Designed for 10″ 12″ 15″ 16″ PICTURE TUBES

SIMPLIFIED STEP-BY-STEP INSTRUCTIONS 36 page manual of instructions on assembly and operation generously illustrated. Six full scale lithographed schematic and pictorial diagrams. All small parts packaged in individual envelopes, clearly numbered and identified on blueprints.

When balance of simple wiring is completed, no further alignments are necessary.

Bottom view of chassis as supplied in Philmore Kit



Features:

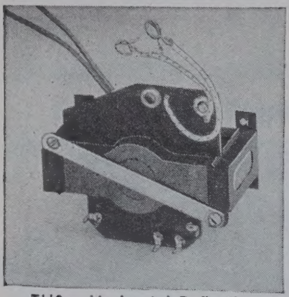
- New, WIDER-SCREEN television for BIGGER pictures on all size tubes.
- 30 RCA tubes (inc. rect. and video).
- New, improved daylight viewing.
- Increased voltage power pack.
- Long range reception.
- Complete *ALL*-channel tuning.
- PM Speaker with choke (better tone and volume—no hum).
- Special mounting bracket for 16″ tube available.
- Ideal for custom-built installations.

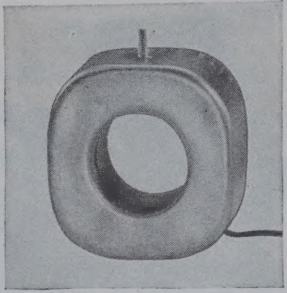
(Philmore TV receivers also available completely wired and assembled.)

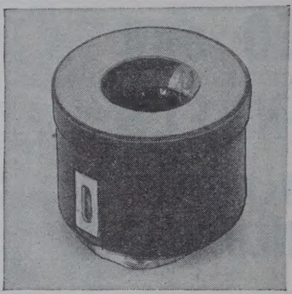
MFD. BY PHILMORE MANUFACTURING COMPANY, INC.

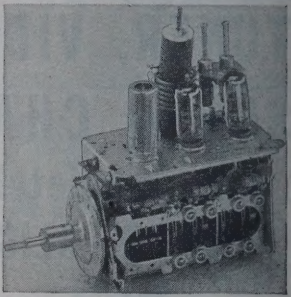
When ALIGNMENT is BUILT-IN trouble is built out

Philmore *TV Replacement Parts*


T118 — Horizontal Deflection Output Transformer


T122 — Focus Coil


T121 — Deflection Yoke


T120 — 12 Channel Tuner

COILS AND TRANSFORMERS

Part No.	Description	List Price
T100	1st and 2nd Sound I.F. Transformers. Interchangeable with RCA type 201K1	**2.00 ea.**
T101	1st Pix I.F. Transformer. Interchangeable with RCA type 202K2	**2.20 ea.**
T102	2nd Pix I.F. Transformer. Interchangeable with RCA Type 202K3	**1.70 ea.**
T103	Sound Discriminator Transformer. Interchangeable with RCA type 203K1	**2.60 ea.**
T104	Horizontal (Synch.) Discriminator Transformer. Interchangeable with RCA type 208T8	**2.60 ea.**
T105	3rd and 4th Pix Coils. Interchangeable with RCA type 202L1	**.50 ea.**
T106	Cathode Trap Coil. Interchangeable with RCA type 202K4	**2.00 ea.**
T107	Video Peaking Coil, 180 MH. Shunt Resistance 39,000 Ohms. Interchangeable with RCA type 203L1	**.35 ea.**
T108	Video Peaking Coil, 250 MH. Shunt Resistance 10 Megohms. Interchangeable with RCA type 203L2	**.30 ea.**
T109	Video Peaking Coil, 120 MH. Shunt Resistance 22,000 Ohms. Interchangeable with RCA type 203L3	**.30 ea.**
T110	Video Peaking Coil, 93 MH. Shunt Resistance 10 Megohms. Interchangeable with RCA type 203L4	**.30 ea.**
T111	Filament Chokes, .8 MH. Interchangeable with RCA type 204L1	**.15 ea.**
T112	Width Control Coil. Interchangeable with RCA type 201R1	**.70 ea.**
T113	Horizontal Linearity Control Coil. Interchangeable with RCA type 201R3	**.75 ea.**
T114	Audio Single Output Transformer (speaker) for 6K6 Tubes	**1.35 ea.**
T115	Power Transformer, 295 MA. Fully Shielded. Interchangeable with RCA type 201T6	**26.50 ea.**
T116	Vertical Deflection Output Transformer. Interchangeable with RCA type 204T2	**4.75 ea.**
T117	Vertical Oscillator Transformer (Blocking). Interchangeable with RCA type 208T2	**2.25 ea.**
T118	Horizontal Deflection Output Transformer. Interchangeable with RCA type 211T1 or 211T3	**9.00 ea.**
T121	Deflection Yoke, 8.3 MH. Vertical 50 MH. Interchangeable with RCA type 201D1	**7.50 ea.**
T122	Focus Coil, 247 Ohms D.C. Resistance. Interchangeable with RCA type 202D1	**6.00 ea.**
T123	Ion Trap Beam Bender P.M. (Double Magnet). Interchangeable with RCA types 203D1 or 203D3	**1.90 ea.**

CERAMIC TUBULAR CONDENSERS TYPE GP

Part No.	Description	List Price
C137	10 Mmfd. 10% Tolerance	**.20 ea.**
C197	51 Mmfd. 10% Tolerance	**.20 ea.**
C181	56 Mmfd. 10% Tolerance	**.20 ea.**
C166	82 Mmfd. 10% Tolerance	**.20 ea.**
C164	1200 Mmfd. Tolerance Not Less Than Rated Capacity	**.20 ea.**
C112	1500 Mmfd. Tolerance Not Less Than Rated Capacity	**.20 ea.**
C200	6800 Mmfd. Tolerance Not Less Than Rated Capacity	**.20 ea.**

MICA CONDENSERS

Part No.	Description	List Price
C116	270 Mmfd. 500 W.V.—1000 D.C. Volts Test	.20 ea.
C176	390 Mmfd. 500 W.V.—1000 D.C. Volts Test	.20 ea.
C161	470 Mmfd. 500 W.V.—1000 D.C. Volts Test	.20 ea.
C179	680 Mmfd. 500 W.V.—1000 D.C. Volts Test	.25 ea.
C154	4700 Mmfd. 500 W.V.—1000 D.C. Volts Test	.55 ea.
C187	500 Mmfd. 10,000 W.V.—High Voltage Filter Condenser	1.10 ea.

NOTE: All Condensers are rated for 85°C Operation.

ELECTROLYTIC CONDENSERS

Part No.	Description	List Price
	(in Round Aluminum Cans)	
C220	40+10+80 Mfd. — 450—450—150 Volts — With Cardboard Insulated Tube	**2.75 ea.**
C221	40+40+10 Mfd. — 450—450—450—Volts	**3.00 ea.**
C222	80+50 Mfd. — 450—50 Volts — With Cardboard Insulated Tube	**3.00 ea.**
C223	40+10+10 Mfd. — 450—450—350 Volts	**2.75 ea.**
C224	20+80 Mfd. — 450—350 Volts	**3.00 ea.**
C-225	250+1000 Mfd. — 10—6 Volts	**2.25 ea.**
H125	Bakelite Insulating Plates for above condensers (set of 4)	**.15 Set**

NOTE: All Condensers are rated for 85°C Operation.

VOLUME CONTROLS

Part No.	Description	List Price
R131	Picture and Sound—10,000 Ohms and 1 Megohm Dual Control with Power Switch	**2.00 ea.**
R152	Brightness Control—50,000 Ohms	**.70 ea.**
R168	Vertical and Horizontal Hold—1 Megohm and 50,000 Ohms Dual Control	**1.75 ea.**
R169	Height Control—2.5 Megohm	**.65 ea.**
R178	Vertical Linearity Control—5,000 Ohms	**.65 ea.**
R181	Vertical Centering Control—20 Ohms, Tapped Center, Wirewound	**1.25 ea.**
R184	Focus Control—1500 Ohms, Wirewound	**1.80 ea.**
R187	Horizontal Drive Control—20,000 Ohms	**.65 ea.**
R211	Horizontal Centering Control—20 Ohms, Wirewound	**1.30 ea.**

WIREWOUND RESISTORS AND VOLTAGE DIVIDERS

Part No.	Description	List Price
R200	5,000 Ohms, 5 Watt	**.50 ea.**
R185	1360 Ohms—17 Watt and 250 Ohms—10 Watt	**1.25 ea.**
R209	5300 Ohms—20 Watt, 500 Ohms—2 Watt and 500 Ohms—2 Watt	**1.50 ea.**
R186	6750 Ohms 3.2 Watt, 12 Ohms—½ Watt and 93 Ohms—4 Watt	**1.25 ea.**

TUNER UNITS, KNOBS AND ESCUTCHEONS

Part No.	Description	List Price
T120	13 Channel Tuner, complete with 3—6J6 Tubes. Pre-Aligned	**60.00 ea.**
KN101-R	Tuner Knob with Springs (set of two knobs)	**.70 Set**
KN102-R	Picture and Sound Knobs with Springs (set of two knobs)	**.40 Set**
KN103-R	Vertical Hold and Horizontal Hold Knobs with Springs (set of two knobs)	**.40 Set**
KN104-R	Brightness Knobs with Springs (set of two knobs)	**.40 Set**
KN105-R	13 Channel Escutcheon Plate and Spring	**1.10 ea.**

NOTE: Above knobs are to be used with the RCA 13 Channel Tuner.

Part No.	Description	List Price
KN106	Set of Decals for either the 12 Channel or 13 Channel Tuner	**.20 Set**

ADDITIONAL TELEVISION ITEMS

Part No.	Description	List Price
S105	High Voltage Rectifier Socket Assembly	**1.25 ea.**
S106	Duo-Decal Kinescope Sockets with 5-19" Leads	**.90 ea.**
301	300 Ohm Twin Connecting Transmission Line, 1000 ft. Spools	**40.00 M ft.**
302	High Voltage Lead 23" Long with Clip for Connecting to Kinescope Tube	**.75 ea.**

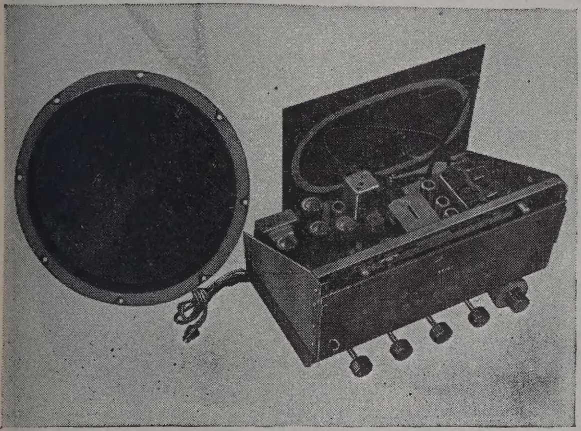
BRACKETS AND HARDWARE ITEMS

Part No.	Description	List Price
H101	Bracket for Hold Control	**.90 ea.**
H102 **H103**	Bracket for Tuner Shaft Bearing and Bakelite Bearing for Tuner Shaft	**.50 Set**
H104	Brackets for Mounting Chassis to Cabinet (set of 4 brackets)	**.75 Set**
H105	Bracket for Mounting Deflection Yoke	**.80 ea.**
H106A	Bracket for Mounting Focus Coil (upper)	**.35 ea.**
H106B	Bracket for Mounting Focus Coil (lower)	**.60 ea.**
H106D	Studs Threaded for Focus Coil Bracket (set of 2)	**.25 Set**
H107	Bracket for Mounting Speaker	**.90 ea.**
H109-A-B-C-D	High Voltage Shield Assembly consisting of Transformer Mounting Base, Side Cover, Top Cover and Back Cover	**8.00 Set**
H109E	6 foot Power Supply Cord with Safety Break Female Connector	**.90 ea.**
H111A	Shield for Voltage Divider	**1.50 ea.**
H111B	Cover for Voltage Divider Shield	**1.00 ea.**
H112	Sub-Chassis Plate for Mounting Electrolytic Condensers	**1.25 ea.**
H114	Shield for Cathode Trap Coil	**1.25 ea.**
H115	Safety Break Male Connector for AC Input Supply	**.30 ea.**
H116	Tuner Shield	**.75 ea.**
H117	Shield for Discriminating Sound Transformer	**.35 ea.**
H132	Threaded Round Head Screws 4½" long (set of 2)	**.30 Set**
H135	Ring Corona Wire	**.25 ea.**
H136	Brackets for Mounting S105 H.V. Socket Assembly (set of 4 brackets)	**.25 Set**
H137	Bracket for Width Control	**.50 ea.**
H142	Bracket for Kinescope Tube	**1.50 ea.**
T125	T.V. Chassis, formed and punched. Cadmium plated for Philmore Television Sets and Kits or any RCA 630 Type Set	**10.00 ea.**

Additional items not listed are available. Please write for prices.

PHILMORE MANUFACTURING COMPANY, INC.

ESPEY MANUFACTURING CO. INC.
NEW YORK 21, NEW YORK
ESTABLISHED 1928



Model 511 — AM-FM RADIO CHASSIS

A Low-Priced Replacement Chassis.
Fits All Types of Console Cabinets.

DEALER - SERVICEMAN.........Net $98.00

I. **Model 511** is a Superheterodyne AM-FM Radio Receiver chassis designed to operate on: 105/125 volts AC; 50/60 cycles. Power consumption: 85 watts.

II. **FEATURES:** 1. AC Superheterodyne AM-FM receiver. — 2. Improved Frequency Modulation Circuit. **Drift Compensated.** — 3. 12 Tubes plus Rectifier and Tuning Indicator. — 4. 3 Dual Purpose Tubes give added performance. — 5. Treble Tone Control. — 6. 6-Gang Tuning Condenser. — 7. Full-range Bass Tone Control. — 8. High-Fidelity AM-FM Reception. — 9. Automatic Volume Control. — 10. 13-watt (maximum) Push-Pull Audio Output. — 11. 12-inch PM Speaker with Alnico V Magnet, 25 watts. 12. — Indirectly Illuminated "Slide-Rule" Dial. — 13. Antenna for AM and Folded Dipole Antenna for FM reception. — 14. Provisions for external antennas. — 15. Wired for Phonograph Operations. — 16. Licensed under RCA patents. — 17. RMA listed. — 18. Multi-tap Output Transformer, 3.2, 8 and 500 ohms.

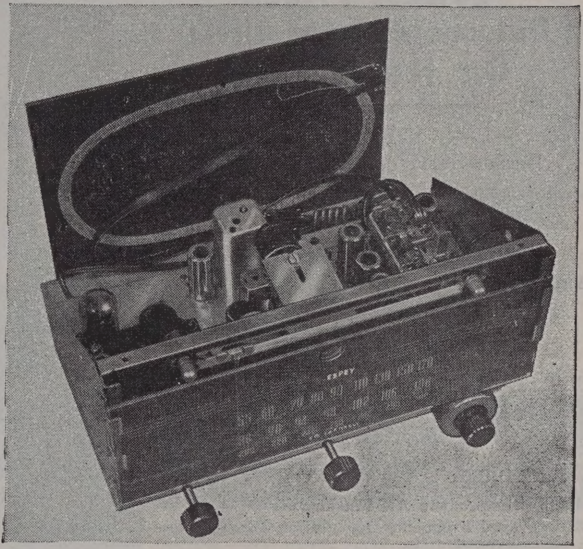
III. **DESCRIPTION:** Model 511 receiver features the latest in postwar engineering design. The FM circuit includes a tuned RF Amplifier stage, 2 stages of high gain Intermediate Frequency Amplification and an advanced design Ratio Detector circuit which provides low noise level between stations, freedom from AM interference, ease of tuning and ample gain for satisfactory operation with an indoor antenna in most urban locations. The AM circuit includes a Tuned RF Amplifier for improved selectivity and freedom from spurious responses. High Fidelity reproduction on FM and AM is insured through well-engineered circuits and the use of high quality parts. The tuning ranges are: Standard Broadcast — 535 to 1720 Kc. FM Band — 88 to 108 Mc.

The large easy-to-read "slide-rule" type dial is illuminated by two pilot lights which also provide illumination for the red plastic dial pointer. A high ratio flywheel drive on the tuning condenser provides smooth tuning throughout the range of the receiver.
The receiver has two antennas; a Loop antenna for Standard Broadcast and a Folded Dipole antenna for the FM band.
Provision is made for connecting an external Phonograph Pickup to the high-fidelity audio amplifier system of the receiver.
The **Multi**-tap output transformer will permit the use of Most Popul**ar** Type Hi-Fidelity Speakers and dividing networks, or to match a standard 500-ohm line for Remote installations.

IV. **TUBE COMPLEMENT:** 1 AM-RF Amplifier tube. — 1 FM-RF Amplifier tube. —1 AM Oscillator, Mixer tube. — 1 IF Amplifier tube. — 1 FM Detector Driver tube. — 1 FM Detector tube. — 1 FM Oscillator tube. — 1 FM Mixer tube. — 1 AM Detector, Audio Amplifier tube. — 1 Audio Amplifier-Inverter tube. — 2 Push-Pull Power Amplifier tubes. — 1 Rectifier tube. — 1 Electron Ray Tuning Indicator tube.

V. **ACCESSORIES:** The Model 511 chassis is supplied ready to operate, complete with tubes, antennas, speaker and all necessary hardware for mounting in a table cabinet or console, including escutcheon.

VI. **CHASSIS DIMENSIONS AND WEIGHT:** Chassis Dimensions: 13½" wide x 8½" high x 10" deep. Carton Dimensions: (2 units) 20" x 14¼" x 10¾". Net Weight: 16½ lbs. each.



Model 512 — AM-FM TUNER

Outstanding AM-FM TUNER, self-powered for use with all types of Audio Amplifiers.

DEALER - SERVICEMAN.........Net $82.15

I. **Model 512** Superheterodyne AM-FM Radio Tuner chassis is designed to operate on: 105/125 volts AC; 50/60 cycles. Power Consumption: 66 watts.

II. **FEATURES:** 1. AC Superheterodyne AM-FM tuning circuit. — 2. Improved Frequency Modulation Circuit, **drift compensated.** — 3. 9 Tubes plus Rectifier and Tuning Indicator. — 4. 3 Dual Purpose Tubes give added performance. — 5. Automatic Volume Control. — 6. 6-Gang Tuning Condenser. — 7. High-Fidelity AM-FM Reception. — 8. Indirectly Illuminated "Slide-Rule" Dial. — 9. Antenna for AM and Folded Dipole Antenna for FM Reception. — 10. Provisions for external antennas. — 11. Wired for Phonograph Operations. — 12. Licensed under RCA patents. — 13. RMA listed. — 14. High and Low Level Audio Output. — 15. Utility Socket provides power for magnetic reluctance pickup pre-amplifier.

III. **DESCRIPTION: Model 512 Tuner** features the latest in postwar engineering design. The FM circuit includes the tuned RF Amplifier stage, 2 stages of high-gain Intermediate Frequency Amplification, and an advanced design Ratio Detector circuit which provides low noise level between stations, freedom from AM interference, ease of tuning and ample gain for satisfactory operation with an indoor antenna. The AM circuit includes a Tuned RF Amplifier for improved selectivity and freedom from spurious responses. High-Fidelity reproduction on FM and AM is insured through well-engineered circuits and high-quality parts.
Line Voltage is made available at two outlets at the rear of the tuner; these are actuated by the tuner on-off switch To facilitate custom installations, B+ and Heater Voltages are made available at a utility socket mounted in the tuner. This is suitable for powering auxiliary pre-amplifiers as used with variable reluctance type pickups. Holes for 2 additional controls are available for the convenience of the user. The tuning ranges are: Standard Broadcast — 535 to 1720 Kc. FM Band — 88 to 108 Mc.
The receiver has two antennas: a Loop antenna for Standard Broadcast and a Folded Dipole antenna for the FM Band.
Provision is made for connecting an external phonograph pick-up to the tuner audio system, for use with all types of amplifier installations. Two audio output channels are provided, one at high level, the other at low level; both are controlled by the tuner volume control.

IV. **TUBE COMPLEMENT:** 1 AM-RF Amplifier tube. — 1 FM-RF Amplifier tube. — 1 AM Oscillator, Mixer tube. — 1 FM Detector Driver tube. — 1 IF Amplifier tube. — 1 FM Detector tube. — 1 FM Oscillator tube. — 1 FM Mixer tube. — 1 AM Detector, Audio Amplifier tube. — 1 Electron Ray Tuning Indicator tube. — 1 Rectifier tube.

V. **ACCESSORIES:** Model 512 chassis is supplied ready to operate, complete with tubes, antennas, and all necessary hardware for mounting in a table cabinet or console, including escutcheon.

VI. **CHASSIS DIMENSIONS AND WEIGHT:** Chassis Dimensions: 13½" wide x 8½" high x 9" deep. Carton Dimensions: (2 units) 20" x 14¼" x 10¾". Net Weight: 14 lbs.

ESPEY MANUFACTURING CO. INC.
NEW YORK 21, NEW YORK
ESTABLISHED 1928

Lowest Priced DeLuxe AM-FM UNIT On the Market!

Model 513 — AM-FM DeLuxe TUNER
Dealer-Serviceman .....Net $ 78.60

Model 514 — DeLuxe Audio Amplifier, 25 Watts
Dealer-Serviceman .....Net $ 38.60

Alnico V PM Speaker, 12″, 25 Watts
Dealer-Serviceman .....Net $ 10.35

TOTAL—Dealer-Serviceman Net $127.55

Model 513

I. FEATURES:

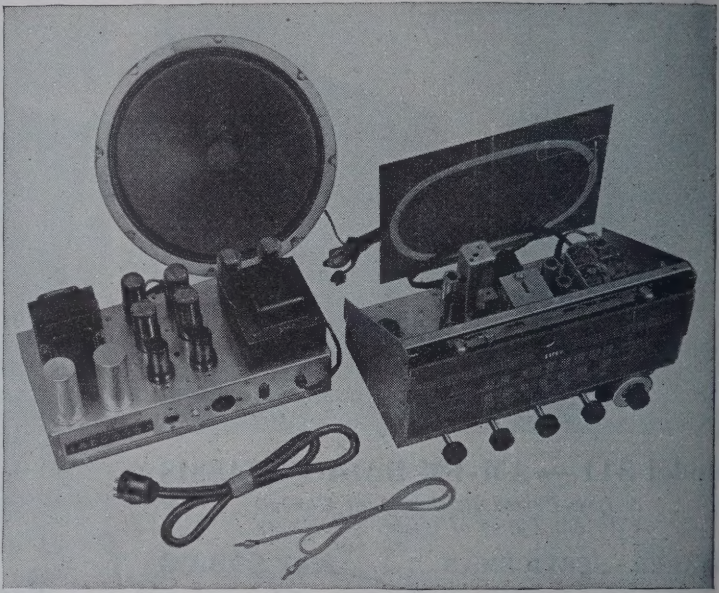
1. Superheterodyne AM-FM circuit.
2. Improved Frequency Modulation Circuit, stabilized against drift.
3. 10 Tubes plus Tuning Indicator.
4. Tuned RF Circuits on AM and FM.
5. 6-Gang Variable Tuning Condenser.
6. Automatic Volume Control.
7. Full Range Bass Boost Control.
8. Full Range Treble Control.
9. Indirectly Illuminated "Slide-Rule" Dial.
10. Fly Wheel Tuning Drive.
11. Antenna for AM and Folded Dipole Antenna for FM.
12. Provision for external antennas.
13. Wired for Phonograph Operation.
14. Utility Socket provides power for magnetic reluctance pickup pre-amplifier.
15. Licensed under RCA.
16. RMA listed.

II. Model 513 AM-FM Tuner employs 10 tubes plus a tuning indicator tube in a superheterodyne circuit. It is designed to operate from an external power supply and feed into an external audio amplifier. (Model 514 DeLuxe Power Supply-Audio Amplifier is specifically designed to work in conjunction with the Model 513 Tuner.) The power requirements for the tuner are 6.3 volts AC or DC at 3.5 amperes, and 200 volts DC at 60 milliamperes.

III. DESCRIPTION: The Model 513 Tuner incorporates the latest developments in engineering design. It is intended for the discriminating listener. Separate, Tuned RF stages are employed on both the AM and FM bands to provide extreme sensitivity and minimize spurious responses. The FM circuit also includes two stages of high-gain intermediate frequency amplification to drive a ratio detector circuit of advanced design. AM: 535 Kc. to 1720 Kc. ——— FM: 88 Mc. to 108 Mc.

IV. TUBE COMPLEMENT: 1 6BA6 AM-RF Amplifier tube. — 1 6BA6 FM-RF Amplifier tube. — 1 6BE6 AM Converter tube. — 1 6BE6 FM Mixer tube. — 1 6C4 Oscillator tube. — 1 6SG7 AM-FM IF Amplifier tube. — 1 6SH7 FM-Ratio Detector Driver tube. — 1 6J5 AM-Detector AVC tube. — 1 6SQ7 AM-FM 1st Audio tube. — 1 6AL5 FM Ratio Detector tube. — 1 6U5 Tuning Detector tube.

V. CHASSIS DIMENSIONS: 13½″ wide x 8½″ high x 9″ deep. Weight: 9½ lbs.


Model 514 Amplifier & Power Supply. **Model 513 AM-FM Tuner.**

Model 514

I. Model 514 DeLuxe Power Supply and Audio Amplifier contains 6 tubes, plus 2 rectifiers in a high gain push-pull amplifier circuit. It is designed specifically for use in conjunction with the Model 513 Tuner, but may be used wherever a high quality audio amplifier may be required. Power requirements are: 105/125 volts AC; 50/60 cycles; power consumption: approximately 150 watts.

II. FEATURES:

1. Parallel Push-Pull Output Circuit.
2. Self-Balanced Phase Inverter System.
3. Extended Range High-Fidelity Response.
4. Inverse Feedback Circuit.
5. 6 Tubes plus 2 Rectifiers.
6. Output Impedance selective for any speaker requirement (4 to 500 ohms).
7. License under RCA.
8. RMA listed.

III. DESCRIPTION: The Model 514 Power Supply-Audio Amplifier employs the best in proven engineering design. Six tubes are incorporated in a balanced phase inverter parallel push-pull amplifier. By the use of an inverse feedback circuit, high-fidelity performance is obtained.

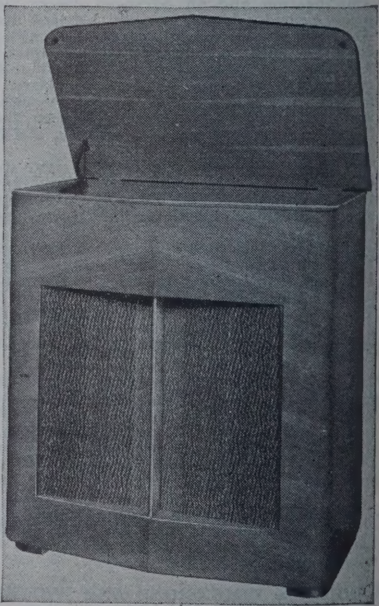
IV. TUBE COMPLEMENT: 2 6J5 Audio Driver tubes. — 4 6V6 Audio Output tubes. —2 5Y3 Rectifier tubes.

V. 13½″ wide x 7½″ high x 7″ deep. Weight 18 lbs.

Model 243 Console Cabinet

Dealer-Serviceman . . . *Net* $53.50

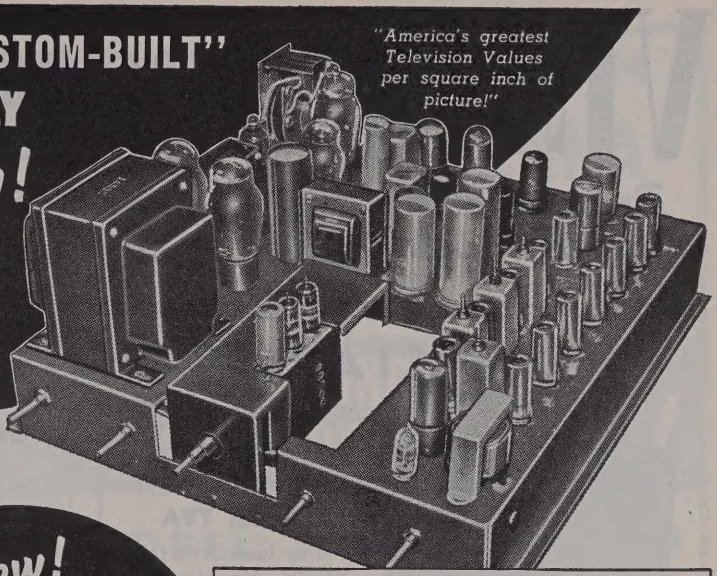
Modernistic, exquisitely finished limed walnut Console Cabinet. Furnished with panels to house ESPEY chassis and standard record changers.


Model 243 — *Open*

Build the finest proven "CUSTOM-BUILT" TELEVISION ASSEMBLY

Faster! More Economically!

when you build with . . .


"America's greatest Television Values per square inch of picture!"

TELEVISION ASSEMBLY CO.

Exclusive T.A.C. "VIVIDeo" *feature!*

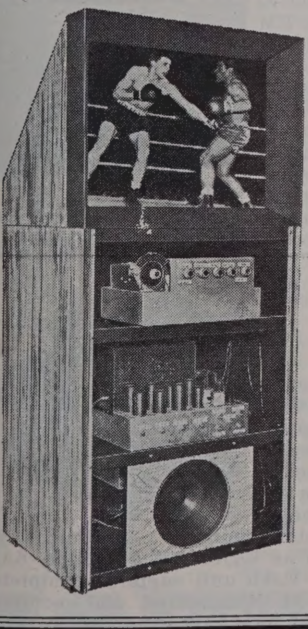
Prewired, pretuned and tubed I.F. sound and video strip (patents pending). An exclusive T. A. C. feature developed by our own research. All on one chassis.

New! Super-Simplified wiring and assembly INSTRUCTIONS!

—The most explicit, easiest-to-follow, most elaborately detailed instructions in television— that even the layman can follow.

CABINETS AND STANDS available with all direct view units. Write for literature.

MODEL P-520 . . . 520 SQ. IN. PICTURE PROJECTION TELEVISION ASSEMBLY



• Bausch & Lomb F: 1.9 Lens • Eastman Kodak Screen • DuMont Inputuner • 37 R.C.A. Tubes • Pre-Wired & Pre-Tuned Picture I.F. & Sound I.F. • Pre-Wired 30 K.V. Tripler Fly Back Power Supply • Automatic Gain Control • Aluminum Coated Top Mirror • Metal Rack • Specially Designed Hood and Picture Frame Supplied • 5TP4 Projection Tube • 12" R.C.A. High Fidelity Speaker • Two Low Voltage Power Supplies.

MODEL P-520
Dealer's net $769.50*

MODEL P-520W
Dealer's net $895.00*

The above unit completely wired and ready to install.

Front and rear panels optional at additional cost.

Champion Models 20" DIRECT-VIEW MODEL with DuMont Inputuner and 20" DuMont Tube

213 SQUARE INCH PICTURE! Prewired Voltage Doubler 14KV power supply, Pre-wired "VIVIDeo" I.F. picture and sound strip (Pat. Pending). ALL channels TV plus ALL FM radio. Continuous tuning. DuMont Inputuner is Prewired. Delivered complete with all components and 30 RCA tubes plus 20-inch DuMont C.R. tube.

MODEL F-201C Dealer's net $566.75*

"M" SERIES STANDARD and CHAMPION Direct-View Models for 10" CR TUBES

STANDARD MODEL

29 tubes, including 13-tube "VIVIDeo" I.F. picture and sound strip (Pat. Pending). This portion completely wired, tested and aligned. Prewired, standard tuner ready to use. Handles ALL channels.

MODEL M-101S Less C.R. Tube $169.50* Dealer's net

CHAMPION MODEL

Same as above except that DuMont Inputuner replaces Standard Tuner. Gets ALL channels TV —PLUS all channels of FM radio.

MODEL M-101C Less C.R. Tube $209.50* Dealer's net

Write for literature on our complete line of 10" 12"-15" standard and champion assemblies.

T.A.C. GUARANTEE

All components are of the finest quality and are fully guaranteed under the Standard RMA Guarantee. All TAC Assemblies are guaranteed to operate when assembled according to directions.

TELEVISION ASSEMBLY CO.
540 BUSHWICK AVE., BROOKLYN 6, N. Y.

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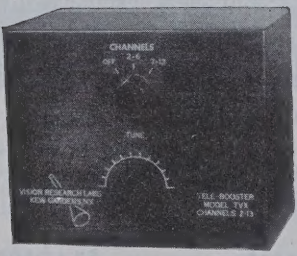
SPECIALISTS IN TELEVISION

CHANNELS
2-6
OFF
7-13
VISION TELE-BOOSTER
MODEL TVA
TUNE
CHANNELS 2-13

TELEVISION ANTENNA AMPLIFIER

Model TVA

For improved television reception in fringe areas and indoor antenna installations. Model TVA contains two type 6AK5 special high frequency tubes in a unique dual amplifier circuit. Antenna connects through automatically when booster is turned off thus providing normal reception. Supplied complete with tubes in attractive walnut or mahogany cabinet .... **$28.50 List***

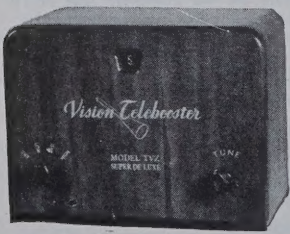


TELEVISION ANTENNA AMPLIFIER

Model TVX

Similar to Model TVA except for extra stage of amplification on the high frequency channels. Model TVX is popular for installations that require unusual gain in the high frequency TV channels (7-13). Complete with instructions.

$37.50 List*

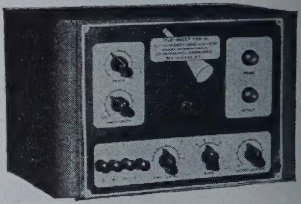


DE LUXE TELEVISION PREAMPLIFIER

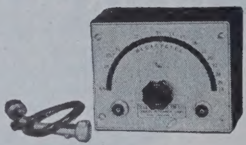
Model TVZ

A three stage gang tuned booster for special installations. Especially useful in extreme fringe areas where quiet noise conditions prevail. Model TVZ contains 3 type 6AK5 tubes in a special patent applied for inductance-capacity tuning system. Housed in walnut or mahogany cabinet with illuminated dial .... **$54.50 List***

SWEEP GENERATOR TSW-50



One of the first popularly priced broad band sweep generators on the market. The TSW-50 employs an electro mechanical type of sweep circuit providing for excellent linearity and wide sweep width. Frequency range from 4 to 220 mc, sweep width range 500 kc to 12 mc. Supplied complete with tubes and cables, housed in an attractive grey crackle cabinet with etched aluminum front plate .... **$68.50 Net**

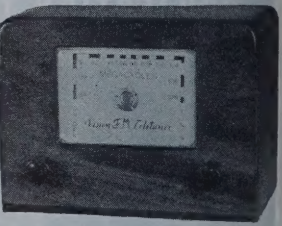


TELEMARKER Model TM-100

An absorption type marker unit for use in conjunction with the TSW-50 or similar sweep signal generators, as a frequency marker on the visual alignment trace.

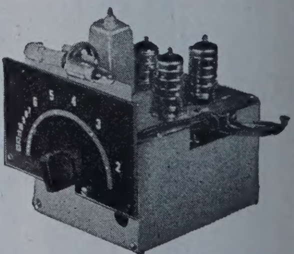
Model TM-100 is connected externally to the sweep generator output lead, covers a frequency range of from 9.5 to 28 mc. Each telemarker is individually calibrated, housed in an attractive grey crackle cabinet with etched aluminum dial and furnished complete with connecting cables .... **$12.50 Net**

FM TELETUNER



A novel converter unit that adds FM reception to your TV receiver. The FM Teletuner connects in series with the TV antenna providing FM reception when receiver is tuned to an unused TV channel (2 or 3). Antenna connects through when tuner is off so as not to effect normal TV reception. Will work on any TV set that does NOT use an intercarrier circuit .... **$29.95 List***

FRONT END TUNER Model TF 701



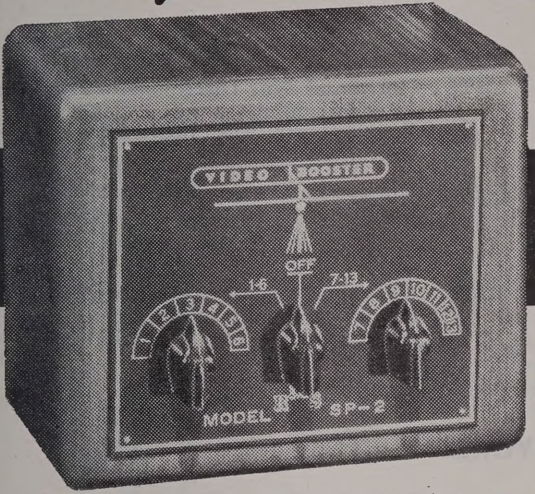
A unique and compact continuous type television front end tuner featuring a revolutionary method of inductance-capacity variation. Model TF-701 may be used whenever application requires a continuous type tuning system. Contains 6AK5 RF amplifier, 6AK5 mixer, 6C4 oscillator. Each unit supplied completely aligned with calibrated, illuminated dial, complete with technical data but less 6AG5 and 6AK5.

• ENGINEERS • JOBBERS • SERVICEMEN

all agree: RMS VIDEO ANTENNA BOOSTER

gives

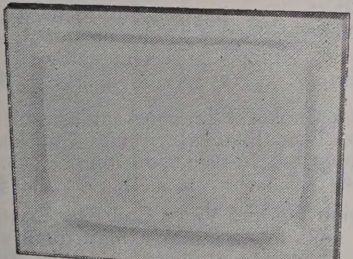
OUTSTANDING PERFORMANCE!



MODEL SP-2 $37⁵⁰ LIST
for ALL CHANNELS

- ★ Just plug in to work, it has a self contained power supply.
- ★ For most local installations any simple indoor aerial in conjunction with RMS VIDEO ANTENNA BOOSTER will give you Television Picture reception as clear as that obtainable with an outdoor antenna!
- ★ Boosts weak station to give you clear, easy to look at pictures.
- ★ Pulls in distant stations with a gain of SIX to TEN TIMES in signal strength!
- ★ Cuts down off-channel interference.

RMS TELEVISION ACCESSORIES

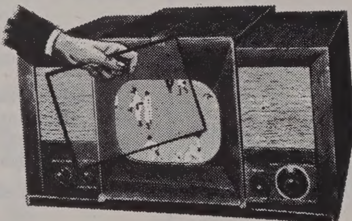


TRANSPARENT UNBREAKABLE PLASTIC MASKS

for Television Tubes

No.	For Picture Tubes	List Price Each
210	10"	$ 9.00
212	12"	9.85
213	12½"	9.85
215	15"	16.00
216	(for new 16" metal picture tube)	26.85
220	20"	35.60

Unbreakable plastic, one piece construction. Crystal clear for perfect vision, contour-designed to fit all types of television picture tubes.



GLAREPROOF TRANSPARENT FILTERS

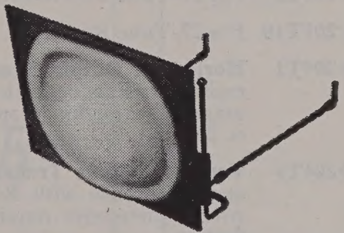
for Television Sets

no glare - no headache
no eyestrain

Can be mounted in any television cabinet, in front of the picture tube. It positively reduces glare and gives image much sharper, clearer definition.

Available in Blue or smoke transparency. Specify when ordering.

No.	For Picture Tubes	List Price Each
307	7"	$1.13
310	10"	1.38
312	12"	1.88
315	15"	3.14



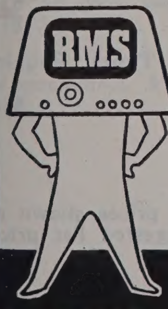
TELEVISION IMAGE ENLARGER LENS

Universal Enlarger for 7" and 10" picture tubes. Can be mounted on table and console models.

- **Shallow Concave Surface—for minimum image distortion**
- **Extremely High Magnification of any television picture**

Sturdily mounted on adjustable brass tubing. Can be moved back and forth, up or down with greatest ease. Does not have to be attached to television receiver. No tools required to set up.

Model	List
Model ML-710 Clear	$24.25 list
Model ML-710B Blue Plastic	24.85 list



You are invited to write for catalog #215-U, illustrating complete line of outstanding RMS antennas and associated accessories.

MEMBER RMA

RADIO MERCHANDISE SALES, INC. NEW YORK, N. Y.

RCA ELECTRONIC COMPONENTS

TELEVISION PARTS

CONTROLS

#201R1	**Width Control.** Screwdriver-adjusted variable reactor. Powdered iron core. For use with RCA 211T1 where kinescope anode potential not over 9 KV	$0.70
#201R2	**Projection Width Control.** Features same as 201R1. For use with RCA 211T2 in circuits with kinescope anode potentials up to 27 KV design center	$2.20
#201R3	**Horizontal Linearity Control.** Features spring clip mounting. For deflection circuits using RCA 211T1 and 201D1	$0.80
#203R1	**Horizontal Oscillator and Synchronizing Control-Coil.** A permeability tuned center-tapped oscillator coil for use in Television receivers employing a 6SN7-GT as a combination horizontal blocking oscillator and synchronizing control tube	$1.80

TRANSFORMERS

#201T6	**Power Transformer.** For use in 30-tube TV receivers requiring rectified current of 295 ma. at voltage of approx. 385 volts	$26.00
#201T7	For 24-Tube Receivers	$21.00
#201T8	For 21-Tube Receivers	$19.00
#201T9	For 27-Tube Receivers	$21.00
#201T10	For 27-Tube Receivers	$21.00
#204T1	**Horizontal Output Transformer.** Moisture-resistant. For deflection circuits with 50° mag. deflection kinescopes using RCA 201D1 or 201D2	$20.00
#204T9	**Vertical Output Transformer.** Quiet operation. For use with RCA 201D1 or 201D2 where kinescopes require 50° magnetic deflection	$4.50
#204T3	**Horizontal Output Transformer.** Powdered iron core. For use where electro-magnetic deflection kinescopes with RCA 201D1 yokes are employed	$12.00
#208T1	**Horizontal Blocking-Oscillator Transformer.** Powdered iron core. For use where electromagnetic deflection kinescopes with RCA 201D1 yokes are employed	$3.90
#208T9	**Vertical Blocking-Oscillator Transformer.** Generates 60 cps pulses required to drive the grids of horizontal discharge tubes	$2.50
#208T3	**Horizontal Blocking-Oscillator Transformer.** Similar to 208T1 except that bracket mounting is used in place of potted can construction	$2.75
#208T8	**Horizontal Sync-Discriminator Transformer.** Provides automatic horiz sweep freq control. Couples horiz-sweep oscillator to horiz-sync discriminator	$2.30
#211T1	**Horizontal Output Transformer.** For use with RCA 201D1 and directly-viewed kinescopes requiring 50° magnetic deflection using typical circuits	$9.50
#211T2	**Horizontal Output Transformer.** Designed for use in recommended circuits employing projection kinescope RCA 5TP4. Powdered iron core	$19.00

YOKES

#201D3	**Deflection Yoke.** For use with directly-viewed kinescope requiring 50° magnetic deflection such as RCA 7DP4 and 10BP4	$14.90
#201D2	**Deflection Yoke.** For use with projection kinescopes requiring 50° magnetic deflection such as RCA 5TP4	$13.00

COILS

#202D1	**Focus Coils.** For magnetically focused kinescopes with deflection angles up to 50°, such as 10BP4. Utilizes large conductor size for long life	$7.50
#204L1	**Filament Choke.** Eliminates undesirable RF currents from filament circuit. Consists of self-supported 16-turn coil on ¼" inside diameter	$0.20
#204X1	**Television I-F and Video Coil Kit.** Contains all the coils for building a **high quality receiver.** 15 individual items	$19.50

MISCELLANEOUS

#201E1	**Television Tuner** incorporating RF amplifier, converter and heterodyne oscillator, with 13-channel station selector and fine tuning control. Includes 3 RCA 6J6 tubes	$64.00
#201X1	**Yoke Mounting Hood.** Holds deflection yoke RCA 201D1 on kinescopes such as RCA 7DP4, 10BP4	$1.30
#203D1	**Iron-Trap Magnet. (Coil Type).** Required for RCA 7BP4 and 10BP4. Eliminates ion spot on kinescope screen	$6.50

All prices in effect 5/15/49.

FOR COMPLETE INFORMATION ON RCA TELEVISION PARTS, ASK YOUR RCA DISTRIBUTOR FOR FORM 3F602.

All prices shown are suggested list prices.

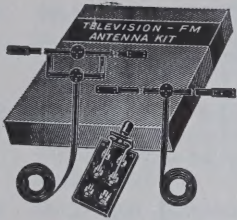
Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

ICA INSULINE ICA
RADIO PRODUCTS

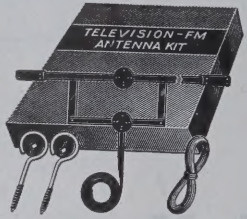
TELEVISION-FM ANTENNAS — ACCESSORIES



ALL-CHANNEL ANTENNA KIT

Designed for INDOOR use. Combination of low band and high band antennas of the flexible dipole type. Includes bakelite double pole double throw knife switch. Each antenna may be separately oriented for the maximum reception of either high or low band. Knife switch permits quick changing from antenna to antenna without disconnecting.

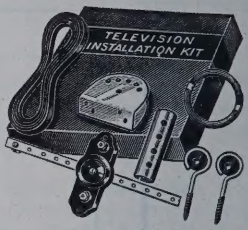
No. 6095..**List $6.95**



ALL-CHANNEL ANTENNA KIT

An outdoor television antenna kit of the flexible dipole type, featuring simplicity of installation. May be placed on roof or other convenient location. Yields effective reception of all television channels. Complete with generous 60 ft. 300 ohm twin lead; special weather-resistant nylon supporting strings; insulated screw eyes.

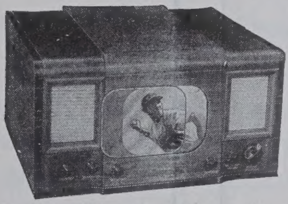
No. 6096..**List $5.95**



ANTENNA INSTALLATION KIT

A handy compact assortment of components to facilitate the installation of any type of outdoor antenna. Especially suitable for television antenna installations. Includes: 60 ft. 300 ohm twin lead—3 Universal Screw Eyes—for either twin lead or coaxial cable—Heavy gauge steel Antenna Base Mount—heavy gauge steel extension mast Coupler—100 ft. sturdy Guy Wire—Lightning Arrester with ground strap.

No. 6159..**List $6.95**



The New ICA TELEVISION FILTER

A sensational improvement that adds to the enjoyment of television reception. A scientifically compounded Filter . . . easy to install . . . suitable for every type of receiver.

The ICA Filter offers these outstanding television viewing features: Dissolves fuzzy grays . . . snaps up blacks . . . sharpens detail . . . restful tinting cuts down eyestrain . . . eliminates glare and room-light interference . . . reduces flickering and picture grain . . . unbreakable. Excellent for daylight reception.

No. 6176— 7″ tube size	List	$1.45
No. 6177—10″ tube size	List	1.95
No. 6178—12″ tube size	List	2.95
No. 6179—15″ tube size	List	3.95
No. 6180—20″ tube size	List	5.95

ICA TURNBUCKLES

Sturdy, steel turnbuckles that afford balanced tension of supporting wires. Especially suitable for antenna guy wires. Assure slack-free, rigid support.

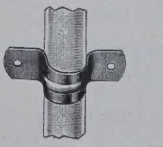
No. 6150—3″ (closed)	List $.25
No. 6151—5″ (closed)	List .35

ICA U-BOLTS

Offer a firm and rigid clamping action for affixing antenna or supporting masts to metal or wooden surfaces. Nuts and washers included. Overall measurements: width 1″; length 2½″.

No. 6153..**List $.30**

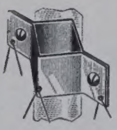
PIPE STRAPS



A useful accessory for supporting antenna masts, etc., against Chimneys, gables, walls or other flat surfaces. Suitable for all masts up to 1″ in diameter.

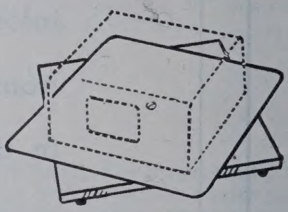
No. 6152..**List $10.00 C**

GUY WIRE CLAMP



Ideal for set-ups requiring guy-wire support. May be located at any position on antenna mast for maximum rigidity. This rugged adjustable steel clamp is suitable for masts ranging from ¾″ to 1¼″ diameters. Includes nuts and lockwashers.

No. 6144..**List $.50**



TELEVISION RECEIVER TURNTABLE

Designed for table model receivers. Permits multi-angle television viewing without lifting or disconnecting set. Eliminates furniture moving, re-connecting of set, etc.

Set is merely placed on turn-table—ready for operation. Finger-tip pressure. Makes complete circle for all-angle viewing. Heavy gauge steel in beautiful "hammered-tone" finish. Finely engineered swivel base unit.

No. 6184..**List $16.50**

ICA TELEVISION SERVICING KIT

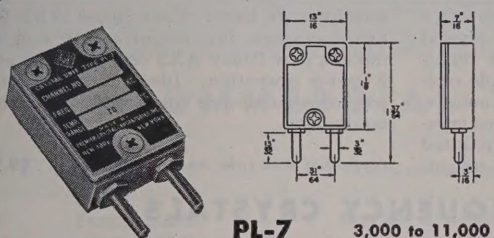
A compact handy kit containing 13 of the newest servicing tools especially engineered for general television installation and servicing. Neatly packed in leatherette case. Includes high voltage test prods, dual-bladed trans-aligning tool; coil and trimmer aligner—slim diam. TV "Channel Tuner"; spring-controlled Safe-T-Tester; 4 in 1 Aligning tool; narrow shaft trimmer aligning tool; flexible screw driver and socket wrench; thin-bladed neut. tool for "Admiral," etc., TV sets; slim flexible tuning wand for Zenith, etc., TV sets; tuning wrench for Zenith, etc., TV sets; slim, dual-bladed aligner for "Admiral," etc., TV sets.

No. 6160..**List $16.95**

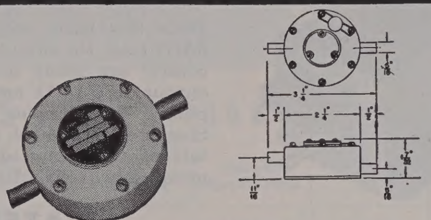
PREMIER CRYSTALS

for

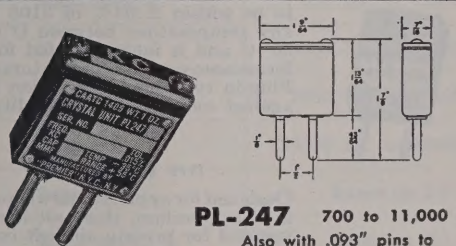
Communications
Laboratories
Broadcast Stations
Diathermy
Service Men
Equipment Manufacturers
Aircraft
Amateurs



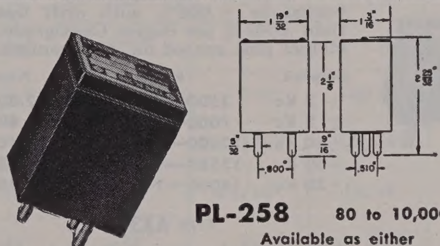
PL-7 3,000 to 11,000 kc.
Pressure-mounted crystal.



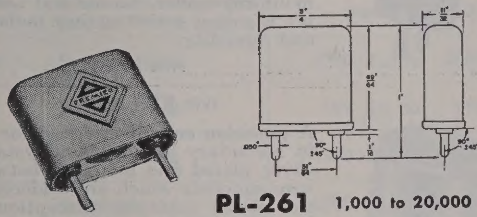
157 85 to 10,000 kc.
Variable air gap.



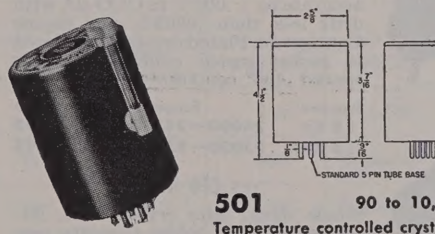
PL-247 700 to 11,000 kc.
Also with .093" pins to fit octal socket.



PL-258 80 to 10,000 kc.
Available as either single unit or dual unit.



PL-261 1,000 to 20,000 kc.
Also available in holder 9/16" high.

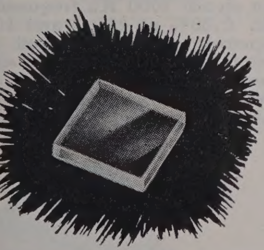


501 90 to 10,000 kc.
Temperature controlled crystal oven; with or without thermometer.

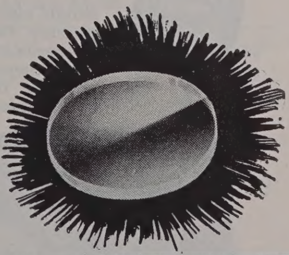
The above units are typical of the wide range of standard and special Premier crystals available for every frequency need. Your inquiry is invited.

ULTRASONIC CRYSTAL UNITS

Crystals . . . Blanks . . . Mounts . . . Transducers



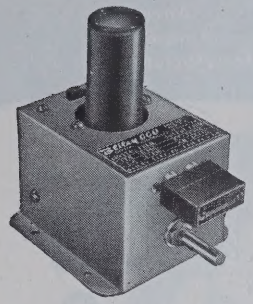
Premier ultrasonic crystal blanks, flat or curved, round or square, can be manufactured to your specifications. Consult us on your crystal problems in connection with experimental work in ultrasonics. No obligation; strictest confidence observed.



PREMIER CRYSTAL LABORATORIES, INC.

MANUFACTURERS OF RADIO AND ELECTRICAL APPARATUS
OPTICAL AND PIEZO CRYSTALS—PRECISION CRYSTAL HOLDERS
89 SEVENTH AVENUE NEW YORK 11, N. Y.

Bliley CRYSTALS AND CRYSTAL CONTROLLED OSCILLATORS



CCO — CRYSTAL CONTROLLED OSCILLATOR — MODEL 2A

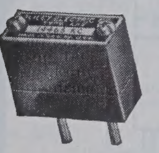
For 2-6-10-11 Meters

With this basic oscillator, employing a 6AG7 tube, the advantages of VHF crystal control are easily achieved. Has direct output on 6-10-11 meters and ample output to drive tripler stage on 2 meters. Single tuning control, bandswitch and crystal socket are mounted on outside of painted metal subchassis with power and output terminals at back. Uses Bliley AX2 20-meter crystals for output on 10 and 11 meters, new Bliley AX3 crystals for 6 and 2 meter operation. Ideal as nucleus for new construction or conversion of existing equipment.

Supplied less tube and crystal **$9.95**

AMATEUR FREQUENCY CRYSTALS

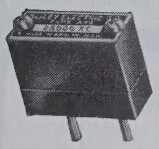
TYPE AX2



These high stability advanced design crystals are plated to insure long term precision and reliability. Calibrated to ±.002% with drift less than .0002% per degree Centigrade. Holder pins spaced on .486″ centers.

Supplied	Range	Price
± 2 Kc	3500— 4000 Kc	$2.80
± 2 Kc	7000— 7425 Kc	2.80
±30 Kc	12500—13500 Kc	3.95
±30 Kc	13580—13714 Kc	3.95
±30 Kc	14000—14850 Kc	3.95

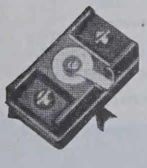
TYPE AX3



A new third overtone crystal unit produced for use in the Bliley CCO-2A. Has exceptionally high activity at operating frequency. Calibration accurate to ±.003% in CCO-2A with drift less than .0002% per degree Centigrade. Plated crystal is mounted in gasket sealed holder with pins spaced .486″ centers.

Supplied	Range	Price
±5 Kc	24000—24333 Kc	$3.95
±5 Kc	25000—25500 Kc	3.95

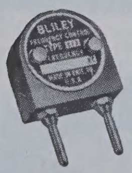
TYPE CF6 455 Kc



Single signal filter crystal unit. Exceptionally low holder capacity permits sharp signal discrimination in filter network of general communications receivers. Frequency 455 Kc free from spurious responses within ±7 Kc.

Price **$4.50**

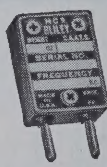
TYPE CF3 455 Kc



Single signal filter crystal unit. Frequency 455 Kc, ±5 Kc—free from spurious responses within ±7 Kc of fundamental. Designed for intermediate frequency filter in general communications receivers.

Price **$5.00**

TYPE MC9 3105 Kc



This unit is suggested for use in private aircraft transmitters operating at 3105 Kc. The crystal is guaranteed to be within ±.02% of 3105 Kc at any temperature between 0° C and 50° C and is factory tested for performance over this temperature range. Plug-in type holder is gasket sealed against moisture and humidity.

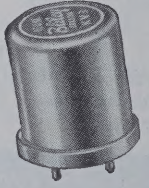
Price **$5.50**

TYPE VX2 3105 Kc

Designed for applications where space is at a premium, this unit is recommended for private aircraft communication at 3105 Kc. Guaranteed to maintain frequency within ±.02% at any temperature between 0° C and 50° C. Solder lug connections permit mounting under chassis and assembly is gasket sealed against moisture and humidity.

Price **$5.00**

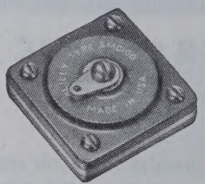
TYPE KV3 100 Kc



A precision crystal designed for use in secondary standards. Crystal is silver plated and mounted between wire supports which are soldered to the plated surfaces. Exceptionally low drift crystal is adjustable to exactly 100 Kc at 25° C when used in recommended oscillator circuit.

Price **$6.95**

TYPE SMC100 100-1000 Kc



Dual frequency crystal provides either 100 Kc or 1000 Kc frequency source. When used in recommended oscillator circuit 1000 Kc frequency is within ±.05% at 25° C and 100 Kc frequency can be adjusted to zero beat at 25° C. Suggested for signal generators used in alignment of radio receivers.

Price **$8.75**

For complete dimensional information consult Bulletin 35 available at any Bliley distributor.

Bliley CCO CRYSTAL CONTROLLED OSCILLATOR

MODEL 1C

For instant channel selection and frequency accuracy, radio service technicians use this Bliley test instrument. It provides direct crystal control for i-f alignment. Write for descriptive Bulletin 32.

Complete with 7 Bliley crystals, tubes and concentric output cable..... **$69.50**

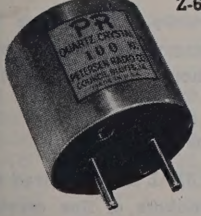
BLILEY ELECTRIC COMPANY

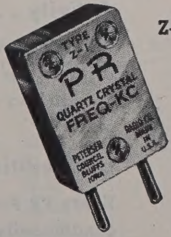
PR Precision CRYSTALS

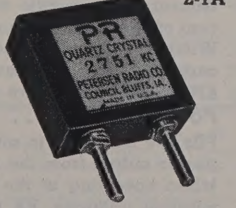
COMMERCIAL TYPES—SPECIFICATIONS

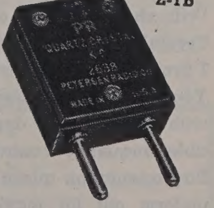
Type		Frequency Range	Pin Spacing	Pin Diameter	Height Above Pins	Width	Depth
Z-1	Fundamental	900 Kc. to 12000 Kc.	.486″	.093″	1-3/16″	13/16″	7/16″
Z-1	Harmonic	12000 Kc. to 30000 Kc.	.486″	.093″	1-3/16″	13/16″	7/16″
*Z-1A	Fundamental	425 Kc. to 12000 Kc.	¾″	.125″	1⅜″	1⅜″	½″
*Z-1A	Harmonic	12000 Kc. to 30000 Kc.	¾″	.125″	1⅜″	1⅜″	½″
Z-1B	Fundamental	1000 Kc. to 12000 Kc.	¾″	.125″	1⅜″	1-3/16″	½″
Z-1B	Harmonic	12000 Kc. to 30000 Kc.	¾″	.125″	1⅜″	1-3/16″	½″
Z-1D	Same as Z-1	Same as Z-1	½″	.125″	1-3/16″	13/16″	7/16″
Z-1E	Same as Z-1	Same as Z-1	½″	.125″	1¼″	1⅛″	7/16″
Z-1H	Single or dual unit Fundamental	100 Kc. to 5000 Kc.	3-Pin W.E.	.157″	2-1/16″	1-19/32″	1-3/16″
Z-1K	Same as Z-1A except has .157″ dia. pins	Same as Z-1A					
Z-1M	Fundamental	1000 Kc. to 5000 Kc.	⅞″	Std. Banana	2-3/32″	1-19/32″	¾″
†Z-1R	Fundamental	175 Kc. to 475 Kc.	½″	.093″	1¼″	1-3/32″	7/16″
Z-4	Fundamental	1500 Kc. to 12000 Kc.	¾″	.125″	.650″	Diameter	.995″
Z-4	Harmonic	12000 Kc. to 30000 Kc.	¾″	.125″	.650″	Diameter	.995″
Z-7	Fundamental	1000 Kc. to 12000 Kc.	¾″	Std. Banana	1.660″	1.192″	.518″
Z-8	Fundamental	400 Kc. to 5000 Kc.	¾″	⅛″	1¾″	1-9/16″	1-11/16″
Z-6	Fundamental	100 Kc. to 325 Kc.	¾″	⅛″	1½″	Diameter	1-25/32″
E-1	Fundamental	100 Kc. to 7000 Kc.	Interchangeable with FT-164 and AC-95				
FT-171-B	Fundamental	1000 Kc. to 8000 Kc.	¾″	Std. Banana	2¼″	1½″	13/16″

* Can be Supplied with Standard Banana Pins.
† For Signal Generator Use. Not recommended for Transmitter Freq. Control.


Z-6
PR
QUARTZ CRYSTAL
100 K
PETERSEN RADIO CO
COUNCIL BLUFFS, IA.


Z-1
TYPE Z-1
PR
QUARTZ CRYSTAL
FREQ-KC
PETERSEN
COUNCIL BLUFFS
IOWA
MADE IN U.S.A.


Z-1A
PR
QUARTZ CRYSTAL
2751 KC
PETERSEN RADIO CO
COUNCIL BLUFFS, IA.
MADE IN U.S.A.


Z-1B
PR
QUARTZ CRYSTAL
2658
PETERSEN RADIO CO
MADE IN U.S.A.

PETERSEN RADIO Company, Inc., 2800 W. Broadway, Council Bluffs, Iowa

PR Precision CRYSTALS

AMATEUR—Specifications and Frequencies

TYPE Z-2
PR
QUARTZ CRYSTAL
FREQ-KC
7083
PETERSEN RADIO CO.
COUNCIL BLUFFS IOWA
MADE IN U.S.A.

Z-2

TYPE Z-3
PR
QUARTZ CRYSTAL
FREQ-KC
14,283
PETERSEN RADIO CO.
COUNCIL BLUFFS IOWA
MADE IN U.S.A.

Z-3

TYPE Z-5
PR
QUARTZ CRYSTAL
FREQ-KC
28,152
PETERSEN RADIO CO.
COUNCIL BLUFFS IOWA
MADE IN U.S.A.

Z-5

TYPE Z-2

- 160 meter band for VFX-680 Narrow Band FM in Sonar Exciter.
- 1699.2 to 1710 Kc. for 11 meter band.
- 1750 to 1812 Kc. for 10 meter band.
- 1828 and 1844 Kc. These 2 frequencies cover entire 10 meter FM band in Sonar VFX-680.
- 1562.5 to 1687.5 Kc. for 6 meter band.
- 1778 to 1827 Kc. for 2 meter band.
- 3395 to 3428.5 Kc. for 11 meters.
- 3500 to 4000 Kc. for 80, 40, 20 and 10 meters.
- 6250 to 6750 Kc. for 2 meters.
- 6790 to 6857 Kc. for 11 meters.
- 7000 to 7425 Kc. for 40, 20 and 10 meters.
- 8000 to 8222 Kc. for 2 meters.
- 8334 to 9000 Kc. for 6 meters.
- 9000 to 9250 Kc. for 2 meters.

TYPE Z-3

- 12000 to 12333 Kc. for 2 meters.
- 12500 to 13500 Kc. for 6 meters.
- 13580 to 13715 Kc. for 11 meters.
- 14000 to 14850 Kc. for 20 and 10 meters.

TYPE Z-5

- 25000 to 27000 Kc. for 6 meters.
- 27160 to 27430 Kc. for 11 meters.
- 28000 to 29700 Kc. for 10 meters.

CHECK SUPERIORITY OF PR Crystals

Stability . . .

Drift characteristics of PR Crystals limited to less than 2 cycles per MC per degree. You get low drift, combined with high output, dependable frequency control. X-Ray orientation guarantees uniform cut for maximum low-drift performance.

Accuracy . . .

Guaranteed accurate within .01 per cent of specified frequency or better. When doubling and quadrupling accuracy is absolutely essential. You KNOW where you are with PRs.

Power Output . . .

PRs are designed to give maximum power output from the exciter stage when operating at the highest permissible voltages. PR Crystals can "take it."

Activity . . .

PRs give you high activity. They "come in" instantly on phone . . . key without chirps, even at high bug speeds, without excessive "backing off."

Unconditional Guarantee . . .

Every PR Precision CRYSTAL is guaranteed unconditionally, by the makers of fine crystals since 1934.

PETERSEN RADIO Company, Inc., 2800 W. Broadway, Council Bluffs, Iowa

PR Precision CRYSTALS

PR CRYSTALS

PRICE LIST SUBJECT TO CHANGE WITHOUT NOTICE

COMMERCIAL

Type		Frequency Range	Tolerance .005%	Tolerance .01%	Tolerance .02%	Schedule
Z-1	Fundamental	900 to 12000 Kc.	$12.50	$11.00	$10.00	A
Z-1	Harmonic	12000 to 20000 Kc.	15.00	12.50	11.00	A
Z-1	Harmonic	20000 to 30000 Kc.	18.00	15.00	13.00	A
Z-1A	Fundamental	425 to 900 Kc.	15.00	12.50	11.00	A
Z-1A	Fundamental	900 to 12000 Kc.	12.50	11.00	10.00	A
Z-1A	Harmonic	12000 to 20000 Kc.	15.00	12.50	11.00	A
Z-1A	Harmonic	20000 to 30000 Kc.	18.00	15.00	13.00	A
Z-1B	Fundamental	1000 to 12000 Kc.	12.50	11.00	10.00	A
Z-1B	Harmonic	12000 to 20000 Kc.	15.00	12.50	11.00	A
Z-1B	Harmonic	20000 to 30000 Kc.	18.00	15.00	13.00	A
Z-1D	Same as Z-1	Same as Z-1				A
Z-1E	Same as Z-1	Same as Z-1				A
Z-1H	Fundamental	100 Kc. Standard		(Exact Frequency)	12.00	B
Z-1H	Fundamental	101 to 900 Kc.	18.00	15.00	13.00	A
Z-1H	Fundamental	901 to 5000 Kc.	15.00	12.50	11.00	A
Z-1H	Dual Unit	901 to 5000 Kc.	30.00	27.50	25.00	A
Z-1K	Same as Z-1A	Same as Z-1A				A
Z-1M	Fundamental	1000 to 5000 Kc.	15.00	12.50	11.00	A
Z-1R	Fundamental	175 to 475 Kc.	18.00	15.00	13.00	A
Z-1R	Fundamental for Signal Generators	175, 200, 262, 370, 455, 456, 465 Kc.		6.00		B
Z-1R	Fundamental	475 to 1000 Kc.	15.00	12.50	11.00	A
Z-4	Fundamental	Same as Z-1				A
Z-4	Harmonic	Same as Z-1				A
Z-7	Fundamental	Same as Z-1				A
Z-8	Fundamental	400 to 900 Kc.	18.00	15.00	13.00	A
Z-6	Fundamental	100 Kc. Standard		(Exact Frequency)	9.00	B
Z-6	Fundamental	101 to 175 Kc.	18.00	15.00	13.00	A
E-1	Fundamental	100 to 900 Kc.	20.00	19.00	18.00	B
E-1	Fundamental	900 to 7000 Kc.	19.00	18.00	17.00	B
FT-171-B	Fundamental	1000 to 8000 Kc.	12.50	11.00	10.00	A

AIRCRAFT

Type	Frequency	Price	Schedule
Z-1, Z-1A, Z-1B	3105 and 6210 Kc.	$5.00	C

MARINE

Type	Transmitter	Receiver	Schedule
Z-1	$10.00	$10.00	A
Z-1A	10.00	10.00	A
Z-1B	10.00	10.00	A
Z-1D	10.00	10.00	A
Z-1H	12.50	12.50	A
Z-1H Dual	25.00	25.00	A
Z-1K	12.50	12.50	A
Z-1M	12.50	12.50	A

AMATEUR

Note: Crystals Within Amateur Bands Supplied INTEGRAL KILOCYCLES Only.

Type	Tolerance	Price	Schedule
Z-2	.01%	$2.75	B
Z-3	.01%	3.75	B
Z-5	.01%	5.00	B

Crystals for amateur service other than frequencies listed on Catalog Sheet can be supplied as follows:

Type	Range	Tolerances Plus or Minus 5 Kc. Price	Tolerances Plus or Minus 5 Kc. Sched.	Tolerances Plus or Minus .02% Price	Tolerances Plus or Minus .02% Sched.
Z-2, Fundamental	1500 to 10000 Kc.	$2.75	B	$11.00	A
Z-3, 3rd Harmonic	10000 to 20000 Kc.	3.75	B	11.00	A
Z-5, 3rd Harmonic	20000 to 30000 Kc.	7.50	B	13.00	A

NOTICE

Prices on Commercial Crystals are based on quantities of 1 to 10 of the same frequency. For larger quantities write for prices.

Price on crystals below 100 Kc. furnished on request. Tolerance can be guaranteed only when oscillator or circuit diagram is furnished.

To facilitate the handling of your order, please order by type number and indicate permissible tolerance.

PETERSEN RADIO Company, Inc., 2800 W. Broadway, Council Bluffs, Iowa

Net

Crystalab

TRADE MARK REG. U. S. PAT. OFF.

SPECIALISTS IN SPECIAL CRYSTALS

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Crystal Research Laboratories, Inc. has complete facilities for research and development of Crystal applications for Communication and Frequency Controls . . . Filters . . . Supersonic Delay Lines . . . Ultrasonic . . . as well as for Scientific Instrumentation.

THE ULTRA-SONORATOR — Models SL520 and LB501 500-Watt Ultrasonic Generators with Associated Network . . . *Write for Catalog.*

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LABORATORIES INC.
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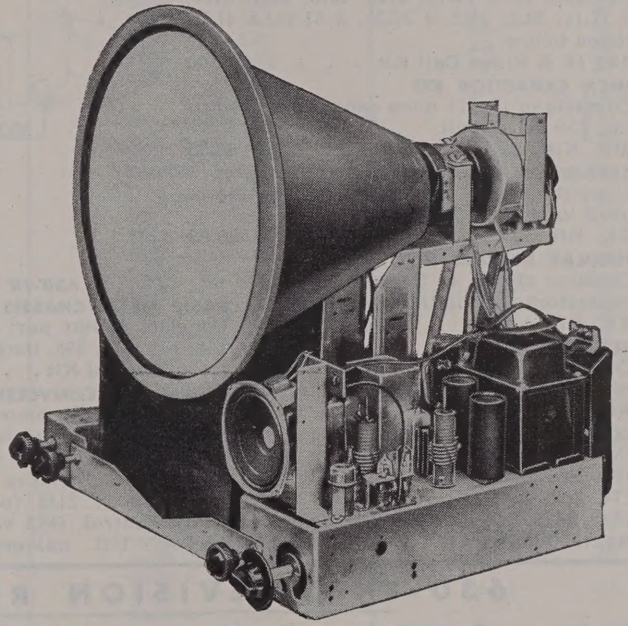
TECH-MASTER PRODUCTS COMPANY

AMERICA'S FINEST TELEVISION KITS

The Only TV Kits with "Circuit-Aligned" Components

- ★ 3 TIMES PICTURE AREA OF 10-INCH TUBE
- ★ 31 Tubes — Voltage Doubler
- ★ Ultra-Simplified Wiring Instructions
- ★ Easily Wired Over a Week-End
- ★ Tech-Master Integrity
  (Only Perfection Is Acceptable)

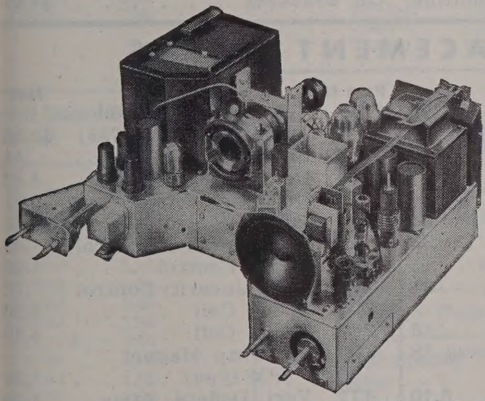
"Super 16"



Tech-Master, pioneer in the TV kit field, scoops the industry again with this "Super-16" TV kit that produces big, BIG pictures of superlative quality. Our engineers utilized our famous 630-TK De Luxe kit as a basis. An 11T5 flyback transformer, a 2D2 focus coil, a 1R4 width control and other fine components PLUS our new Universal Brackets to accommodate kinescopes up to 16 inches have been added.

A clever, and thoroughly sound, voltage double circuit using two 1B3's has been designed by our engineers to provide full voltage and current to drive up to 20-in kinescopes with excellent brilliance, definition and sweep. Ultra-simplified instructions make it possible for practically anyone to wire this kit over a week-end. The famous "Circuit-Aligned" components supplied with our kits keep final adjustments down to a negligible minimum, and these can be performed without additional equipment.

"SUPER-16" 630-TK De Luxe TV Kit, complete with all tubes, parts and instructions.
Less Kinescope . . . . Net **$177.50**



← 630-TK DE LUXE TV KIT

Build your own duplicate of the famous RCA 630-TS with this superfine, 1949 model Tech-Master 630-TK television kit. You will enjoy television at its finest — and save plenty. The Tech-Master kit is complete in all details — major components, all controls, all sockets and terminal strips are mounted in place. Only the interesting and instructive wiring remains to be done from the ultra-simplified wiring diagrams — easily accomplished over a week-end. Furnished with RCA 13-channel front end tuner completely wired, aligned and tested. "Circuit-Aligned" components mean all final adjustments can be made without additional equipment.

630-TK De Luxe TV Kit, all components mounted, complete with all tubes, parts, instructions, less kinescope.
Net **$163.50**

630-TK STANDARD TV KIT

The 630-TK Standard 10″ TV kit is identical with the De Luxe, described above, except that it is offered at a low, economy price because no components are mounted. In every other respect it is the same as the De Luxe model, same quality front end and components, complete instructions.

630-TK Standard TV Kit, complete with all tubes, parts, instructions; less kinescope . . . . Net **$144.50**

TECH-MASTER TELEVISION CABINETS

10″ Table Model Cabinet (illustrated at right), for either 630-TK TV kit. Handsome, sturdy, mahogany finish. With safety glass and Kinescope mounting slides. Completely drilled, ready for installation. **24¾″ x 20″ x 14″ high.** . . . . Net **$42.50**

12½″ Table Model Cabinet . . . . Net **$47.50**

15″ or 16″ Table Model Cabinet . . . . . . Net **$54.50**

15″ or 16″ Mahogany Console Cabinet . . . . Net **$98.50**

15″ or 16″ Formica Console Cabinet in Blonde, Mahogany, Walnut or Ebony Finish . . . . Net **$98.50**

TECH-MASTER PRODUCTS COMPANY

630-TK TELEVISION COMPONENTS KITS

ELECTROLYTIC CONDENSER KIT
Consists of our part numbers 338, 367, 368, 369, 370, 371 listed below.
EK Kit $7.98

BLEEDER RESISTOR KIT
Consists of our part numbers 439, 458, 459, 876 listed below.
BK Kit $4.25

IF & VIDEO COIL KIT
Consists of 2 1K1s, 2K2, 2K3, 2K4, 3K1, 2 2L1s, 3L1, 3L2, 2 3L3s, 2 3L4s, 5 4L1s listed below.
4X2 IF & Video Coil Kit $12.00

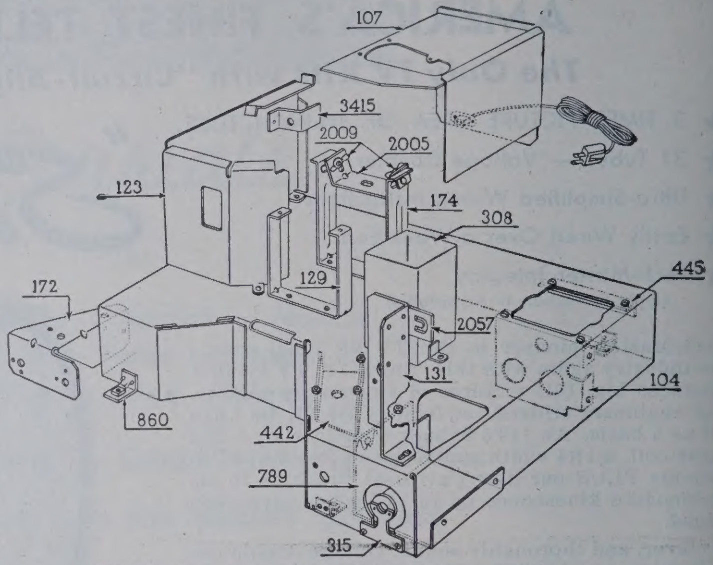
MICA CAPACITOR KIT
Consists of the 14 mica capacitors used in the 630-TS circuit.
MK Kit $3.95

CERAMICON CAPACITOR KIT
Consists of the 25 ceramicon capacitors used in the 630-TS circuit.
CK Kit $5.89

TUBULAR BY-PASS KIT
Consists of the 38 by-pass moulded capacitors used in the 630-TS circuit.
TK Kit $8.85

RESISTOR KIT
Consists of the 107 ½, 1 and 2-watt resistors used in the 630-TS circuit.
RK Kit $8.48

COMPLETE METAL CHASSIS KIT
Consists of our part numbers 1SC, 104, 107, 115, 116, 123, 129, 131, 172, 174, 308, 442, 445, 789, 4 860s, 2004, 2009, 3415, listed below. (Less cord.)
No. 1950 Metal Kit $29.50



630-TK Chassis Assembly (No. 1950 Metal Kit)

BASIC METAL CHASSIS KIT
Consists of our part numbers 1SC, 129, 172, 174, 308, listed below.
No. 500 Metal Kit $7.70

"SUPER-16" CONVERSION KIT
Consists of all components and instructions for converting 630 type TV receivers for use with 15" or 16" kinescopes. Includes 11T5 flyback transformer, 2D2 focus coil, 1R4 width control, DS2 voltage doubler socket, UB universal mounting brackets, 1B3 rectifier, all necessary resistors, condensers, etc., and instructions.
16CK Conversion Kit . . . $33.30
Conversion Instructions, separately, 25c

UB ADJUSTABLE MOUNTING BRACKETS
Kinescope mounting brackets for tubes from 12½" to 16". Mounts on 630 chassis so that face of all tubes up to 16" is in line with front controls.
UB Brackets $4.65

630-TK TELEVISION REPLACEMENT PARTS

Part No.	Description	Net
1SC	Stamped Chassis	$5.50
104	Electrolytics Bracket	1.50
107	H.V. Shield Cover	3.75
123	H.V. Compartmt. Shield	3.75
115	Bleeder Case Cover	1.90
116	Bleeder Case	2.20
129	Yoke Mtg. Bracket	.99
131	Speaker Bracket	1.95
157	Power Transformer	15.60
172	Bracket for Controls	1.65
174	Focus Coil "U" Bracket	1.65
308	Cathode Trap Shield	1.65
315	R.F. Unit Shaft Support	.65
338	250/10V, 1000/6V Cond. (71436)	1.25
367	40-10/450V, 80/150V, Cond. (71431)	1.53
368	40-40-10/450V Cond. (71432)	1.72
369	80/450V, 50/50V Cond. (71433)	1.61
370	40-10/450V, 10/350V Cond. (71434)	1.39
371	20/450V, 80/350V Cond. (71435)	1.48
439	6300 ohm WW 50 watt Bleeder	1.47
458	1590 " " "	1.18
459	6855 " " "	1.06
876	5000 ohm WW 10 watt Bleeder	.36
442	Detector Shield	.65
445	Transformer Bracket	.65
450	500 mmf. H.V. Cond.	1.03

Part No.	Description	Net
457	Line Cord and Plug	$ .96
525	Kinescope Socket with leads	1.32
532	H.V. Anode Cap and Lead	.66
533	Knob, Fine Tuning	.24
534	Knob, Station Selector	.33
535	Knob, Pic, Brightness Vert. Hold	.21
536	Knob, Hor. Hold, Vol. Control	.18
537	Knob, Dummy Brightness	.18
598	Escutcheon Plate & Spring	1.10
789	R.F. Unit Shield	1.50
853	Corona Ring	.21
860	Mounting Foot (4 req.) ea.	.33
2005	Focus Coil Support	.65
2009	8/32 Stud Assembly & Wing Nuts	.18
3415	Width Control Bracket	.33
11.5	Height Control 2.5 Meg. (71440)	.44
11.4	Vert. Lin. Control 5K (71441)	.73
11.11	Focus Control 1500 (71442)	.97
11.16	Vert. & Horiz. Centering Control 20 WW (Two) (71443)	.97
11.9	Brightness 50K (71444)	.44
11.7	Volume—On/Off 10K/1 Meg (71446)	2.50
11.15	Hor. Dri. 20K (71447)	.44

Part No.	Description	Net
11.8	Vert. & Horiz. Hold 50K/1 Meg. (72758)	$2.50
11.15T	Horiz. Drive .25 Meg	.44
1D1	Deflection Yoke	4.50
1D3	Deflection Yoke	8.94
1R1	Width Control	.42
1R3	Hor. Linearity Control	.48
1R4	Width Control	.60
1R5	Hor. Linearity Control	.72
2D1	Focus Coil	4.50
2D2	Focus Coil	6.60
3D3	Ion Trap Magnet (PM type)	1.26
4T2	Vert. Deflctn. Xfmr	3.00
8T2	Vert. Block Osc. Xfmr	1.65
8T8	Synchrolock Trnsfmr.	1.38
11T1	Horiz. Deflection Output & H.V. Transformer.	5.70
11T3	" " " " " "	5.70
11T5	" " " " " "	7.50
DS2	Voltage Doubler Socket	2.65
KRK2	RCA Front End Tuner	38.40
1K1	Sound IF Transformer	1.32
2K2	1st PIX IF	1.41
2K3	2nd PIX IF	1.08
2K4	Cathode Trap	1.32
3K1	Discriminator Trnsfmr.	1.65
2L1	3rd and 4th PIX IF	.39
3L1	Peaking Coil	.27
3L2	Peaking Coil	.27
3L3	Peaking Coil	.27
3L4	Peaking Coil	.27
4L1	Filament Choke	.12

Net

MALLORY SWITCHES, JACKS AND PLUGS • LIST PRICES

★ Complete descriptions of these parts will be found on the following pages.

Mallory Page 2

Multi-Section Rotary Switches

Mallory Cat. No.	List Price
1211L	$1.55
1215L	1.65
1213L	1.80
1212L	1.90
1221L	2.30
1225L	2.60
1223L	2.80
1222L	2.95
1236L	2.90
1231L	3.10
1235L	3.30
1246L	3.60
1241L	3.95
1245L	4.60
1251L	4.90
1256L	6.05
1261L	5.80
1266L	7.40
1311L	1.55
1315L	1.65
1313L	1.80
1312L	1.90
1321L	2.30
1325L	2.60
1323L	2.80
1322L	2.95
1331L	3.10
1335L	3.30
1341L	3.95
1345L	4.60
1351L	4.90
1356L	6.05
1361L	5.80
1366L	7.40

Single Section Rotary Switches

3115J	$1.15
31112J	1.15
3122J	1.15
3123J	1.15
3126J	1.15
3134J	1.20
3142J	1.20
3143J	1.20
31117J	1.80
3129J	1.80
3136J	1.95
3163J	1.95
3215J	1.15
32112J	1.15
3222J	1.15
3223J	1.15
3226J	1.15
3234J	1.20
3242J	1.20
3243J	1.20
32117J	1.80
3229J	1.80
3236J	1.95
3263J	1.95

Universal Mounting Brackets

RB254	$0.25

Mallory Page 3

Ceramic Section Selector Switches

Mallory Cat. No.	List Price
172C	$2.25
173C	2.25
174C	2.25
176C	3.50
177C	3.50
178C	3.50
179C	5.00
180C	5.00
181C	5.00

Lever Action Switches

5124	$1.50
6142	1.25
6143	1.25
7122-L	1.25
7123-C	1.25
7142-L	1.25
7143-C	1.25
7162-L	1.25
5224	1.50
6242	1.25
6243	1.25
7222-L	1.25
7223-C	1.25
7242-L	1.25
7243-C	1.25
7262-L	1.25

24-Point Non-Shorting Tap Switch

13124-L	$3.50

Mallory Page 4

Circuit-Opening Switch

1400L	$5.90

Two-Section • Five-Position "Hamswitch"

151L	$2.75

Two-Section • Two-Circuit • Six-Position "Hamswitch"

152L	$3.25

Mallory Page 4

Multiple Push-Button Switches

Mallory Cat. No.	List Price
2164	$5.25
2166	6.55
2168	7.90
2184	5.25
2186	6.55
2188	7.90
2194	5.25
2196	6.55
2198	7.90

Ceramic Section • "Hamband" Switches

161C	$2.25
162C	3.50
163C	5.00
164C	6.00
165C	7.50

Mallory Page 5

Single Push-Button Switches

2001	$1.30
2001-L	1.30
2002	1.30
2002-L	1.30
2003	1.40
2003-L	1.40
2004	1.60
2004-L	1.60
2005	1.60
2005-L	1.60
2006	1.95
2006-L	1.95
2007	1.75
2007-L	1.75
2008	2.20
2008-L	2.20

Jack Switches

20	$1.15
30	1.40
40	1.55
45	1.85
60	1.95
73	1.95
74	2.55
720	1.10
730	1.35
740	1.50
745	1.75
760	1.95
733	1.95
744	2.55
32	1.40
62	1.95
63	2.55
64	3.15
732	1.35
762	1.90
763	2.50
764	3.10

Mallory Page 6

Jacks

Mallory Cat. No.	List Price
1	$0.65
2	.80
2A	.80
2B	.80
3	.95
3A	.95
3B	.95
3C	.95
4	1.10
4A	1.10
4B	1.10
5	1.20
6	1.30
701	.55
702	.75
702A	.75
702B	.75
703	.85
703A	.85
703B	.85
703C	.85
704	1.00
704A	1.00
704B	1.00
705	1.15
706	1.25
A-1	.30
A-2	.50
A-2A	.55
A-3A	.80
GJ-1	.45

Mallory Page 7

Jacks

XP1	$0.90
XP2B	1.00
XP3B	1.30

SC Jacks

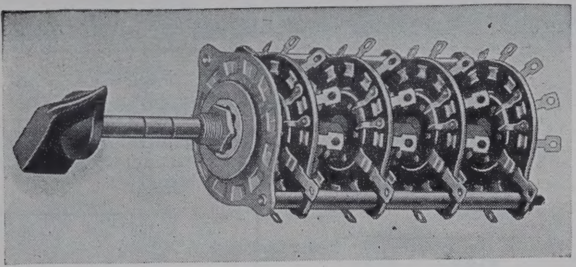
SC-1A	$0.55
SCA-2B	.65

Extension Jacks

100	$1.30
100N	1.65
100A	2.30

Plugs

75	$0.65
75N	1.00
75A	1.65
76	1.00
76A	1.95



Multi-Section Rotary Switches

APPLICATION—Ideally suited for test equipment, meter switching, and low current switching in industrial applications, including machine tool equipment. Also miscellaneous electronic devices, such as medical equipment, navigation instruments, and radar.

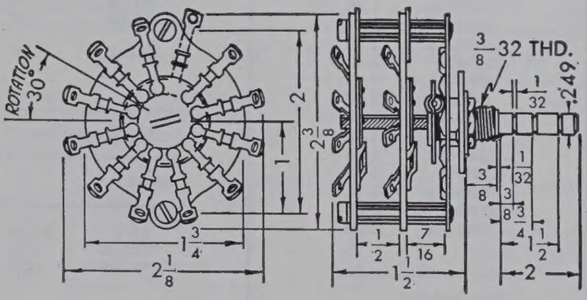
DESCRIPTION—All contacting members are silver plated, except rotor contact slugs, which are solid silver. This insures low contact resistance. The high lift of the contact springs provides a wiping and self-cleaning action to insure good electrical contact. The index spring, made of durable phosphor-bronze reinforced with web, prevents fracture failure and insures long-life operation.

An adjustable stop feature permits selection of the desired number of positions for extremely flexible use. The insulation used in all sections is high-grade phenolic resin. All switches supplied with ⅜″ diameter, ⅜″ long brass bushing, and 2″ long shaft, grooved for easy cutting at popular lengths.

All switches have ½″ spacing between sections, excepting the three and four-section, which have 1″ spacing. If closer spacing is required between sections, the switch can be dis-assembled and spacers cut to proper length.

ACCESSORIES—One Mallory No. 366 knob, one No. 232 nut, and one No. 227 lock washer furnished with each switch. See Miscellaneous Items section for Dial Plates.

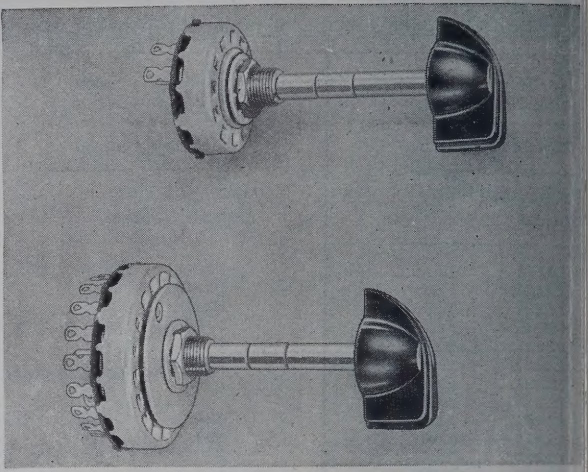
PACKAGING—One switch and accessories per display carton.



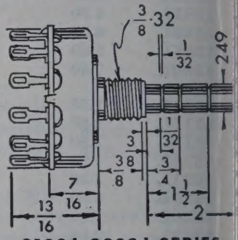
Shorting Type Catalog No.	Non-Shorting Type Cat. No.	No. of Circuits per Section or Gang	Total No. of Circuits per Switch	No. of Positions	No. of Sections or Gangs per Switch
1211L	1311L	1	1	2 to 11	1
1215L*	1315L*	2	2	2 to 5	1
1213L*	1313L*	3	3	2 to 3	1
1212L*	1312L*	4	4	2 to 2	1
1221L	1321L	1	2	2 to 11	2
1225L*	1325L*	2	4	2 to 5	2
1223L*	1323L*	3	6	2 to 3	2
1222L*	1322L*	4	8	2 to 2	2
1236L*†		1	3	2 to 6	3
1231L	1331L	1	3	2 to 11	3
1235L*	1335L*	2	6	2 to 5	3
1246L*†		1	4	2 to 6	4
1241L	1341L	1	4	2 to 11	4
1245L*	1345L*	2	8	2 to 5	4
1251L	1351L	1	5	2 to 11	5
1256L	1356L	2	10	2 to 6	5
1261L	1361L	1	6	2 to 11	6
1266L	1366L	2	12	2 to 6	6

*These switches are provided with an "off" position which is in addition to the number of positions listed in the fifth column.

†Will be discontinued when present stocks are exhausted.



Single Section Rotary Switches



3100J-3200J SERIES

APPLICATION—For use in small receivers as tone controls, band selector and antennae switching; also ideal for meter switching in test equipment and many other electronic devices where space is at a premium.

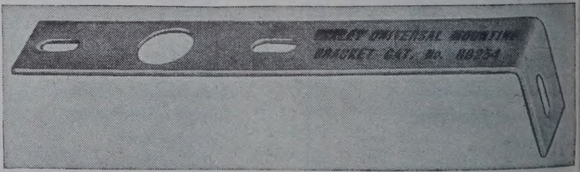
DESCRIPTION—Available in single section only, and in two sizes: 1¼″ diameter, 30° indexing, and 1¹⁄₁₆″ diameter, 20° indexing. All combinations made in both shorting and positive non-shorting action. The 1¹⁄₁₆″ base switch is availabl with the adjustable stop feature. High quality XXX grade o phenolic resin insulation conforming to JAN specifications P-13 All switches supplied with ⅜″ diameter, ⅜″ long brass bushing an 2″ long shaft grooved for easy cutting at popular lengths.

ACCESSORIES—One Mallory No. 366 knob, one No. 232 nut, an one No. 227 lock washer furnished with each switch. See Miscellaneous Items section for Dial Plates.

PACKAGING—One switch and accessories per display carton.

Shorting Type Catalog No.	Non-Shorting Type Cat. No.	Number of Circuits	Number of Positions	Diameter of Base	Adjustable Stop
3115J	3215J	1	5	1¼″	No
31112J	32112J	1	12	1¼″	No
3122J	3222J	2	2	1¼″	No
3123J	3223J	2	3	1¼″	No
3126J	3226J	2	6	1¼″	No
3134J	3234J	3	4	1¼″	No
3142J	*3242J	4	2	1¼″	No
3143J	3243J	4	3	1¼″	No
‡31117J	32117J	1	2 to 17	1¹⁄₁₆″	Yes
3129J	3229J	2	2 to 9	1¹⁄₁₆″	Yes
3136J	3236J	3	2 to 6	1¹⁄₁₆″	Yes
3163J	†3263J	6	2 to 3	1¹⁄₁₆″	Yes

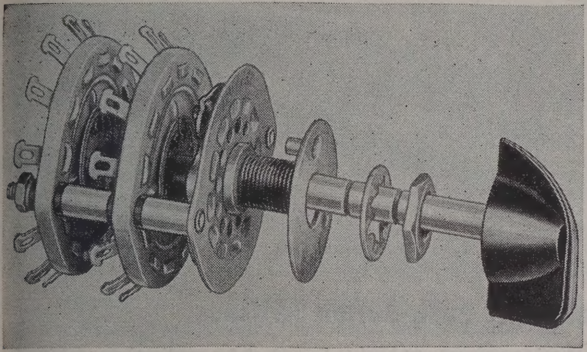
*Replaces No. 2742.
†Replaces No. 2762 by using adjustable stop.
‡Replaces No. 150J by using adjustable stop.



UNIVERSAL MOUNTING BRACKET-RB25

Mallory Page 2 (See Mallory Page 1 for List Prices)

MALLORY SELECTOR, TAP AND LEVER ACTION SWITCHES



Ceramic Section Selector Switches

APPLICATION—These switches are ideal for highly efficient critical radio frequency circuit applications. Suitable for radio receivers and low-power transmitter circuits. They find widespread use in laboratories, by manufacturers of transmitters, receivers, test equipment and other electronic apparatus, and by experimenters and amateurs.

DESCRIPTION—Ceramic insulation minimizes RF losses and retards moisture absorption. Indexing mechanism is the "hill-and-valley" type providing a definite "snap" indexing action. An adjustable stop feature is designed into the index assembly to permit a choice of 2 to 11 positions. All current-carrying parts are heavily silver-plated. The contacts are of the double-wiping, self-cleaning type, which insures low contact resistance over an extended temperature range. All switches supplied with ⅜″ diameter, ⅜″ long brass bushing and 2″ long shaft grooved for easy cutting at popular lengths. All types non-shorting.

The two-section switch has ½″ spacing between sections. The three-section switch has 1″ spacing.

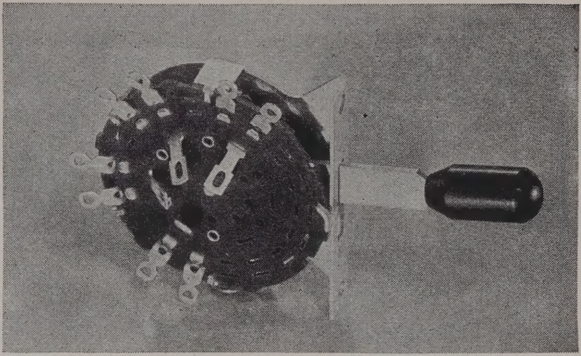
ACCESSORIES—One Mallory No. 366 knob, one No. 232 nut, and one No. 227 lock washer furnished with each switch.

PACKAGING—One switch and accessories per display carton.

Catalog No.	Number of Gangs or Sections	Number of Circuits per Gang or Section	Number of Positions
172C	1	1	2 to 11
173C	1	2	2 to 5
174C	1	3	2 to 3
176C	2	1	2 to 11
177C	2	2	2 to 5
178C	2	3	2 to 3
179C	3	1	2 to 6
180C	3	1	2 to 11
181C	3	2	2 to 5

DON'T MISS THE MALLORY CONTROL DEALS

Turn to Page 3,
Mallory Controls,
for
Full Information



Lever Action Switches

APPLICATION—These switches are particularly adapted to centralized radio, sound distribution, public address equipment, and intercommunication equipment for school installations of loudspeaker systems and office communication systems.

DESCRIPTION—The housing and mounting bracket of these switches are one integral part, which assures rigidity, and the design lends itself to the support of the section, thus preventing warping of the section or distortion in alignment of contacts. A smooth contact surface is guaranteed by the use of the exclusive Mallory "wrap-around" method of securing the terminal through the holes in the phenolic resin section. The phenolic resin is high grade for maximum insulation. The 5000 series have elongated mounting holes in the bracket, spaced from 2$\frac{3}{16}$″ to 2⅜″ apart. The 6000 and 7000 series have mounting brackets with round holes spaced 1⅝″ apart. Switches may be mounted singly or grouped in multiple mounting with ¾″ between lever arm centers to facilitate conventional rack and panel installations.

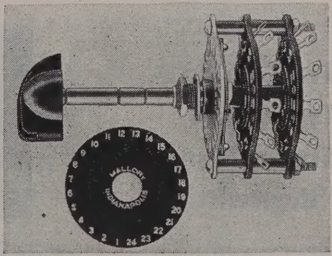
ACCESSORIES—One knob, two 6-32 bolts and nuts are furnished with each switch.

PACKAGING—One switch and accessories per display carton.

Positive Indexing

Cat. No. Shorting Type	Cat. No. Non-shorting Type	Number of Poles or Circuits	Number of Positions or Contacts
5124	5224	2	4
6142	6242	4	2
6143	6243	4	3
Spring Return			
7122-L	7222-L	2	2
7123-C	7223-C	2	3
7142-L	7242-L	4	2
7143-C	7243-C	4	3
7162-L	7262-L	6	2

24-Point Non-Shorting Tap Switch



APPLICATION—This switch is particularly useful in test equipment applications where more than the conventional 12-point switch is required.

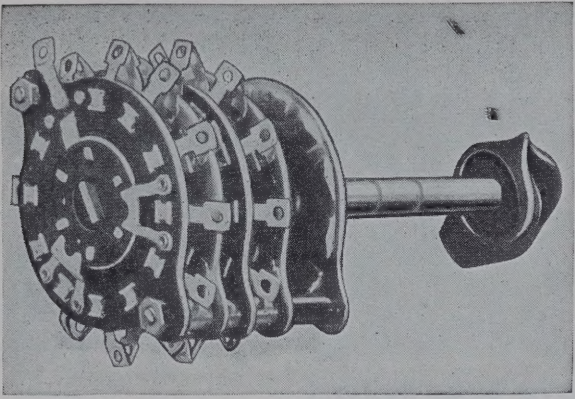
DESCRIPTION—The single circuit 24-point is accomplished through the use of two sections similar in design to the 1300L series switch. The indexing mechanism has no stops and is capable of continuous rotation with a 15° indexing action between positions. Furnished with ⅜″ diameter, ⅜″ long brass bushing and 2″ long notched shaft.

ACCESSORIES—One Mallory No. 366 knob, one No. 232 nut, one No. 227 lock washer, and one No. 394 Mallory Dial Plate furnished with each switch.

PACKAGING—One switch and accessories per display carton.

Catalog No. 13124L

MALLORY CIRCUIT-OPENING, "HAM", AND PUSHBUTTON SWITCHES



Circuit-Opening Switch

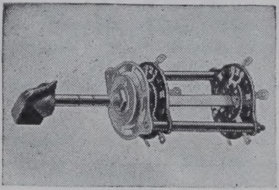
APPLICATION—This switch has found wide application in the construction of test sets, tube checkers, analyzers, and other apparatus where it is desirable to use only one meter.

DESCRIPTION—This is a special design of the series 1200L switch to provide for wiring of multiplying resistors to the switch, so that the switch not only opens the line but also automatically cuts in the proper multiplying resistor. The switch employs the standard 30° index, and is supplied with ⅜″ diameter, ⅜″ long brass bushing and a 2″ long shaft grooved for easy cutting to proper lengths.

ACCESSORIES—One Mallory No. 366 knob, one No. 232 nut, one No. 227 lock washer, and one No. 382 Mallory etched Dial Plate.

PACKAGING—One switch and accessories per display carton.

Catalog No. 1400L



Two-Section Five-Position "Hamswitch"*

APPLICATION—This switch provides a method of using a single meter to measure current or voltages up to and including 5 circuits of an amateur transmitter.

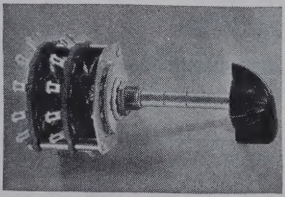
DESCRIPTION—This switch has the basic design of the 1200L series switch. It is of two-section construction with 2¼″ spacing between sections to permit multiplying resistors to be soldered directly to the switch terminals. High insulating qualities and low loss construction permit a conservative rating of 1000 volts RMS AC or 1500 volts DC. 60° indexing between positions and provided with the adjustable stop feature, giving a maximum of 5 positions. Supplied with ⅜″ diameter, ⅜″ long brass bushing and 2″ long shaft grooved for easy cutting at popular lengths.

ACCESSORIES—One Mallory No. 366 knob, one No. 237 nut and one No. 227 lock washer, furnished with each switch.

Refer to Misc. Items Section for special dial plate No. 487.

PACKAGING—One switch and accessories per display carton.

Catalog No. 151L



Two-Section Two-Circuit Six-Position "Hamswitch"

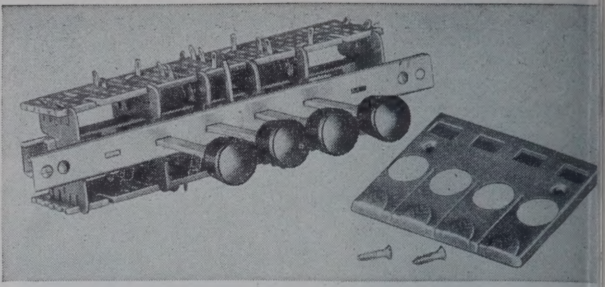
APPLICATION—Where all unused terminals are to be connected together and automatically shorted out.

DESCRIPTION—This switch is of the basic design of series 170C, excepting a phenolic resin insulation is used in the two-section assembly. Through the use of the 330° shorting shoes, all unused terminals are automatically connected. The spacing between sections is ½″. Switch is supplied with adjustable stop feature for 2 to 6 positions. Supplied with ⅜″ diameter, ⅜″ long brass bushing and 2″ long shaft grooved for easy cutting at popular lengths.

ACCESSORIES—One Mallory No. 366 knob, one No. 232 nut, and one No. 227 lockwasher furnished with each switch.

PACKAGING—One switch and accessories per display carton.

Catalog No. 152L



Multiple Push-Button Switches

APPLICATION—This switch is ideal for applications requiring a device for making, breaking, or transferring multiple circuits in automatic station selector tuning, inter-office communication systems, telephone and annunciator systems, set analyzers, tube checkers, and multimeters.

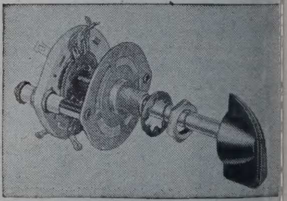
DESCRIPTION—Available from four to eight buttons with ⅝″ spacing between center lines of plungers. Each plunger actuates a phenolic resin slider supporting the various combinations of shoes which engage the stationary contacts. Arrangement of the plunger and latch bar mechanism provides an inter-locking action whereby one or more plungers may be pressed simultaneously, and will remain latched until released by depressing another plunger. Available in both shorting and non-shorting types, and with contact arrangement for both circuit closing and circuit transfer.

ACCESSORIES—Each switch furnished with brown phenolic resin knobs, one attractive statuary bronze escutcheon plate with blank designation inserts, and transparent strip for windows.

PACKAGING—One switch and accessories per display carton.

Catalog Number	Number of Buttons	Type
2164	4	Circuit Closing
2166	6	Circuit Closing
2168	8	Circuit Closing
2184	4	Circuit Transfer
2186	6	Circuit Transfer
2188	8	Circuit Transfer
2194	4	†Circuit Transfer
2196	6	†Circuit Transfer
2198	8	†Circuit Transfer

†Non-shorting.



Ceramic Section "Hamband" Switches

APPLICATION—For transmitter band switching of low power transmitter circuits.

DESCRIPTION—A special ceramic switch designed for transmitter plate circuits using up to 1000 volts DC with power up to 100 watts inclusive. Ceramic insulation is employed in both the section and spacers between sections to obtain highest insulation qualities, and to provide low losses at high frequencies. Available in one to five sections, with each section having one circuit. 90° indexing between positions, and capable of continuous rotation. Supplied with ⅜″ diameter, ⅜″ long brass bushing and 2″ long shaft grooved for easy cutting at popular lengths. All types non-shorting.

ACCESSORIES—One Mallory No. 366 knob, one No. 232 nut, and one No. 227 lock washer furnished with each switch.

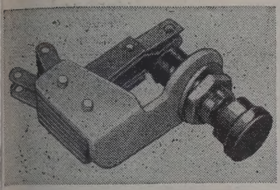
Refer to Misc. Items Section for special dial plate No. 488.

PACKAGING—One switch and accessories per display carton.

Catalog Number	No. of Sections or Gangs	Circuits per Switch	Spacing between Sections	Points or Contacts per Circuit
161C	1	1		4
162C	2	2	2″	4
163C	3	3	1″	4
164C	4	4	1″	4
165C	5	5	1″	4

*Reg. U.S.Pat. Off.

MALLORY PUSH-BUTTON AND JACK SWITCHES



Single Push-Button Switches

APPLICATION—These switches are ideal for a wide variety of applications requiring momentary or permanent contact. Especially adapted for use in laboratories, on test panels, in meter circuits, etc.

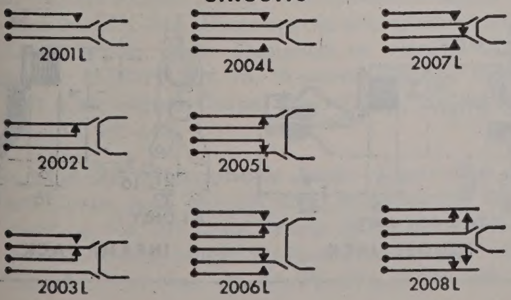
DESCRIPTION—Eight different circuit combinations available in either the locking or non-locking types. The locking types keep the circuit closed until the button is pulled out. The non-locking types maintain contact only while the button is held in the depressed position. Excellent electrical characteristics are achieved through the use of the phosphor bronze contact springs and the low resistance silver-plated contacts. The switch frame is steel cadmium plated, and the mounting bushing is nickel plated brass. Will mount in single hole 7/16″ diameter on panels up to 1/4″ thick.

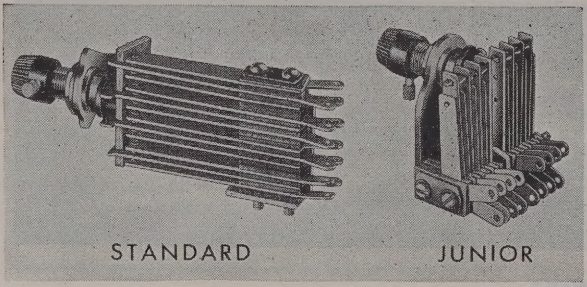
ACCESSORIES—One polished phenolic resin knob, one Mallory 232 nut and one No. 225 washer furnished with each switch.

PACKAGING—One switch and accessories per display carton.

Cat. No.	Circuit Arrangement
2001	S. P. Make contact—Non-locking type
2001-L	S. P. Make contact—Locking type
2002	S. P. Break contact—Non-locking type
2002-L	S. P. Break contact—Locking type
2003	S. P. Double-Throw—Non-locking type
2003-L	S. P. Double-Throw—Locking type
2004	2-Pole—Make two contacts—Non-locking type
2004-L	2-Pole—Make two contacts—Locking type
2005	2-Pole—Break two contacts—Non-locking type
2005-L	2-Pole—Break two contacts—Locking type
2006	2-Pole—Double-Throw—Non-locking type
2006-L	2-Pole—Double-Throw—Locking type
2007	2-Pole—Make two—Break one—Non-locking type
2007-L	2-Pole—Make two—Break one—Locking type
2008	Double-Throw—Make before break—Non-locking type
2008-L	2-Pole—Double-Throw—Make before break—Locking type

CIRCUITS





Jack Switches

APPLICATION—Ideally suited for use in laboratories, test panels, meter circuits, and other equipment where variable circuit combinations are accomplished through the leaf spring type assembly.

DESCRIPTION—The Standard Jack (or long frame type) may be used where space is no factor, as the frame extends straight back from panel mounting. The spring stack is assembled on a horizontal line with the frame. Constructed with knob and shaft that rotates through the bushing, operating a cam to actuate the spring which accomplishes the circuit switching.

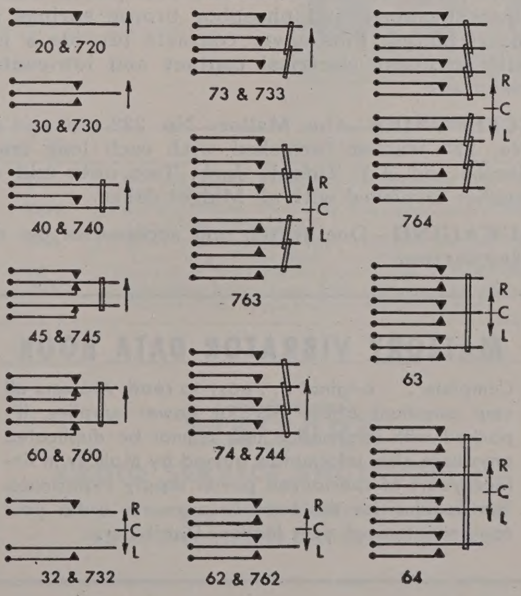
The Junior Jack (or short frame type) is made with the frame supporting the spring stack at right angles. Because of the short springs used, it requires a minimum of space for mounting. The actuation of the springs is the same as for the Standard Switch. Frames on both Standard and Junior types are cadmium plated. Brass bushings and phosphor bronze springs are nickel plated. The fine silver contacts insure good electrical and low resistance contact. Both switch types are suitable for mounting in a single hole 7/16″ diameter on panels up to 1/4″ thick.

ACCESSORIES—One Mallory black phenolic resin knob, one No. 232 nut, and one No. 225 washer furnished with each switch.

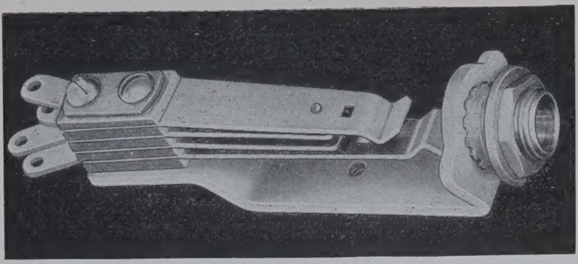
PACKAGING—One switch and accessories per display carton.

Two Position		Circuit Arrangement
Standard No.	Junior No.	
20	**720**	Single-Pole, Single-Throw
30	**730**	Single-Pole, Double-Throw
40	**740**	Double-Pole, Single-Throw
45	**745**	Five Springs, two break and one make
60	**760**	Double-Pole, Double-Throw
73	**733**	Three-Pole, Single-Throw
74	**744**	Four-Pole, Single-Throw
Three Position		Circuit Arrangement
32	**732**	Double-Pole, Single-Throw Center off Position
62	**762**	Double-Pole, Double-Throw Center off Position
63	**763**	Three-Pole, Double-Throw Center off Position
64	**764**	Four-Pole, Double-Throw Center off Position

CIRCUITS



MALLORY JACKS



Jacks

APPLICATION—These jacks provide a conventional receptacle where it is desirable to open or close auxiliary circuits by use of a combination of spring assemblies actuated by insertion of connection plugs. Excellent for head sets, hand sets, or microphone cord and plug connections, for meter testing cord and plug connections, or as a receptacle for any device where desirable to connect or disconnect by cord and plug. Fit all Mallory #75 and 76 plugs.

DESCRIPTION—The long frame jacks are provided with a variety of spring combinations. The spring stackups are mounted horizontally to the frame. The jack is designed to mount in a single 7/16″ hole in panels up to 5/16″ thick. Fits all standard Mallory plugs of two and three conductor types.

The Junior Jack (sometimes called "short frame" jack) is made with the frame supporting the spring stack at a right angle with the short springs requiring only 1 5/16″ space back of panel for mounting. Bushings are made to mount in single 7/16″ diameter holes in panels up to 5/16″ thick. Fits all standard Mallory plugs.

The Midget Jack is very compact (with shorter frame and springs than the Junior types), being extremely useful where bare minimums of space exist. Will mount in a single 3/8″ diameter hole in panels up to 1/4″ thick.

The Infant Jack (sometimes referred to as a "pup" jack) is the smallest single circuit jack manufactured to accommodate the conventional 2-way phone plug tip and sleeve connection.

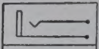
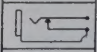
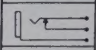
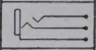
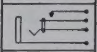
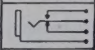
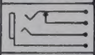
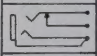
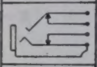
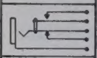
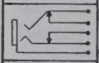
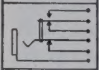
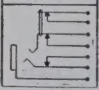
All jacks are made with cadmium-plated frames. Brass bushings and phosphor bronze springs are nickel plated. Fine silver contacts provide a jack with excellent electrical contact and low-contact resistance.

ACCESSORIES—One Mallory No. 232 nut and one No. 225 washer furnished with each long frame Junior and A-1 (Infant) Jack. Two nuts and one washer furnished with all Midget Jacks.

PACKAGING—One switch and accessories per display carton.

MALLORY VIBRATOR DATA BOOK

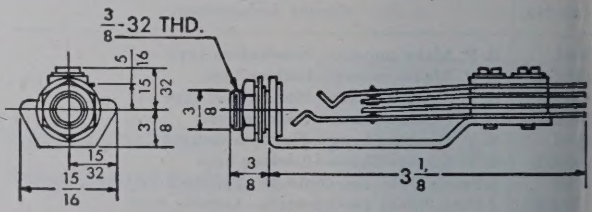
Complete . . . original . . . easy to read. Answers all your questions about vibrator power supplies. It's packed with information that cannot be duplicated anywhere else; information gained by Mallory in sixteen years of specialized power supply experience. The demand for this book is large—so order your copy now through your Mallory Distributor.

	Long Frame Cat. No.	Junior Jacks Cat. No.	Infant and Midget Cat. No.
	1	701	*A-1
	2	702	A-2
	2A	702A	A-2A
	2B	702B	
	3	703	
	3A	703A	A-3A
	3B	703B	
	3C	703C	
	4	704	
	4A	704A	
	4B	704B	
	5	705	
	6	706	

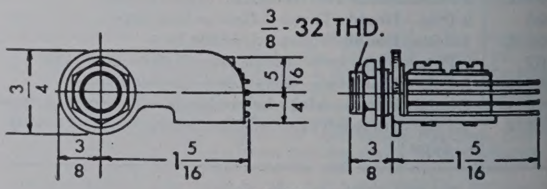
*Commonly referred to as "Infant" Jack.

"GROUNDING" JACK—(Type GJ-1), for "grounding" airplanes while refueling. Similar in construction to A1 Jack except for insulation.

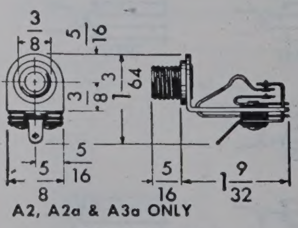
JACK DIMENSIONS



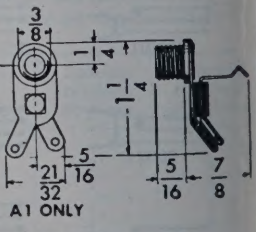
LONG FRAME



JUNIOR

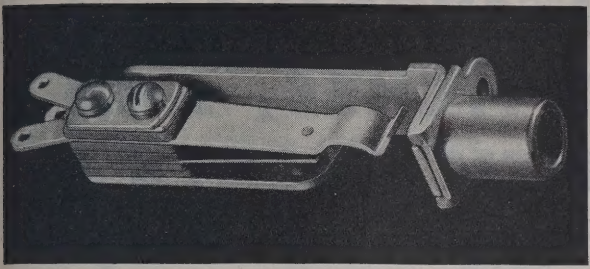


MIDGET JACK



INFANT JACK

MALLORY JACKS AND PLUGS



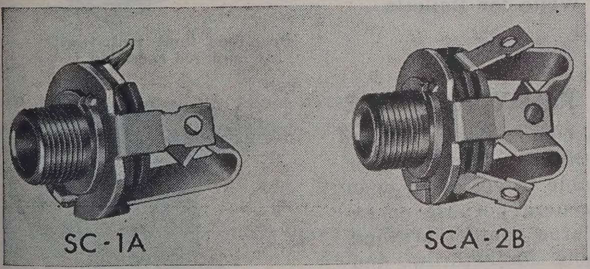
Jacks

APPLICATION—Ideal for telephone switchboard types of applications, as well as industrial applications where a more compact jack is required for close strip panel mounting.

DESCRIPTION—Although limited to three circuit combinations, these jacks serve the same purpose as the Mallory Standard Long Frame Jacks, but employ a special frame angle to provide greater support. The bushing is plain, unthreaded, and the jack is mounted by means of a screw through the panel mounting plate at the base of the bushing. Bushing fits all standard Mallory plugs of two and three conductor types. The springs are assembled horizontally to the frame. The frames are steel cadmium plated. Brass bushings and phosphor bronze springs are nickel plated. The fine silver contacts provide an excellent electrical contact and low contact resistance.

ACCESSORIES—None furnished.

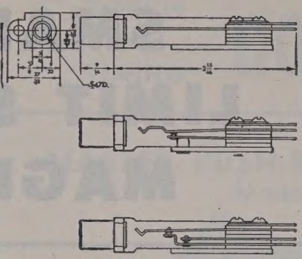
PACKAGING—One jack per display carton.



SC Jacks

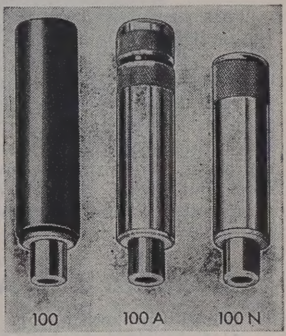
No. SC-1A Phone Jack—Equivalent of Signal Corps Jack No. JK-34A. Same spring arrangement as No. 1 Long Frame Jack. Designed to receive following plugs: Mallory No. 75, Western Electric Nos. 47A and 47B; Signal Corps Nos. PL-47, PL-48, PL-55, PL-148, PL-155.

No. SCA-2B Microphone Jack—Equivalent of Signal Corps Jack No. JK-33A. Same spring arrangement as No. 2B Long Frame Jack. Designed to receive following plugs: Western Electric No. 109 and Signal Corps Nos. PL-46, PL-68 and PL-168.



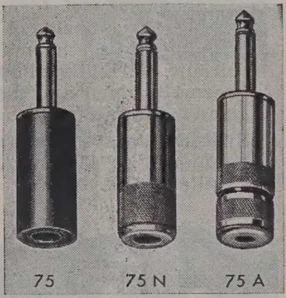
Cat. No.	Type
XP1	—(Open Circuit)
XP2B	—(Three-Circuit Microphone)
XP3B	—(Single Circuit, Make before Break)

Extension Jacks



Cat. No.	Description
100	Two-Way Extension Jack (Fiber Shell) for No. 75 Phone Plug
100N	Two-Way Extension Jack (Shielded One-Piece Nickel Shell) for No. 75N Phone Plug
100A	Two-Way Extension Jack (Shielded Two-Piece Nickel Shell) for No. 75A Phone Plug (with Built-in Cable Clamp)

Plugs



Cat. No.	Description
75	Two-Way Phone Plug with Tie-Cord Anchor (Phenolic Resin Shell)
75N	Two-Way Phone Plug with Tie-Cord Anchor (Shielded One-Piece Nickel Shell)
75A	Two-Way Phone Plug with Tie-Cord Anchor (Shielded Two-Piece Nickel Shell) (with Built-in Cable Clamp)
76	Three-Way Microphone Plug (Phenolic Resin Shell)
76A	Three-Way Microphone Plug (Shielded Two-Piece Nickel Shell) (with Built-in Cable Clamp)

P.R. MALLORY & CO. Inc.
MALLORY
RADIO SERVICE ENCYCLOPEDIA
Page after page of replacement information for all pre-war and post-war receivers.

SMALL SWITCHES, LIMIT SWITCHES, AND MAGNETIC RELAYS

SMALL SNAP-ACTION SWITCH, G-E SWITCHETTE CR1070-C103

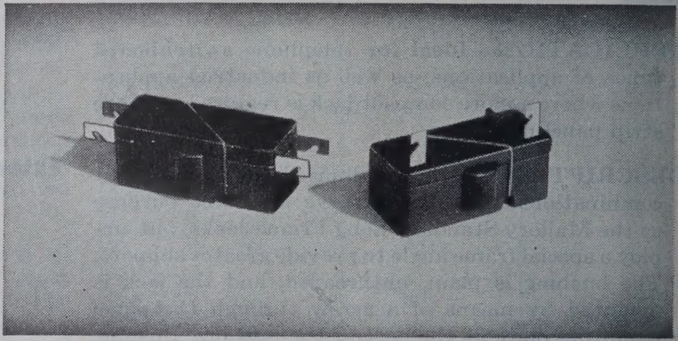
This new, lightweight switch mechanism lends itself especially to applications where space is limited and long life is required.

The Switchette is operated by movement of the spring-return button located in the housing. This button can be actuated by a lever, bellows, or other means. Snap-action, double-break-contact construction gives the G-E Switchette a high current rating and makes it suitable for applications where the vibration is severe.

FEATURES AND ADVANTAGES

1. Small (approximately 1¼ in. by ½ in. by ½ in.) and weighs only 9 grams (0.02 lb).
2. Resists vibration and corrosion.
3. Phenolic-resin operating button provides safety from live parts during operation.
4. Contact tips are 99.95 per cent pure silver.
5. Particularly suited to electronic applications because of negligible amount of contact bounce.
6. Five terminal arrangements are available, including the two shown above.
7. Wide variety of forms available, for example, three basic contact arrangements: single-circuit, normally open; single-circuit, normally closed; and two-circuit, normally open and normally closed. Also many special forms.

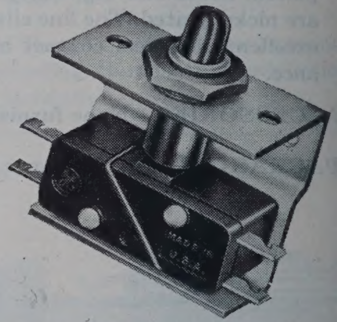
Switchettes are available in ratings up to 10 amperes at 115 or 230 volts a-c. Write for Bulletin GEA-3818.



Switchettes showing two terminal arrangements

LIMIT SWITCH, CR1070-D101

This sturdy, open-type limit switch is operated by a plunger which provides $\frac{7}{32}$-inch overtravel. The contact mechanism of this device is the G-E Switchette, which can be wired to control one normally open circuit and one normally closed circuit. Rated 10 amperes at 230 volts a-c. Write for Bulletin GEA—3821.



Open-type limit switch with push-rod operation

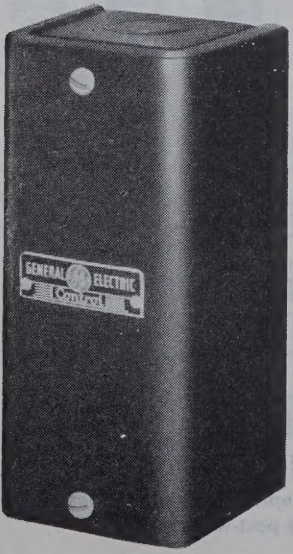
GENERAL PURPOSE RELAY, CR2790-E

The CR2790 relay is a compact, attractively finished device for use either as a motor starter or a relaying unit. Available in either an open form or enclosed in a general-purpose or explosion-proof housing. Three contact arrangements available: single-pole, single-throw; double-pole, single-throw; and double-pole, double-throw. In the open form, all three contact arrangements use the same base, which facilitates mounting. In the enclosed form, the U-shaped cover makes wiring and servicing convenient. Rated 10 amp. continuous, 110/120 volts a-c.

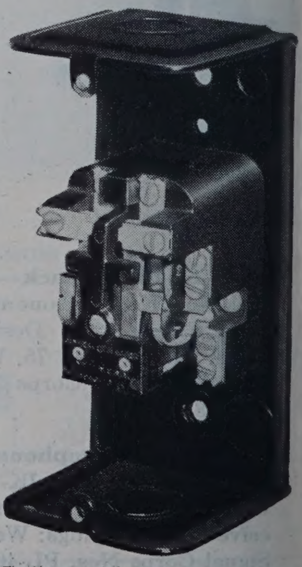
Applications

Control of pilot circuits in response to remote control switch or thermostat, or for direct control of small motors.

As a fractional-horsepower motor starter, or in conjunction with a magnetic switch controlling larger motors, heating or lighting circuits, and signal systems. Bulletin GEC—257.



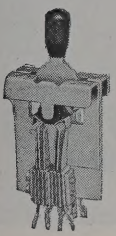
Enclosed magnetic relay

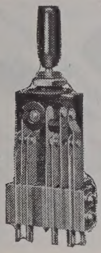


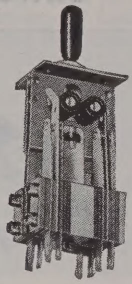
Enclosed relay with cover removed

SWITCHES LEVER • FOOT and PUSH-BUTTON TOUCH • TIMING CONTROLS

CAM-LEVER SWITCHES


Model MCT


Model MCM


Model MCL

Compact lightweight switches designed for long life and trouble-free service under heavy-duty requirements. Added features include shielding between contact sections, mounting provisions for single hole and standard mounting centers plus availability of all popular as well as special build-up variations.

Quotations will be given promptly on your switch problems. Common types are in stock for immediate shipment.

Type	*Amps.**	*High*	*Wide*	*Long†*
MCT	1	1½"	¾"	$2\frac{21}{32}$"
MCM	5	1¼"	1¼"	$2\frac{25}{32}$"
MCL	10	1¾"	1⅜"	$3\frac{15}{16}$"

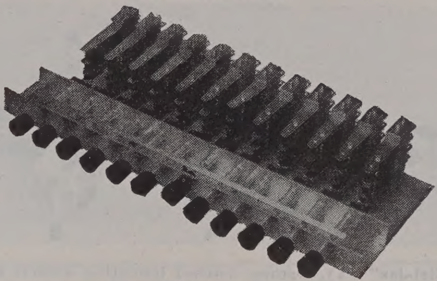
*At 125 volts, 60 cycles, non-inductive load.
†Distance from back panel to end of terminals.

Complete Switch with Four SPDT Sections:

Type	***Net Price, 1-9***
MCM	**$5.08**
MCL	**7.03**

MASTER PUSH-BUTTON SWITCH

Model MPB



A single unit type push-button switch with high power handling ability to give direct push-button control. Furnished in from two to a maximum of twelve positions. Standard frames are: (1) locking, (2) non-locking, (3) release-lock, and (4) accumulative locking with single-button release. Pure silver contacts, phosphor bronze springs. Rating: 5 amps., 125 volts a-c (non-ind.).

HEAVY DUTY ELECTRONIC TIMERS

Promatic Timer

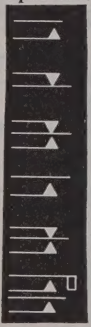
Convenient and compact units for either full or semi-automatic control of industrial processes. Two or more timers control a number of individually timed operations in a predetermined sequence with either self-recycling or manual recycling. Handle 10 amps. at 125 volts, 60 cycles, on DPDT power control contacts. Five ranges: 0.06-1.2, ½-8, ¾-15, 1.5-30, and 3-60 seconds. Plug-in capacitors give ready selection of timing range. Adaptable to use as photo-electric or sensitive relay in non-timing use. $32.00 List

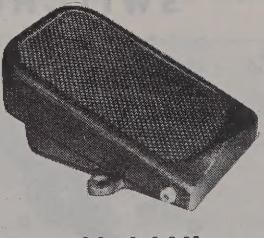
FOOTSWITCHES

Models to meet every need. Type MI has large, inclined foot treadle; type MC operates by pressure of finger, elbow, knee, or foot anywhere on its top plate. Each switch will handle 10 amperes at 125 volts a-c.

Type *Price*	*Type* *Price*	*Action*
MC-11 $5.50	MI-21 $8.80	Normally open, spring return.
MC-12 $5.50	MI-22 $8.80	Normally closed, spring return.
MC-13 $6.00	MI-23 $9.35	Double throw, spring return.
MC-14 $8.25	MI-24 $11.35	First press closes switch contacts; second press opens switch contacts.
MC-15 $8.75	MI-25 $11.85	First press transfers switch contacts; second press restores switch contacts.
	MI-26 $13.00	First half-throw closes 1st switch; second half-throw closes 2nd switch; spring return.

Contact Operation




Model MI
Cast Iron Case
4" w. x 6¾" l. x 3" h.

FOOT SWITCH
TYPE
GENERAL CONTROL COMPANY
BOSTON 34, MASS.
Model MC
Cast Iron Case
4" diam. x 2⅛" high

GENERAL CONTROL COMPANY
1203 SOLDIERS FIELD ROAD BOSTON 34, MASSACHUSETTS

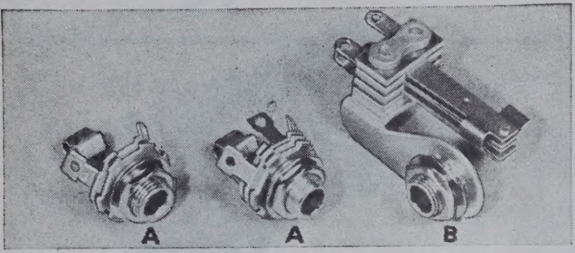
SWITCHCRAFT INC.

CHICAGO 22, ILLINOIS

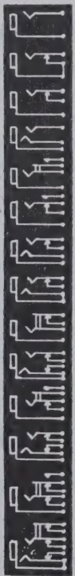
PHONE JACKS • PHONE PLUGS
SWITCHES: Push-Button . . .
Rotary and Lever Action . . .

"SWITCHCRAFT" produces many custom made products for the industry. Inquiries invited.

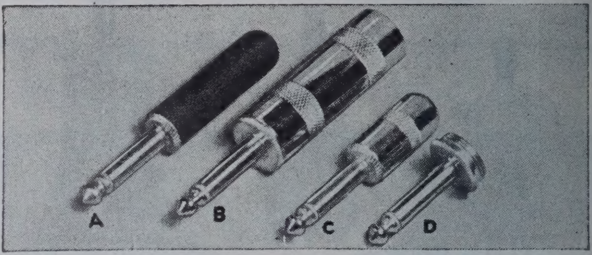
SWITCHCRAFT PHONE JACKS



The **"Littel-Jax"** (A), features notched insulating washers mechanically interlocking springs and lugs; "V-bend" in tip spring firmly "holds" mating Plug; minimum space requirements, economical. Mounts in single ⅜" dia. hole, panels up to $\frac{5}{32}$" thick.
The short frame type Jack known as **"SF-JAX"** (B), requires minimum panel depth, mounts in single ⅜" dia. hole, panels up to $\frac{3}{16}$" thick.

"LITTEL-JAX"		"SF-JAX"			
Part No.	U.S.A. List Price	Part No.	U.S.A. List Price	Description	Schematic.
11	$0.35	21	$0.50	Open Ckt. 2-cond.	
		22	$0.65	Closed Ckt. 2-cond.	
12A	$0.40	22A	$0.65	Closed Ckt. 2-cond.	
12B	$0.50	22B	$0.65	Open Ckt. 3-cond.	
		23	$0.75	Separate "make" ckt.	
		23A	$0.75	"Break-make" ckt.	
13B	$0.70	23B	$0.75	"Break" ckt. 3-cond.	
		23C	$0.75	"Break" ckt. 3-cond.	
		23E	$0.75	Separate "Break" ckt.	
		24	$0.85	Two "Break" ckts.	
		24A	$0.85	Two-conductor — spcl. ckt.	
		24B	$0.85	Two "Break" ckts.	
		25	$1.05	Special Circuit — 2-cond.	
		26	$1.15	Special Circuit — 3-cond.	

SWITCHCRAFT PHONE PLUGS



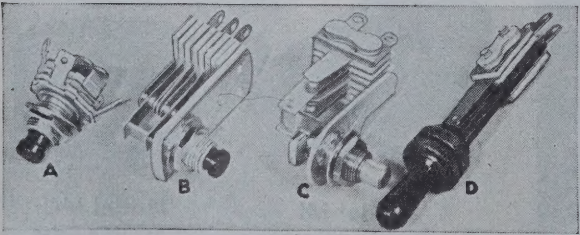
The **"Littel-Plug"** (A), radically new, fitting standard Jacks; solder lug type features clamp terminal serving as a cable clamp and terminal—perfect for metal braid cable. Screw type terminals—no clamp. Tenite or Metal handles are 1⅝" L., ½" dia. Exterior metal parts bright nickel Pl.

The Standard Plugs (B), conventional design, available both black Bakelite or metal handles 2$\frac{1}{16}$" L., $\frac{11}{16}$" O.D., except No. 90 and No. 160 have metal handles 1" long. Exterior metal parts bright Nickel Pl.

The **"Lug-Plug"** (C), low-cost two conductor, solder lug term. Exterior metal parts bright Nickel Pl. Red or Black Tenite Handles are 1⅝" L., ½" O.D. No. 330 has metal handle 1" L., bright Nickel Pl. Plug Adapter (D) used with MC1F or MC1FA Connectors for use with standard Phone Jacks.

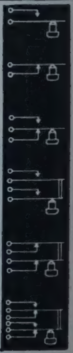
Part No.	U.S.A. List Price	Plug Type	Color or Type of Handle	Description
240	$0.70	"Littel-Plug"	Black	2-conductor. Screw Term.
245	$0.70	" "	Red	" " " "
270	$0.95	" "	Metal	" " " "
250	$0.65	"Littel-Plug"	Black	2-conduct. Clamp-lug Term.
255	$0.65	" "	Red	" " " " "
280	$0.90	" "	Metal	" " " " "
260	$1.10	"Littel-Plug"	Black	3-conductor. Screw Term.
290	$1.30	" "	Metal	" " " "
267	$0.95	"Littel-Plug"	Black	3-conduct. Clamp-lug Term.
269	$0.95	" "	Red	" " " " "
297	$1.20	" "	Metal	" " " " "
40	$0.65	Standard	Black	2-conductor. Screw Term.
70	$1.10	"	Metal	" " " "
160	$0.85	"	Metal	" " " "
44	$0.45	Adapter	—	" " " "
60	$0.95	Standard	Black	3-conductor. Lug Terminals
90	$1.20	"	Metal	" " " "
350	$0.50	"Lug-Plug"	Black	2-conductor. Lug Terminals
355	$0.50	" "	Red	" " " "
380	$0.60	" "	Metal	" " " "

SWITCHCRAFT SWITCHES



The **"Littel-Switch"** (A), available 3 circuits, either red or black one-piece Plastic Push-Buttons, non-locking only. Mounts in single ⅜" dia. hole, panels up to ¼" thick.
The **"FF-Switch"** (B), all common circuits, one-piece black Plastic Push-Button, non-locking only. Mounts in single ⅜" dia. hole, panels up to ¼" thick.
The **"RS-Switch"** (C), non-locking, two-position rotary, all common circuits. Mounts in single ⅜" dia. hole, panels up to ¼" thick. Ideal for "Talk-Listen" switches in Inter-Comm. Systems.
The **"LS-Switch"** (D), unusually small Lever Action Switch, made to special order only, two or three positions, non or locking. Mounts in single $\frac{15}{32}$" dia. hole, panels up to $\frac{5}{64}$" thick.

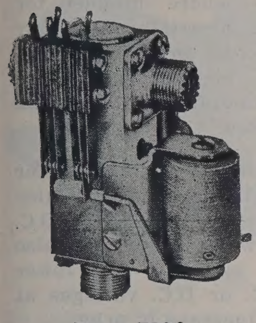
AVAILABLE AT ALL LEADING RADIO JOBBERS.

"LITTEL-SWITCH"			"FF-SWITCH"		"RS-SWITCH"		
Part No. Red. Push-button	Part No. Black Push-button	U.S.A. List Price	Part No.	U.S.A List Price	Part No.	U.S.A. List Price	Schematic Circuit
101	201	$0.80	1001	$0.90	2001	$0.90	
102	202	$0.80	1002	$0.90	2002	$0.90	
103	203	$0.85	1003	$1.00	2003	$1.00	
			1004	$1.10	2004	$1.15	
			1005	$1.10	2005	$1.15	
			1006	$1.35	2006	$1.50	

PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

Advance RELAYS

COAXIAL RELAY



Type 7204

This relay, for use with 52 ohm RG coaxial cable, has SPDT internal contacts, rated at 880 watts maximum. If desired, DPDT auxiliary contacts (as illustrated) may be had. Tests on a 52 ohm line show VSWR of 1.02:1.0 at 100 meg.

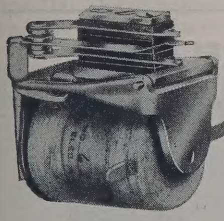
***List Prices:** (Up to 115 V A.C. or 40 V D.C.)

A.C.	D.C.		
7200	8200		$13.75
7204	8204	With auxiliary contacts	17.05

*For higher voltages up to 440 V A.C. or 240 V D.C., or for other Advance Coaxial Relays, see your nearest jobber.

Size (without auxiliary contacts): 1⅜" x 2⅞" x 3½"

MIDGET TELEPHONE RELAY



Type 5203A
"A" denotes
5-amp. contacts

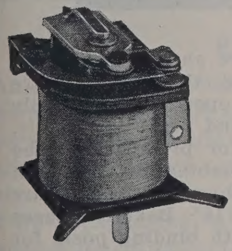
This small, yet sturdy relay is offered in any contact combination from SPST to 4PDT; with ⅛", 1.5 amp. contacts, or with 3/16", 5 amp. contacts. Coils draw from .1 to 2 watts D.C. or 1 to 1½ watts A.C. List prices below are for coils up to 115 V A.C. or 1000 ohms D.C.

A.C.	D.C.		
5201	6201	SPST N. O.	$3.85
5201A	6201A	SPST N. O.	4.07
5203	6203	SPDT	4.12
5203A	6203A	SPDT	4.56
5204	6204	DPDT	4.95
5204A	6204A	DPDT	5.83

For higher voltage coils, up to 220 V A.C. or 16,000 ohms D.C., see your nearest jobber. He can also show you other Advance Telephone Relays.

TINY MITE RELAYS

(FOR D.C. ONLY)



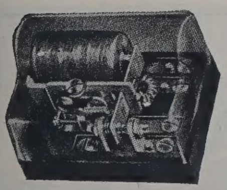
Type 003

In these tiny relays, which require less than ½ cubic inch mounting space, all switching is above ground. Contacts are rated at .35 amperes at 115 V A.C. (non-inductive). Power required is .2 to .5 watt. Coils are available for any D.C. voltage 1 to 80; resistances up to 5000 ohms. Weight: 10 grams. (45 relays per lb.). List prices below are for any coil up to 800 ohms (24 V D.C.). For higher resistances see your nearest jobber.

Type		List
003	SPST N. O.	$2.91
005	DPST N. O.	3.19

Size: 13/16" x 13/16" x 9/16"
(Overall dimensions with lugs as illustrated).
If desired, can be supplied with leads.

ULTRA-SENSITIVE D.C. RELAYS



Type 1200

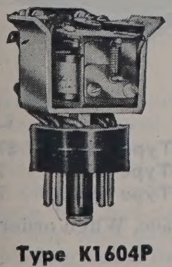
This relay combines many superior features — transparent plastic cover-molded Bakelite base — counter-balanced armature — high overall sensitivity . . . 5 milliwatts for positive operation — 2½ milliwatts with careful adjustment, and light contact load . . . Three adjustments with vernier screws: spring, and each contact. Contacts are SPDT, pure silver rated at 1.5 amperes at 115 V A.C. (non-inductive). Supplied in coil resistances up to 40,000 ohms. **Be sure to specify resistance desired!**

List Prices:

Up to					
2200 ohms	$9.07	8700 ohms	$ 9.90	30000 ohms	$12.65
3500 ohms	9.35	14000 ohms	10.45	40000 ohms	15.40
5500 ohms	9.62	20000 ohms	11.00		

Base Dimensions: 2" x 2 9/16". **Height:** 1½". **Weight:** 6¼ ounces.

PLUG-IN RELAYS



Type K1604P

Any Advance Relay can be Supplied with Standard Speaker Plugs!

To designate that plug-in is desired, add the letter "P" to the type number when ordering. For example type K1604 (illustrated) becomes type K1604P.

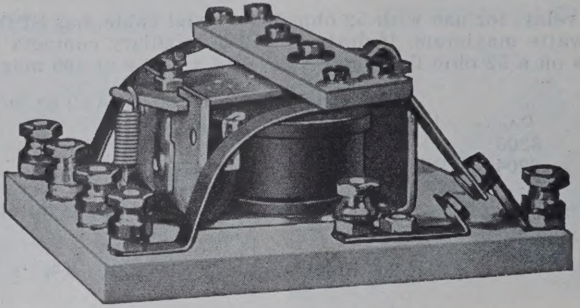
To compute list prices, add to the prices shown elsewhere as follows:

4-5-6-7-8 prong	$2.20
9 prong	2.80
10 prong	3.19
11 prong	$3.63
12 prong	4.07

• *Ask your jobber about Advance Hermetically Sealed or Dustite Relays!* •

Advance RELAYS

TRANSMITTER RELAYS



Type 400

Isolantite model Antenna Change-Over. Designed for use in Amateur Transmitters.

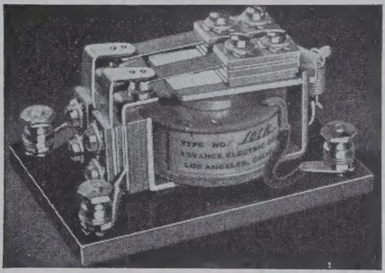
The contact system is Double Pole-Double Throw, using ¼″ Pure Silver contacts, with exceptional wiping action. Three and four pole arrangements are available on special order.

For high radio frequency control. Entirely hum-free where intended for A.C. operation, and highly efficient on D.C. supplies. All metallic parts are cadmium and chromium plated.

Standard coils are for 110V A.C. and may also be used for 24V D.C. However, they will also be supplied for lower A.C. or D.C. voltages at no increase in price.

List Price $10.89

KEYING RELAYS



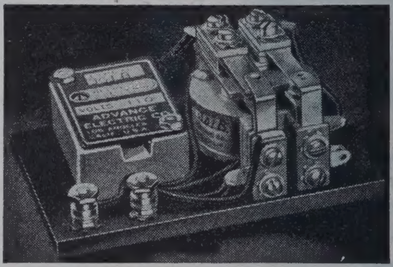
Type 101K—A.C.
Type 201K—D.C.

Designed expressly for use in Keying Circuits where it is desired to use low voltage across the key to control high voltage transmission through the Relay contacts. The heavy duty coil and strong return spring makes possible an exceptional keying speed. Two sets of ¼″ Pure Silver contacts in series allow a carrying capacity of 2500 volts. The complete unit, mounted on a 3/16″ Bakelite base with binding posts for coil connections, has over-all dimensions of 3″ x 2″ x 1⅜″ and is obtainable for A.C. operation to 115 volts or D.C. operation to 60 volts.

List Price **$6.05**

TIME DELAY RELAYS

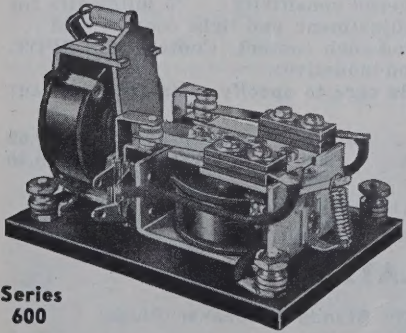
Type 300—N.O.
Type 350—N.C.



Particularly suited for use where short time delays (10 sec. to 1 min.) are required, these Relays are available with both normally open and normally closed thermostats. Types 300 and 350 respectively, the former being widely used for pre-heating tube filaments, etc. The contact combination on both models is Double Pole Single Throw with ¼″ Pure Silver contacts. Mounted on 3/16″ Bakelite bases measuring 3¾″ x 2⅜″ x 1½″ with binding posts for coil connections. Standard operating voltage is 110 A.C. .... **List Price $9.07**

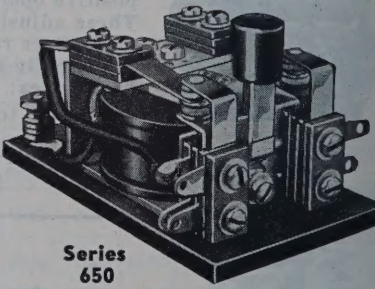
Low voltage units are available on special order.

LATCHING RELAYS



Series 600

These Relays are highly desirable for applications where it is impractical to have the holding coil in constant service. When the coil actuating the contact arrangement is momentarily energized, the armature is locked in the closed position, and may be released electrically (Type 600) or manually (Type 650).

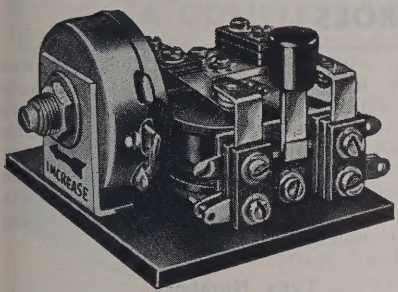


Series 650

	List			List
Type 604B	**$10.56**	Double Pole-Double Throw	**Type 654B**	**$7.86**
Type 605B	**10.28**	Double Pole-Single Throw (N. O.)	**Type 655B**	**7.53**
Type 606B	**10.28**	Double Pole-Single Throw (N. C.)	**Type 656B**	**7.53**

The above list prices are for ¼″ contacts. For 3/16″ points deduct 25c—for ⅛″ points deduct 50c. When ordering these types SPECIFY THE VOLTAGE.

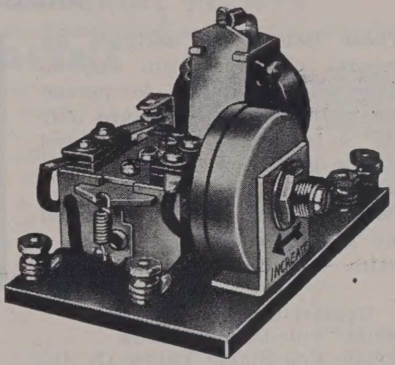
Advance RELAYS



Type 700

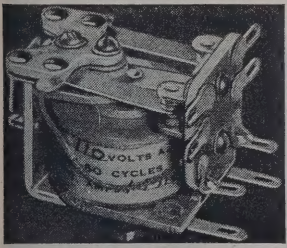
OVERLOAD RELAYS

These Relays are designed to provide accurate and positive protection against current surges and continuous overloads, and both the Manual Reset (Type 700) and Electrical Reset (Type 750) are divided into two classifications: Type "A" allows the Relay to attract on any current value between 250 and 500 mills, and Type "B" for any setting between 500 mills and 1 ampere. When the current flow passes the safety setting, the Double Pole-Single Throw ¼" Pure Silver contacts are opened, breaking the power supply circuit until reset.



Type 750

	List Price
Type 700—Base dimensions 3" x 2½"	$11.16
Type 750—Base dimensions 4" x 2½"	14.52



Series K1500 and K1600

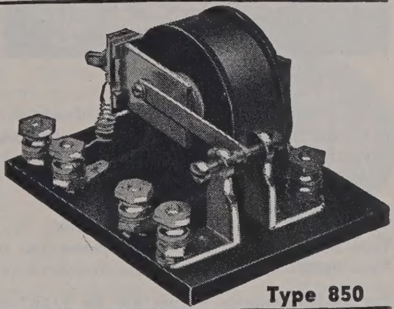
MIDGET RELAY

Of particular interest where size and cost are factors, this new series of Midget Relays, of improved design, incorporates all of the fine construction features typical of the ADVANCE line. This unit measures only 1½" x ¾" x 1⅛" high. Pure Silver contacts are used, ⅛" in diameter. Standard coils are obtainable from 2 to 32 V D.C. and 1 to 115 V A.C. The following switch combinations can be supplied:

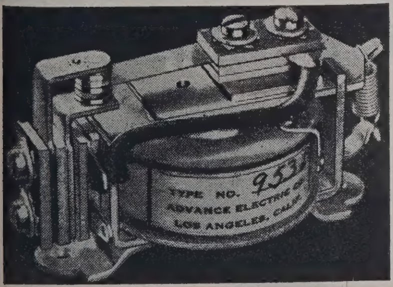
TYPE A.C.	TYPE D.C.	CONTACT COMBINATION	LIST PRICES
K1505	K1605	DP-ST NOR. OPEN	$3.57
K1506	K1606	DP-ST NOR. CLOSED	3.57
K1504	K1604	DP-DT	3.85

ELECTRONIC RELAY

An ultra-sensitive unit for use in electronic tube circuits, providing positive, dependable control on as little as 12 milliwatts. Adjustment screws to change the air-gap between the armature and the pole face, allow operation on a voltage differential of 30%, a condition ideal for electronic applications. The contact combination is Single Pole-Double Throw, employing ⅛" Pure Silver points to safely handle 100 watt non-inductive loads. Obtainable in resistances of 2500, 3000, 5000 and 10,000 ohms at no increase in price.......................................**List Price $7.86**



Type 850



GENERAL PURPOSE RELAYS

Types 951B — 952B — 953B

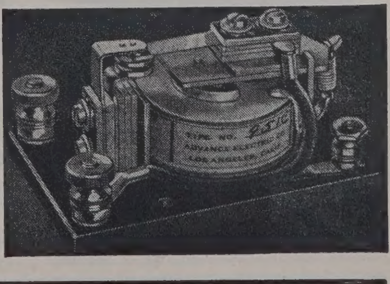
These Relays afford maximum power and efficiency at very low cost. ¼" Pure Silver contacts are standard on the Single Pole-Single Throw (N. O.) Type 951B—Single Pole-Single Throw (N. C.)—952B—and Single Pole- Double Throw—953B—switch combinations. Adequately insulated and entirely above "ground," these Relays may be mounted on any type of panel, quickly and easily, by means of the metal mounting bracket. Coils are obtainable to 115V A. C. or 60V D. C.

List Price $4.23

GEN-E-MOTOR STARTING RELAY

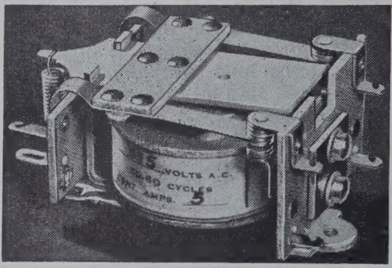
Type 951C

An exceptionally sturdy power transfer Relay, easily capable of handling the heavy current surge encountered on "cold" starts in motor-generator systems. The contacts are ⅜" Pure Silver and have ample carrying capacity for the usual 200-500V converters. Heavy-duty in every phase of construction, this unit is not to be compared with the common five and ten ampere circuit controls. Base dimensions are 3" x 2" and each unit is complete with a braided generator-cable pig-tail and binding posts for all connections. Coils for 5½ to 32V D. C. or 1 to 115 A.C. .... **List Price**....**$7.26**



Advance RELAYS

MIDGET TYPE CIRCUIT CONTROLS



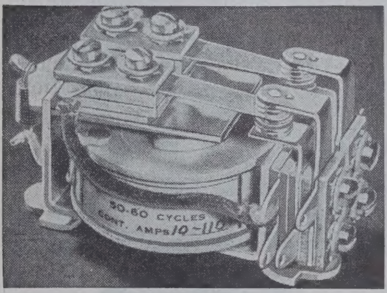
These Relays are designed for general circuit control applications where the space for mounting is limited, and measure only 2½" in length, 1½" in width, and 1¼" in height. A.C. operated Relays in this series require but 4 watts on 50/60 cycle current, and the D. C. models from 1..5 to 2 watts, affording maximum efficiency without sacrifice of power and dependability. Metal brackets (not shown in the illustration) are supplied with all Relays of this type, and except on special order, these models are limited to the following contact arrangements and the usual standard operating voltages:

Type Numbers
Contact Sizes and List Prices

Contact Combinations	3/16"	List	¼"	List
Double Pole-Double Throw	104AM	$6.05	104BM	$6.65
Double Pole-Single Throw (N. O.)	105AM	5.72	105BM	6.32
Double Pole-Single Throw (N. C.)	106AM	5.72	106BM	6.32

The above chart lists type numbers for A.C. operated Relays. D. C. coils may be obtained by changing the series number from 100 to 200. Prices apply to both.

INDUSTRIAL CONTROL RELAYS

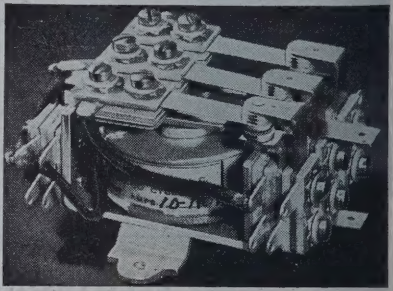


Series 960

Designed mainly for industrial applications — air conditioning, lighting, and power transfer systems, the Series 960 Relays embody all of the rugged construction features demanded in units of this type without sacrificing the desirable qualities of the midget style. Available in the following contact combinations, and to operate on standard A. C. and D. C. voltages.

	List
Type 964B—Double Pole-Double Throw	$6.05
Type 965B—Double Pole-Single Throw (N. O.)	5.72
Type 966B—Double Pole-Single Throw (N. C.)	5.72

For smaller contacts, deduct 25c for 3/16" or 50c for ⅛" points, from the above list prices.



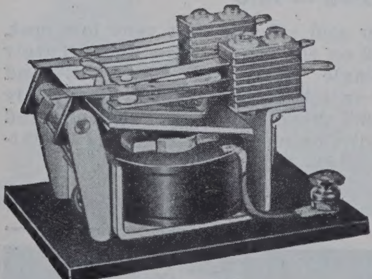
Series 970

Having the same characteristics as the Series 960 Relays, these Three Pole units, Series 970, may be used for fractional h/p 3-phase motor controls, etc. The area required for mounting 2⅝" x 1⅞" for Type 970 Relays, as against 2½" x 1¼" for the Type 960's, is due to the slightly larger frame. The metal brackets are the same in both instances—2-5/16" long, and 2" between centers of the 6/32 mounting holes. Available in the voltages indicated in the preceding series, and in the following contact combinations:

	List
Type 977B—Three Pole-Single Throw (N. O.)	$6.32
Type 978B—Three Pole-Single Throw (N. C.)	6.32
Type 979B—Three Pole-Double Throw	7.26

For smaller contacts, deduct 50c for 3/16" or 75c for ⅛" points from the above list prices.

IMPULSE RELAYS



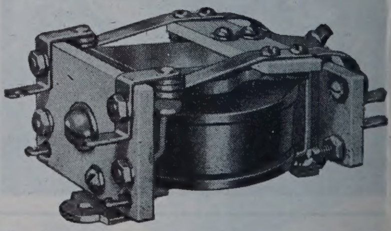
Series 900

This is another type of Relay for use where it is not feasible to have the holding coil in constant service, but differs from the latching types in that it may be controlled with a single push-button. Coils to operate this type of unit are extremely heavy-duty, and are for intermittent (impulse) use only. Available for standard A. C. and D. C. voltages in the following combinations:

	D.P.S.T. List	D.P.D.T. List
With ⅛" Pure Silver contacts	$10.28	$10.89
With 3/16" Pure Silver contacts	10.89	11.49
With ¼" Pure Silver contacts	11.49	12.70

When ordering these type, be sure to specify the input voltage, contact combination, and size of points.

MIDGET TYPE R.F. RELAYS



Series 1000—A.C. Series 2000—D.C.

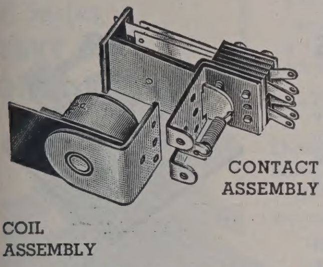
These models are sturdy, compact Double Pole - Double Throw Transmitter Relays, designed expressly for use in all types of mobile - portable communications equipment where space is at a premium. The insulation on this, as on the Type 400's, is Isolantite for both the cross-arm and end pieces, with all holes adequately well spaced to prevent structural weakness and possible "creepage." Coils are obtainable for all A. C. and D. C. voltages, and will operate in any position, the former consuming approximately four watts—the latter, two watts of power. Dimensions are 2¾" x 1½" x 1¼".

List Price **$9.07**

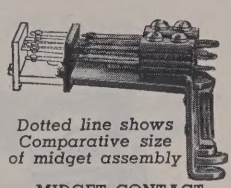
RELAYS BY GUARDIAN

A COMPLETE LINE OF AMATEUR AND INDUSTRIAL RELAYS

SERIES 200—INTERCHANGEABLE



Two basic parts—a coil assembly and a contact assembly—comprise this simple, yet versatile, relay. Coil assembly consists of coil and field piece. Contact assembly consists of switch blades, armature, return spring and mounting bracket. The new midget contact assembly, which is interchangeable with the standard assembly, is also available in either single pole double throw, or double pole, double throw. The standard contact assembly is 2⅞" long, 1¾" high, 1" wide. The midget assembly is 1⅝" long, 1½" high, 1" wide. The four contact assemblies can be used with any one of 13 coils to make a required relay. Contact points are rated at 8 amps., 115 volts, 60 cycles AC, non-inductive load.



MIDGET CONTACT
ASSEMBLY

CONTACT SWITCH ASSEMBLIES	List Price ea.
Type 200-1—Standard, with SPDT Contact Assembly	$1.83
Type 200-2—Standard, with DPDT Contact Assembly	2.50
Type 200-4—Standard, DPDT, 12.5 Amps.	2.90
Type 200-M1—Midget, with SPDT Contact Assembly	1.70
Type 200-M2—Midget, with DPDT Contact Assembly	2.25

AC COILS*	List Price ea.
6 Volt	$2.25
12 Volt	2.25
24 Volt	2.25
115 Volt	2.80

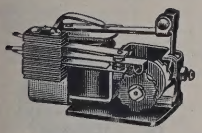
*All AC coils available in 25 and 60 cycles.

DC COILS	List Price ea.
6 Volt	$2.25
12 Volt	2.25
24 Volt	2.25
32 Volt	2.25
110 Volt	2.80
5000-D—For Current Type Operation	2.90

CONTACT PARTS KIT 200-3. Assortment of contact parts to make other switch combinations. May be used with SPDT or DPDT contact assemblies to make 3PST, 4PST, 4PDT combinations, etc. Either contact assembly takes any combination up to four pole double throw. Includes complete assembly and wiring information for all possible combinations. Complete with all necessary hardware. Shipping weight 4 oz.

List Price .... **$1.85 ea.**

RC-100 REMOTE LOCKING CONTROL RELAY



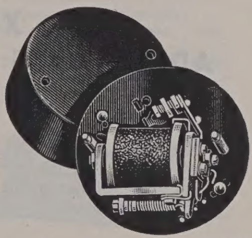
A Guardian development of the momentary impulse locking control relay. The circuit to the coil needs to be energized only long enough to close armature; contacts lock automatically. Each impulse reverses position of contacts. Standard coils operate on 115 volts, 50-60 cycles AC. Coils for other voltage and currents on specification.

Contacts, ¼" fine silver metal rated at 1500 watts at 115 volts, 60 cycle, non-inductive. Can also be used in AC primary circuits of any power supply delivering up to 1 KW. 3" long, 2⅛" wide, 1$\frac{17}{32}$" high.

Applications—break-in control and phone to CW switching. Any circuit control where locking circuits are used.

	Shp. Wt.	List Price
RC-100-AR—(4PST)	8 oz.	**$7.15 ea.**
RC-100-BR—(3PDT) (SPDT) (DPST)	8 oz.	**7.85 ea.**

U-100 AND U-200 ADJUSTABLE UNDERLOAD RELAYS



Sensitive, precise, designed and constructed for long, trouble-free service. Relays are encased in attractive black finished metal containers, protecting them from dirt, dust and maladjustment. Normal current through the coil on the U-100 is 300 milliamperes with an adjustable range of 100 to 200 milliamperes DC. Normal current through the coil on the U-200 is 600 milliamperes with an adjustable range of 200 to 400 milliamperes. Oversize contacts of fine silver, rated for the AC primary of any power supply delivering up to 500 watts.

Radio Application—protection of class "B" audio equipment in case of class "C" load failure, also class "C" amplifier in case of excitation failure.

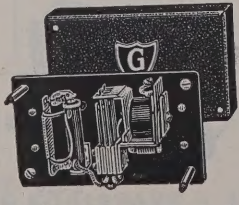
Industrial Application—Any DC circuit where it is desirable to maintain currents above a set value.

U-100 and U-200 are 3$\frac{5}{16}$" in diameter, 2¼" high. Shipping weight 14 oz. .... **List Price $10.75 ea.**

T-100 AND T-110 TIME DELAY RELAYS

Standard coils operate on 115 volts, 50-60 cycles non-inductive AC. Coils available on other voltages on specification. Oversize contacts rated at 1500 watts on 115 volts, 50-60 cycles non-inductive. Can also be used in the AC primary of any power supply delivering up to 1 KW. Adjustable time delay for any period between 10 and 60 seconds.

Applications—Radio. In transmitter circuits to prevent damage of rectifiers and tube filaments by application of plate current before filaments are sufficiently heated. **Industrial.** Any control problem requiring the changing of circuits after a predetermined interval.



GUARDIAN SERIES T-110
TIME DELAY RELAY

T-100—5¼" long, 3" wide, 2¼" high. Shipping weight 1¼ lbs. Laminated construction.

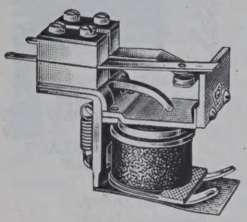
List Price .... **$17.15 ea.**

The T-110 is a compact, sturdy, economical time delay relay for use in applications not requiring the capacities of the T-100. Contact capacity — 1250 watts on 115 volt, 60 cycle non-inductive AC. Can also be used in the AC primary circuit of any power supply delivering up to, and including, 1 KW. Adjustable time delay between 10 and 60 seconds.

T-110—5$\frac{5}{32}$" long, 3$\frac{1}{16}$" wide, 2$\frac{7}{16}$" high. Shipping Weight 8 oz. **List Price** .... **$10.75 ea.**

RELAYS BY GUARDIAN

A COMPLETE LINE OF AMATEUR AND INDUSTRIAL RELAYS



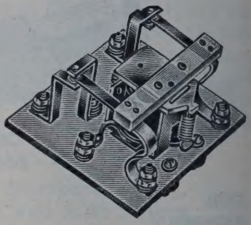
SERIES R-100
H.F. RELAY

HIGH FREQUENCY RELAYS

The Series R-100, R-100B, and A-300 Guardian Relays are primarily designed for high frequency applications. They are low-loss insulated, compact, economical and sturdily constructed. The R-100 and R-100B are AlSiMag insulated, while the A-300 is mounted on a mycalex base with polystyrene contact mounting bar.

Radio Applications — Antenna changeover, break-in, high voltage keying, grid controlled rectifier keying, remote control of receiver and transmitter, and other high frequency applications.

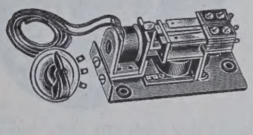
Industrial Applications — Oven control, remote motor control, short wave therapy and diathermy, heating equipment.



SERIES A-300
H.F. RELAY

	Length	Width	Height	Shpg. Wght. (oz.)	List Price ea.
R-100 —SPST (normally open)	2¾"	1"	2"	6	**$3.95**
R-100-B—SPST (normally closed)	2¾"	1"	2⅜"	6	**3.95**
R-100-C—SPDT	2¾"	1⅛"	2⅜"	6	**4.75**
R-100-G—DPDT	2¾"	1⅞"	2⅜"	6	**8.55**
A-300 —DPDT	3"	3"	2-1/16"	7	**9.10**

X-300-ER
ADJUSTABLE OVERLOAD RELAY
with Electrical Reset

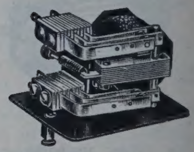


This relay offers positive, precise protection against current surges and continuous overloads — remote panel installation of the control potentiometer simplifying adjustment of relay to operate on any current value from 250 to 750 milliamperes — auxiliary contacts for pilot light indication of "overload" or "clear" position — reset relay can be operated from any convenient point. Voltage drop across overload coil is less than 10 volts at any current value. Insulation between coil and ground rated at 3000 volts.

X-300-ER—4¾" long, 1-15/16" wide, 2" high. Shipping weight 12 oz.

List Price......**$9.25 ea.**

B-100 BREAK-IN RELAY



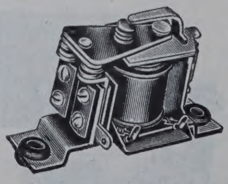
Specially designed for break-in operation on amateur transmitters. Low current drain and compact construction, plus the use of a laminated field piece and armature insuring efficient operation, make the B-100 an ideal relay for this application. Standard coil operates on 115 V., 50-60 cycle AC. Silver contacts rated at 1500 watts, 60 cycles AC non-inductive, and in AC primary circuits of any power supply delivering up to 1 KW.

B-100—2¾" long, 2⅛" high, 2¼" wide. Shipping weight 11 oz.

List Price......**$10.75 ea.**

K-320 KEYING RELAY

A standard coil operates on 6 volts AC. Coils for other voltages on specification at 10% additional to list price. Contacts — special over-size silver. Can handle 5,000 watts on 60 cycle non-inductive 115 volts AC and in AC primary circuit of any power supply delivering up to and including 1 KW. Control capacity — up to 2,000 volts with clean make and break.



Applications—Control of filament center tap keying of any stage having up to 2,000 volts on plate; primary keying or control of power supplies up to and including 1,000 watts; and grid-controlled rectifier keying of 3,000 volt power supplies.

K-320—3" long, 1½" wide, 1-15/16" high. Shipping weight 4 oz.

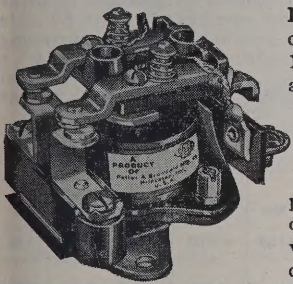
List Price......**$4.50 ea.**

A TRADE-MARK OF QUALITY

Potter & Brumfield

On these pages we list a few of the relay types we class as standard. Stocks of either completed relays or component parts are kept on hand for quick assembly, resulting in unusually prompt delivery and lower prices. From these relays a type can be selected for almost any application where the contact load does not exceed 20 amperes.

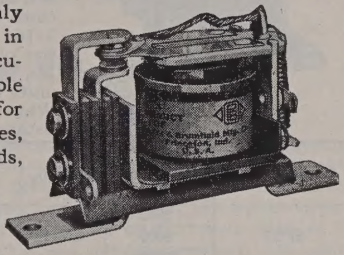
PR Series HEAVY DUTY POWER RELAYS



Designed for such power circuits as motor starting up to 1 HP., heater loads up to 20 amperes, remote break-in control of transmitters, electro plating devices, elevator controls, or any control circuit requiring fast positive switching. AC types operate on approximately 10 volt amperes. DC types require approximately 2 watts. Relay contacts on PR3A, PR3D, PR4A and PR4D rated at 20 A, non-inductive load 115V AC or 1 HP, AC. All other relay contacts rated at 15 A, non-inductive at 115V AC. Size approximately 2⅝″ x 2 9/16″ x 2¼″ high. Specify coil voltage and frequency.

Description	A.C. RELAYS 6-12-24-115-230 Volts				D.C. RELAYS 6-12-24-115 Volts			
	Normally Open	Net	Normally Closed	Net	Normally Open	Net	Normally Closed	Net
SPST	PR1A	$2.85	PR2A	$2.85	PR1D	$2.85	PR2D	$2.85
Heavy Duty SPST	PR3A	3.10	PR4A	3.15	PR3D	3.10	PR4D	3.15
DPST	PR7A	3.65	PR8A	3.85	PR7D	3.65	PR8D	3.85
SPDT	PR5A			3.20	PR5D			3.20
DPDT	PR11A			4.90	PR11D			4.90
	Add 60c to prices above for coils over 150 volts.				Add 60c to prices above for coils over 50 volts.			

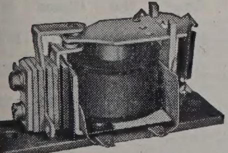
MR Series MEDIUM DUTY POWER RELAYS



Sturdy, compact, highly efficient, for mounting in confined spaces. Particularly adapted to multiple panel mounting. Ideal for safety and signal devices, call systems, heater loads, radio protective circuits, transmitter keying circuits, burglar alarms, photographic applications, electric sign controls, etc. Available in all contact arrangements up to and including double pole double throw. AC types operate on approximately 4 volt amperes and DC types operate on approximately 2 watts. Contacts rated at 8 A, 115V, 60 cycles non-inductive load. Approximate size single pole units 2 15/16″ x 1½″ x 1⅝″ high. Double pole units 2¾″ x 2⅛″ x 1⅞″ high.

Description	A.C. RELAYS 6-12-24-115-230 Volts				D.C. RELAYS 6-12-24-115 Volts			
	Normally Open	Net	Normally Closed	Net	Normally Open	Net	Normally Closed	Net
SPST	MR1A	$2.00	MR2A	$1.95	MR1D	$2.00	MR2D	$1.95
DPST	MR7A	2.60	MR8A	2.50	MR7D	2.60	MR8D	2.50
SPDT	MR5A			2.15	MR5D			2.15
DPDT	MR11A			2.80	MR11D			2.80
	Add 40c to prices above for coils over 150 volts.				Add 40c to prices above for coils over 55 volts.			

LS Series PLATE CIRCUIT RELAYS



Designed for application where size and cost are important. Often used in photoelectric circuits, temperature control circuits and electronic timing devices. Similar to the LM Series but less sensitive. Available in all resistances up to and including 10000 ohms. Requires .09 watt minimum actuating power.

Single pole double throw, 2500 ohm coil, net $1.90.

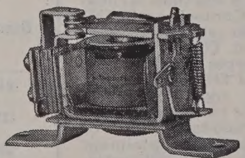
Single pole double throw, 5000 ohm coil, net $2.20.

Single pole double throw, 10000 ohm coil, net $2.45.

Size 2⅝″ x 1⅜″ x 1⅜″ high.

When ordering, specify coil voltage or resistance.

FR Series PHOTO FLASH RELAYS



FR1A FR1D	$3.00	FR5A FR5D	$3.25
FR2A FR2D	2.95	FR7A FR7D	3.95
FR3A FR3D	3.65	FR8A FR8D	3.85
FR11A FR11D	$4.25		

The newly developed electronic photo flash units using a high voltage discharge through a xenon gas filled bulb require a relay of extraordinary characteristics. When the bulb is flashed the contacts must carry an extremely high surge of current without sticking, burning or pitting. The repetitive accuracy must be as uniform as a precision built shutter on a fine camera. Unfailing positive contact is vital to synchronization of the shutter with the 2500 volt capacitor discharge.

The Potter and Brumfield FR relay has been tried and proven under the most severe conditions of temperature, humidity and shock. Special contact material and the finest quality of baked varnish impregnation of coil and other insulating parts combine to give a reliable relay at economy prices. The FR is available in all the contact combinations listed under the MR Series shown on this page up to and including Double Pole Double Throw. Coils are available in all AC voltages up to 230 volts and DC voltages up to 115. Power requirements for coil operation is 1.5 to 2 watts DC and 3 to 4 volt amperes AC. Overall dimensions for single pole types are 2 15/16″ x 1½″ x 1⅝″ high. Double pole types 2¾″ x 2⅛″ x 1⅞″ high.

POTTER & BRUMFIELD

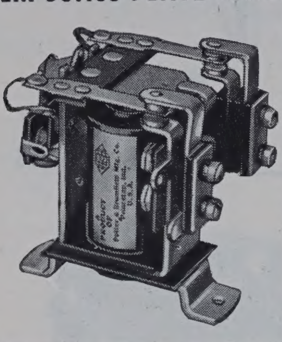
Department 250

549 WEST WASHINGTON BOULEVARD • CHICAGO 6, ILLINOIS

EXPORT SALES AT 2020 ENGINEERING BLDG., CHICAGO 6, U. S. A. • FACTORY AT PRINCETON, INDIANA

POTTER & BRUMFIELD

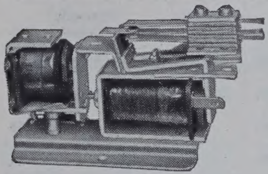
LM Series PLATE CIRCUIT RELAYS



Designed to meet demand for high grade medium cost plate circuit relays in both single and double pole contact arrangements. Large coils are particularly sensitive. The single pole LM operates on as low as .015 watts, the double pole types on .070 watts. Applicable to smoke control, packaging, counting and other electronic control circuits. Contacts supplied are 3/16″ fine silver. Approximate size of single pole units 2¼″ x 1⅜″ x 2⅜″ high. Double pole units 2¼″ x 2⅛″ x 2⅜″ high. When ordering, specify coil resistance.

DESCRIPTION	Coil Resistance Ohms	SINGLE THROW			
		Normally Open	Net	Normally Closed	Net
SPST	2500	LM-1	$2.10	LM-2	$2.15
	5000		2.40		2.45
	10000		2.75		2.85
DPST	2500	LM-7	3.00	LM-8	3.05
	5000		3.25		3.30
	10000		3.65		3.70
		DOUBLE THROW			
SPDT	2500	LM-5			2.30
	5000				2.55
	10000				2.95
DPDT	2500	LM-11			3.40
	5000				3.65
	10000				4.05

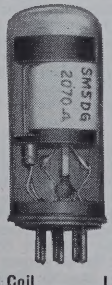
EL Series MULTIPLE CONTACT LATCHING RELAYS



Available in all contact combinations up to and including four pole double throw as shown under SU series. Actuating and latching coils are available for DC voltages up to 115 or AC voltages up to 230. Actuating coils require 1.5 to 2.5 watts.

	NET
EL1A EL1D EL2A EL2D	$3.60
EL5A EL5D	$3.75
EL7A EL7D EL8A EL8D	$3.95
EL11A EL11D	$4.30
EL12A EL12D EL13A EL13D	$4.40
EL14A EL14D	$4.95
EL15A EL15D EL16A EL16D	$4.75
EL17A EL17D	$5.40

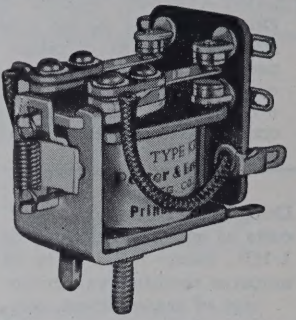
SM Series Super Midget



This subminiature relay weighs less than ½ oz. and is less than ¼ cubic inch in volume. Contacts are SPDT pure coined silver rated at .25 amp. 115 V 60 cy. load. The "D" or voltage operating types can be wound for any specified DC voltage up to 115 and draw approximately .5 watt. The "L" or current operating types can be wound to maximum of 8000 ohms which gives minimum pull-in of 3 ma at 75 milliwatts. "G" version hermetically sealed in miniature tube glass envelope with standard 7 pin base.

List Price	Nominal Coil		List Price	List Price	Coil Resistance Ohms	List Price
SM5D	Voltage	Amps	SM5DG	SM5L		SM5LG
$1.25	0.3 - 34	2.1 - .016	$2.15	$1.50	0.155 to 1800	$2.40
1.35	35 - 48	.017 - .0116	2.25	1.60	1801 to 3400	2.50
1.65	49 - 60	.0117 - .0093	2.55	1.90	3401 to 5200	2.80
1.90	61 - 75	.0092 - .0075	2.80	2.15	5201 to 8000	3.05

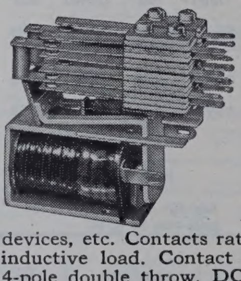
KR Series Small Light Duty



A relay designed for application where size and weight are important. Sturdy and efficient. In applications where operating current is not too limited, the DC types can be adjusted to withstand the vibration encountered in most aircraft applications. Ideal for sub-chassis mounting and switching of RF or AF circuits. Contacts are rated at 3 amperes 110 volts, 60 cycle non-inductive. Approximate size of KR11D 1 3/16″ x 1 11/16″ x 1¼″ high. When ordering, specify coil voltage and frequency.

Description	A.C. RELAYS 6-12-24-115 Volts				D.C. RELAYS 6-12-24-60 Volts			
	Normally Open	Net	Normally Closed	Net	Normally Open	Net	Normally Closed	Net
SPST	KR1A	$2.00	KR2A	$1.95	KR1D	$1.90	KR2D	$1.85
Heavy Duty SPST	KR3A	2.40	KR4A	2.35	KR3D	2.30	KR4D	2.25
DPST	KR7A	2.40	KR8A	2.35	KR7D	2.30	KR8D	2.25
SPDT	KR5A			2.00	KR5D			1.90
DPDT	KR11A			2.50	KR11D			2.40
	A.C. coils up to 117 volts at above prices.				Add 25c to above prices for coils of 3500 to 5000 ohms. From 5001 to 6000 ohms add 35c.			

SU Series MULTIPLE LEAF RELAYS



Unique construction provides many valuable features at low cost. Larger coil space permits most efficient winding for higher voltages and lower consumption. May be mounted either vertically or horizontally, terminals easily accessible in either mounting. Suitable for applications such as signal or alarm controls, remote indicators, temperature controls, overload or underload protective devices, etc. Contacts rated at 4 amperes 115 volts AC non-inductive load. Contact combinations up to and including 4-pole double throw. DC types require 1.5 watts actuating power. Dimensions of SU17A (illustrated) are 2½″ x 1 7/16″ x 2½″ high. When ordering, specify coil voltage and frequency.

Description	A.C. RELAYS 6-12-24-115-230 Volts				D.C. RELAYS 6-12-24-115 Volts			
	Normally Open	Net	Normally Closed	Net	Normally Open	Net	Normally Closed	Net
SPST	SU1A	$1.95	SU2A	$1.95	SU1D	$1.95	SU2D	$1.95
DPST	SU7A	2.45	SU8A	2.45	SU7D	2.35	SU8D	2.35
3PST	SU12A	2.90	SU13A	2.90	SU12D	2.80	SU13D	2.80
4PST	SU15A	3.30	SU16A	3.30	SU15D	3.20	SU16D	3.20
SPDT	SU5A			2.15	SU5D			2.15
DPDT	SU11A			2.70	SU11D			2.70
3PDT	SU14A			3.15	SU14D			3.15
4PDT	SU17A			3.65	SU17D			3.65
	Add 63c to above prices for coils above 117 volts.				Add 63c to above prices for coils over 60 volts.			

POTTER & BRUMFIELD

PRINCETON, INDIANA

EXPORT SALES AT 2020 ENGINEERING BLDG., CHICAGO 6, U. S. A.

LEACH RELAY CO.

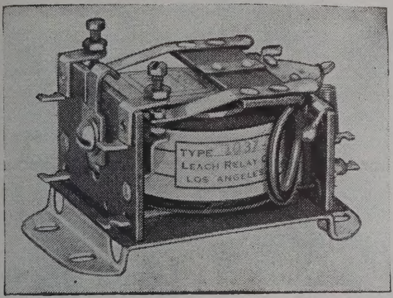
These Leach Relays are considered standard items within the trade. These relays are maintained in shelf-stock supply in order to expedite shipment to jobbers throughout the United States.

For more than thirty years Leach has manufactured quality relays. This vast experience in engineering design and manufacturing ability is incorporated in these standard relay designs.

SENSITIVE METAL BASE RELAY

TYPE 1037 SERIES

This Relay is constructed for sensitive operation, and has ⅛″ pure silver contacts mounted on screws to provide adjustments on top contacts which are capable of carrying 1 Ampere at 115 Volts, AC, Non-inductive. With these adjustment screws, the air gap can readily be adjusted so that the Relay can be set to pull in at some predetermined coil current. It is supplied at DPDT only. Nothing is grounded to the metal base. The minimum reliable coil consumption is .040 watts. It will operate on a good deal less, but the adjustment becomes fairly critical on these low values.



BASE DIMENSIONS: 1½″ x 2-9/16″, overall height 1-11/32″

WEIGHT: 4½ ounces.

RESISTANCES: 5,000 Ohms or 10,000 Ohms.

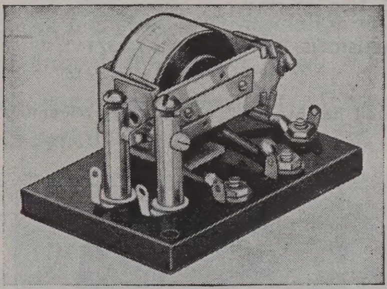
Type No.	
1037	Double Pole, Double Throw, 5,000 Ohms.
1037	Double Pole, Double Throw, 10,000 Ohms.

Be sure to specify coil resistance when ordering.

SENSITIVE DIRECT CURRENT RELAYS

TYPE 1032 SERIES

This Relay is used extensively in closed circuit burglar alarm systems, in the plate circuit of electron tubes, as secondary Relays for micro-ampere Relays, etc. It is a very fine all-around low current, high resistance Relay, capable of withstanding considerable vibration without affecting its operation. It is equipped with an adjustable spring and adjustable stationary contacts, fitted with set screws. All contacts are pure silver and capable of carrying 1 Ampere, 115 Volts, AC, Non-inductive. This Relay is pigtailed to prevent current passing through the hinge part. The contact system is SPDT, and minimum practical coil wattage is .015 watts.



BASE DIMENSIONS: 2″ x 2¾″, overall height, 1-11/16.″

WEIGHT: 6 ounces.

RESISTANCES: 5,000 Ohms or 10,000 Ohms.

Type No.	
1032	Single Pole, Double Throw, 5,000 Ohms.
1032	Single Pole, Double Throw, 10,000 Ohms.

Be sure to specify coil resistance when ordering.

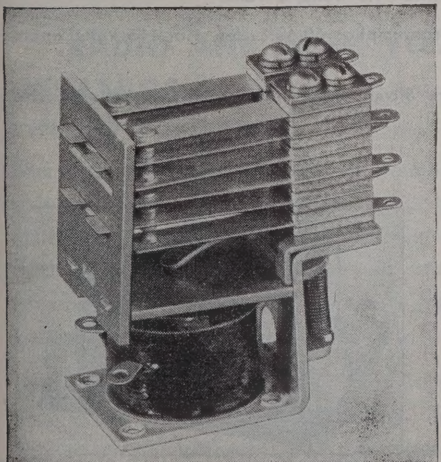
MULTIPOLE RELAYS

TYPE 6 & 7 SERIES

This Relay is the most versatile Relay for its size in the Leach line, and is ideal for industrial and radio applications where currents to be handled by the contact systems do not exceed 8 Amperes at 115 VAC, Non-inductive. By using the desired stationary contacts, many combinations are available. For example, on the 7-4C Relay one could have various combinations of double-pole, single-pole open, single-pole closed, etc., as required. All contacts are pure silver and are mounted on heavy-plated phosphor-bronze pole pieces, which are designed to give a wiping action and positive contact, pressure. Relay provides solder lugs for connecting coil and contact systems.

COILS: 6 Volt Direct Current Coils consume approximately 3 watts, 6 or 115 VAC Alternating Current Coils consume 6V/A approximately.

CONTACTS: Heavy fine silver contacts ⅛″ diameter. Will carry loads up to 8 Amperes at 115 VAC, Non-inductive.



Type Number		
6-C	7-C	Single Pole, Double Throw.
6-2C	7-2C	Double Pole, Double Throw.
6-4C	7-4C	4-Pole Double Throw.

LEACH RELAY CO.

MIDGET RELAYS

TYPE 223-227 & 323-327 SERIES

ENGINEERED in miniature to weigh less than 2 ounces and measures from one to 1¾ inches in length, Leach Midget Relays dependably handle contact loads of up to 2 Amperes at 115 Volts AC, Non-inductive. Because of their space and weight saving factors, Midgets expand the range of control by Relays in many products where previous methods are considered unprofitable.

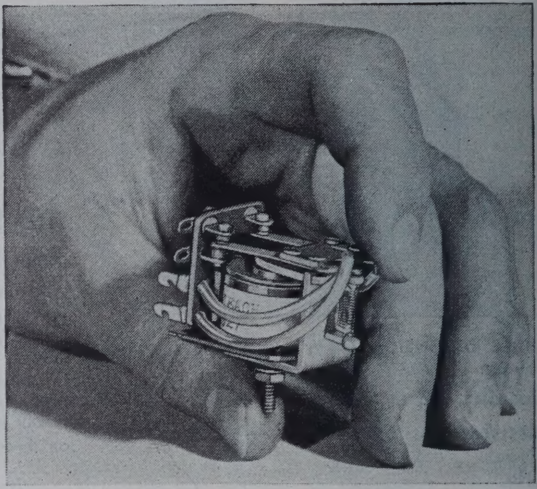
Supplied in a variety of contact arrangements, with moving contact poles insulated from the armature and frame, and with coils for operation on either AC or DC. The high quality, well-known in our standard and larger size Relays, is used throughout.

STANDARD COILS: 6 Volt Direct Current Coils consume approximately .750 watts of Alternating Current 6 or 115 Volts, approximately 4 V/A.

CONTACTS: ⅛" diameter Fine Silver, rated 2 Amperes at 115 VAC, Non-inductive.

DIMENSIONS: SP — 15/16" x 1-13/16".
DP — 1-3/16" x 1-13/16"

Overall height—1¼" not including mounting stud.



MOUNTING: Single No. 6-32 stud, 7/16" long.

WEIGHT: 1.5 ounces approximately.

Type Number

DC	AC	
223	323	SPDT
227	327	DPDT

METAL BASE STYLE

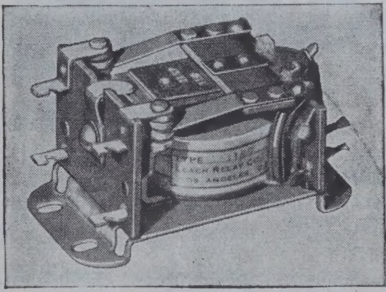
TYPE 1057 & 1157 SERIES

THESE RELAYS are ruggedly built for industrial uses and are fitted with ¼" fine silver contacts for handling heavier currents. Phosphor-bronze, nickel-plated, is used for the pole pieces. Nothing is grounded to the frame. All parts and pieces are so constructed that nothing can twist or turn out of alignment.

DIRECT CURRENT: Coil consumption 1.5 watts, 6 Volts.

ALTERNATING CURRENT: Coil consumption 50-60 cycles, 6 or 115 Volts, approximately 4 V/A.

CONTACTS: ¼" diameter Pure Silver. 12.5 Amperes at 115 Volts AC, Non-inductive.



BASE DIMENSIONS: 1⅝" x 2¾"; overall height 1⅜".

WEIGHT: 5 ounces.

Type Number

DC	AC	
1057	1157	DPDT

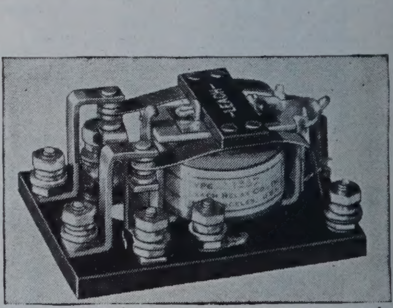
STANDARD SIZE CIRCUIT CONTROL RELAYS

TYPE 1257 & 1357 SERIES

This excellent Relay has many applications where it is not desirable to use solder terminal connections. They are highly insulated and made of the best materials obtainable. The magnetic circuit is exceptionally high grade of magnetic iron, heavily cadmium-plated. The contacts are ¼-inch pure silver, slightly crowned, and are rated at 12.5 Amperes, 115 Volts AC, Non-Inductive.

Ac coils consume 6 V/A, 6 or 115 Volts AC.

DC coils consume 1.5 watts, 6 Volts DC.



BASE DIMENSIONS: ¼" black Bakelite, 2-3/16" x 3"; overall height, 1-7/16"

WEIGHT: 7 ounces.

Type Number

DC	AC	
1257	1357	DPDT

LEACH RELAY CO.

RADIO AND HIGH FREQUENCY RELAYS—ANTENNA TRANSFER

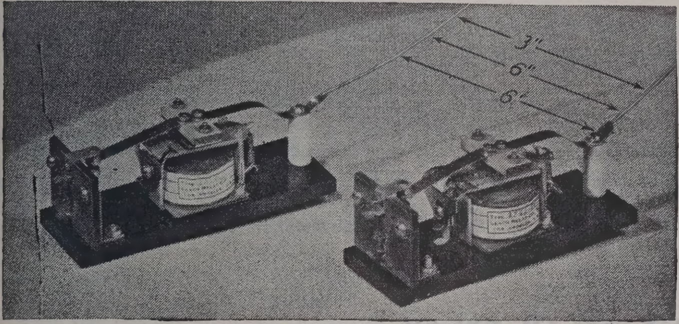
MYCALEX AND ISOLANTITE

TYPE 1623 & 1723

This new idea for antenna change-over eliminates the major drawback of most Relays now used for this purpose. The spacing between leads, heretofore has been limited to the spacing between the Relay contact strips. A pair of the above matched Relays permits any desired spacing between antenna lead-out wires whether 6 inches, or 6 feet.

Maximum high frequency insulation is provided through the use of heavy Mycalex panels, and Isolantite insulators. The Relays are designed with a wide air gap, ¼ inch pure silver contacts with a SPST arrangement.

They will withstand over 4000 volts RMS, 60-cycle hi-spot test between contacts and between contacts and frame on ground.



TYPE 1623-S9 & 1723-S9

These Relays are exactly the same as above, except that a ⅛-inch fine silver SPST Normally Open auxiliary contact has been added. Usually one these relays is paired with one of the above types*, in order to provide the auxiliary contact for the power supply. This may also be used to close a power Relay, for grounding, or for controlling light power circuits.

AC coils consume approximately 6 V/A, 6 or 115 Volts, 50-60 cycles.

DC coils consume approximately 3.5 watts, 6 Volts DC.

DIMENSIONS: 1½" x 4⅝"; overall height, 1¾".

WEIGHT: 6¼ ounces, approximately (each relay).

Type Number DC	AC	
1623	1723	SPDT
1623-S9	1723-S9	SPDT, with ⅛" Aux. Cont.

*Usually one No. 1723 and one No. 1723-S9 are paired for AC use or one No. 1623 and one No. 1623-S9 are paired for DC use.

RADIO AND HIGH VOLTAGE RELAYS

CERAMICS

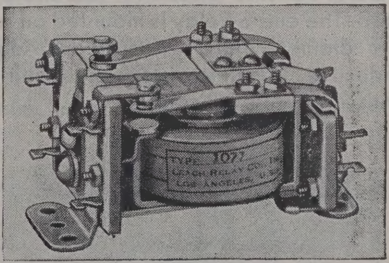
TYPE 1077 & 1177 SERIES

This is an ALSiMag insulated RF Relay designed for more or less universal service, such as police mobile radio, aircraft and amateur instalations. Nothing has been left undone to make this Relay the best of its kind. The pole pieces are nickel-plated, phosphor-bronze. The main contacts are ¼" pure silver. All iron parts cadmium plated. The tension spring is stainless steel.

No. 1077C and 1177C have Auxiliary ⅛" contacts which provide a third center pole on Relay. They are grounded to the frame, but not to the base of the Relay.

WEIGHT: 5 to 5½ ounces.

Type Number DC	AC	
1077	1177	DPDT
1077-C	1177-C	DPDT, with Aux. SPDT.



CONTACTS: ¼" Pure Silver—Double Pole, Double Throw.

COIL DATA: 6 Volts DC, 2½ watts, 6 or 115 Volts AC, 50-60 cycles, 6 V/A.

DIMENSIONS: 1½" wide by 2¾" long by 1½" high.

Mounting hole centers, 2⅜".
Center holes tapped 6-32.
Outer holes clear 6-32.

LEACH RELAY CO.

RADIO AND HIGH VOLTAGE RELAYS

MYCALEX

TYPE 1601-MX & 1701-MX

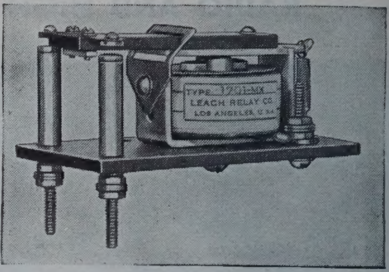
This Relay was designed to control a high voltage radio frequency circuit. Contacts are ¼″ pure silver, SPST normally open, double break. Metal spacers are supplied for mounting.

AC coils consume 6 V/A, or 115 Volts, 50-60 cycles AC.

DC coils consume approximately 3.5 watts, 6 Volts DC.

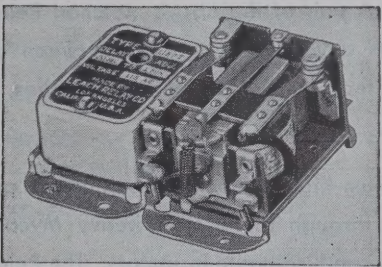
DIMENSIONS: 1¾″ x 3″ overall height, not including studs or mounting spacers, 1½″.

WEIGHT: 8 ounces.



Type Number

DC	AC	
1601-MX	1701-MX	SPST-DB Normally open.



BASE DIMENSIONS: 3¼″ x 2¾″, overall height, 1-7/16″.

Type Number

DC	AC	
1057-T	1157-T	DPDT.

TIME DELAY RELAY

TYPE 1057 & 1157 T SERIES

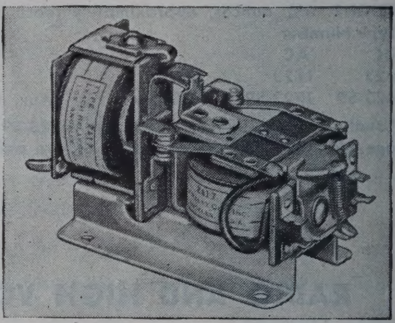
This Thermo Element Time Delay Relay is primarily for use on vacuum tube transmitters, but may also be used for a wide variety of other applications. They are all made DP, which may be used as normally open, normally closed or DT. The contacts are ¼″ pure silver, rated 12½ Amperes, 115 Volts AC, non-inductive. The center pole, as shown, always is used for controlling the thermo element, which provides a variable delay of from 20 seconds to 1 minute. After the coil is energized, the Thermo element drops out of the circuit, cooling for the next cycle.

STANDARD COILS: AC—6 and 115 Volts (6 V/A)
DC—6 Volts—(1.5 Watts)

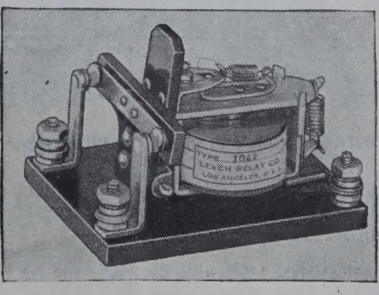
LATCH TYPE ELECTRICALLY RESET

TYPE 2417

This type Relay fits many applications where it is not desirable to have current continuously on the coil. The mechanical arrangement is such that after the pull-in coil is energized the armature closes and locks, closed by a mechanical latch on the armature of the Relay coil. The pole pieces are phosphor-bronze, and canvas-base natural Bakelite is used for the end panels and the pole mounting strip. The entire Relay is mounted on a metal base. The contacts are $\frac{3}{16}$″ diameter pure silver rated 8 Amperes at 115 Volts AC. Non-inductive. This Relay is supplied with 2—6 or 115 Volt AC coils or with 2—6 Volt DC coils.



DIMENSIONS: 1⅝″ x 3⅝″; height 2-1/16″.
WEIGHT: 8 ounces.
Type Number
2417 DPDT.
Specify voltage and whether for AC or DC.



Type Number

1042	SPST Normally closed—double break. Contact rating 10 Amp., 115 Volts AC.

LIGHT DUTY OVERLOAD TRIP RELAYS

TYPE 1042 SERIES

The Relays shown are used as safety devices on electronic apparatus for the protection of the equipment against excessive currents. When current reaches a predetermined value the Relay is pulled in allowing the contacts to snap open and at the same time locking the armature closed. To reset the contacts, the coil circuit must be opened before pressing the Bakelite first finger. These Relays are supplied with the coil circuit highly insulated from the contacts; however, to use them as circuit breakers the coils and contacts may be connected in series.

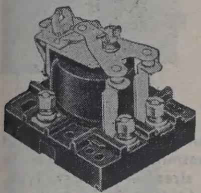
Commonly used for the protection of power tubes. In this service the coil is put in series with the negative side of the plate supply and the contacts are in series with the transformer primary or the coil of the power contactor.

These Relays are all adjustable for the trip-out setting to approximately 20% plus or minus of their designated rating. In ordering it is necessary that you specify the approximate current on which they are to operate. Supplied in 2 standard coils: 250 MA or 500 MA.

RELAYS FOR AUTOMATIC CONTROL

Representative samples of the comprehensive line of relays made by Ward Leonard. The ones illustrated are those particularly adaptable to electronic and the more common industrial applications.

MIDGET MAGNETIC RELAY — TYPE No. 106. — For remote control of A.C. or D.C. circuits. Has wide application for use on power circuits or electronic circuits in which the currents to be controlled do not exceed the ratings of the contacts. May be energized from main line or from an independent circuit. Built on a molded Bakelite base. Front or back connected terminals.



Coil Voltages —
D.C. — 6, 8, 12, 24, 32, 115 volts.
A.C. (60 cycles) — 6, 8, 12, 24, 32, 115 volts. 115 volts.

Contract Arrangement —
Single Pole, Double Break, Normally Open, Normally Closed and Double Throw.
Double Pole, Single Break, Normally Open, Normally Closed and Double Throw.
Double Pole (Common Feed), Single Break, Normally Open, Normally Closed and Double Throw.

Contact Ratings, in Amperes —

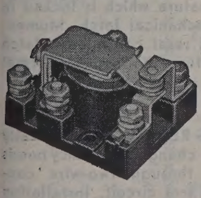
Volts	D. C.		60-Cycle A.C.	
	Single Break	Double Break	Single Break	Double Break
0-24	4	6	4	6
25-115	1*	2	4	6

*0.7 Amperes if Double Throw.

Dimensions — 2″ wide; 2¼″ high; 2⅛″ deep.

Type No. 106 Relays for 3-wire control are also available. Details will be furnished on request.

HEAVY DUTY MIDGET RELAY — TYPE No. 105. — A general purpose relay designed for remote control of the ordinary type of electrical appliances, such as electric heaters, electric signals, electric lights, electrically operated pumps, and most types of electronic equipments. The Heavy Duty Midget Relay is sturdily built on a molded Bakelite base. Heavy, front connected terminals are provided. The Heavy Duty Midget Relay, as a standard unit, is of the open type, but it can be furnished with a steel knock-out box enclosure.



Coil Voltages —
D.C. — 6, 10, 12, 24, 32, 115 volts.
A.C. (60 cycles) — 6, 10, 12, 24, 32, 115, 230 volts.

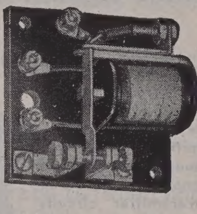
Contact Arrangement —
Single Pole, Single Break, Normally Open, Normally Closed and Double Throw.
Double Pole, Single Break, Normally Open, Normally Closed and Double Throw.

Contact Ratings, in Amperes —

Volts	D. C.		60-Cycle A.C.	
	Normally Open	Normally Closed	Normally Open	Normally Closed
0-24	20	15	20	15
25-115	1	1	20	15
230	0.5	0.5	15	10

Dimensions — Single Pole: 1⅞″ wide; 2⅜″ high; 1½″ deep. Double Pole: 2½″ wide; 2¾″ high; 1¾″ deep.

SENSITIVE RELAY — TYPE No. 250. — For use in applications where a high degree of sensitivity is required such as in electronic circuits. Built on a Bakelite base with large knurled heads and nuts to facilitate adjustment of the contacts and the spring tension on the armature. The use of nickel alloy in the magnetic circuits insures good contact torque at pull-up and crisp drop-out.



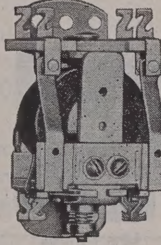
Contact Arrangement —
Single Pole, Double Throw.

Contact Rating, in Amperes —

Volts	D.C.	60-Cycle A.C.
115	0.75	2.0
230	0.5	1.5

Dimensions — 2⅝″ wide; 2⅝″ high; 1⅝″ deep.

MIDGET METAL BASE RELAY — TYPE No. 104. — For use in small radio transmitters, sound equipment, aircraft control circuits, and other similar applications. Available with Bakelite insulation or ceramic insulation. Small size permits installation in limited spaces. Built on a metal base. Vibration resistant up to 10 times gravity when energized. Front connected, solder type terminals.



Coil Voltages —
D.C. — 6, 10, 12, 24, 32, 115 volts.
A.C. (60 cycles) — 6, 10, 12, 24, 32, 115 volts.

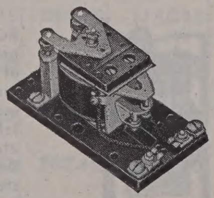
Contact Arrangement —
Single Pole and Double Pote. Various combinations with or without auxiliary contacts.

Contact Ratings, in Amperes —

Volts	D.C.	60-Cycle A.C.
0-24	4	4
25-115	0.5	4

Dimensions — $1\frac{9}{16}$″ wide; $2\frac{11}{16}$″ high. $1\frac{5}{16}$″ deep.

HEAVY DUTY RELAY — TYPE No. 130. — A relay that has heavy current carrying and rupturing capacities for use in A.C. or D.C. circuits. Contact fingers are heavy stiff metal blades with large stainless steel springs for pressure. Large gap contacts with adequate surfaces. As high as four separate circuits may be opened simultaneously with the closing of up to four other circuits.



Coil Voltages —
D.C. — 24, 32, 115, 230 volts.
A.C. (60 cycles) — 24, 32, 115, 230, 440 volts.
Other voltages and frequencies available on special order.

Contact Arrangement —
Various combinations of contacts from one to four poles.

Contact Ratings, in Amperes —

Volts	Direct Current	D.C. with Blowout	A.C. 25 Cycles	A.C. 60 Cycles
0-24	25	25	25	25
25-125	3	20	25	25
126-250	1	10	25	25
251-440	....	....	10	15

Note: Blowouts required for relays that control Direct Current circuits in excess of 23 volts or a current of 1 ampere.

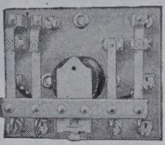
Dimensions — Base dimensions vary according to size of relay. Maximum depth, 3⅛″.

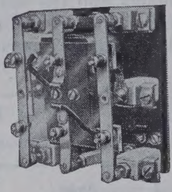
WARD LEONARD · RADIO AMATEUR and INDUSTRIAL RELAYS

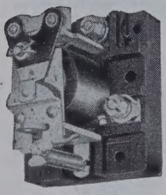
RELAYS FOR THE RADIO AMATEUR

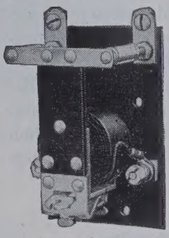
A few examples of Ward Leonard's popular line of relays for use in radio circuits are illustrated here. Information on specifications and prices are detailed in Catalog D-11 which will be furnished on request made to Ward Leonard directly or through one of its agents or distributors.

R. F. BREAK-IN RELAYS. — Otherwise known as "Push-to-Talk" Relay for' phone transmitters. Pushing button in control circuit connects proper transmitter circuits and disconnects proper receiving circuits to transmit. Releasing button switches all circuits back to normal position for receiving. Furnished in two sizes, Midget Type for light duty and the Heavy Duty Type.


Midget Type

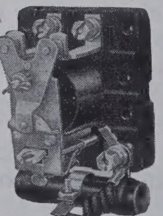

Heavy Duty Type

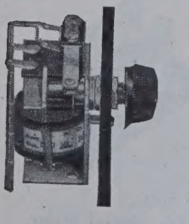

Low Voltage Type


High Voltage Type

KEYING RELAYS.—Low voltage type for center-tap or grid-bias keying. High voltage type for use with grid controlled high voltage rectifier tubes. Use of Keying Relays reduces length of circuit wiring and permits control of keying with key located in convenient position for operating. Capable of keying up to 40 words per minute.

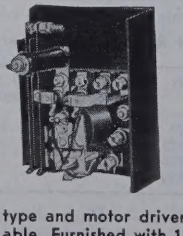
UNDERLOAD RELAY. — Protects against damage to tubes and other components of amplifiers when load failures occur, due, for example, to inability of one or more vacuum tubes to hold the load because of loss of excitation. De-energizing of relay coil when load drops opens contacts and prevents damage to transformers or tubes. Available from stock with coil adjusted to pick up at 100 m.a. to 200 m.a. DC or with coil adjusted to pick up at 200 m.a. to 400 m.a. DC.



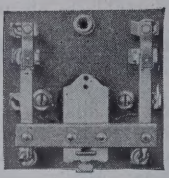


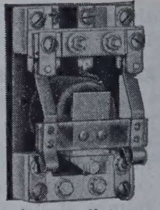
ROTARY RESET OVERLOAD RELAY. — For protection against overloading vacuum tubes of power amplifiers or transmitters. Current surge causes armature to be pulled in, breaking the rectifier primary circuit. A mechanical latch holds the contacts open until the operator closes them by turning the reset knob. Designed for panel mounting. Available from stock with 250 m.a. DC coil and 500 m.a. DC coil.

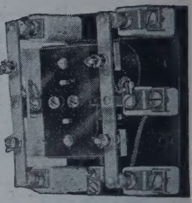
The use of Ward Leonard Relays in an Amateur Rig not only modernizes it, but also improves its efficiency and stability. Short r.f. leads prevent stray currents. Convenient control is provided.



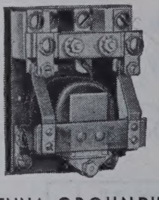
THERMAL TIME DELAY RELAY. — Delays the application of voltage to the plates of vacuum tubes until the filaments have heated. The relay illustrated is adjustable over a range of from 15 seconds to 45 seconds. Other time delay relays — thermal type and motor driven type — are also available. Furnished with 110 volt, 60-cycle AC coil.


Midget Type

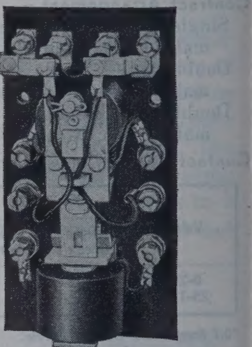

Intermediate Type


Heavy Duty Type

ANTENNA CHANGE-OVER RELAYS. — Switches antenna to transmit or receive. May also be used to switch transmitter or receiver to either of two antennas. Available in three sizes — Midget Type, Intermediate Type, and Heavy Duty Type. Midget Type built on Mycalex base. Contacts and terminals on Intermediate and Heavy Duty Types (except coil terminals) supported by ceramic blocks. Lucite crossarm used on all types.

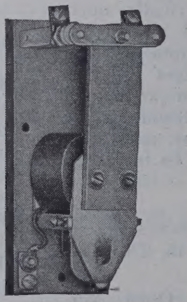


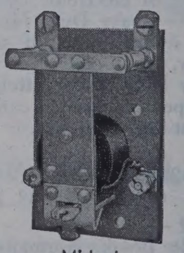
ANTENNA GROUNDING RELAY. — For grounding transmitting or receiving antenna when not in use. Contact arms supported on Lucite crossarm. Circuit contacts and terminals supported on ceramic insulation block. Coil terminals and grounding terminals mounted on Bakelite base. Double pole, double throw contacts, with fixed or adjustable normally closed contacts.



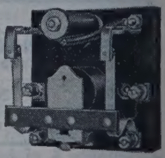
MIDGET LATCH-IN RELAY.—A multi-purpose relay especially useful in circuits where interference might be caused if relay coils were continually energized. Momentary energizing coil "pulls in" armature which is locked in position by mechanical latch. Momentary energizing reset coil releases latch allowing armature to drop to normal position.

BAND SWITCHING RELAYS.-Automatically changes frequency bands through two-wire control circuit. Installation on the relay in the set near the coils eliminates the need for long R. F. leads, such as are required when a panel-mounted switch is used. Mycalex insulation used for base and contact arms. Contacts and terminals spaced to insure against leakage or creepage of high frequency and high voltage in the circuit.


Heavy Duty Type

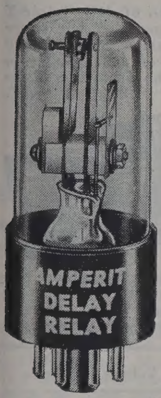

Midget Type

SAFETY RELAY. — A relay that should be installed in every amateur rig. It gives automatic protection against the hazards of high voltages in filter condensers when power supply unit is turned off. Furnished with resistor through which condensers are discharged. Furnished with normally closed contacts which open when transformer primary circuit is closed, energizing relay coil.



THERMOSTATIC AMPERITE DELAY RELAYS

GLASS ENCLOSED • HERMETICALLY SEALED • A.C., D.C., OR PULSATING CURRENT



EXCLUSIVE FEATURES of AMPERITE THERMOSTATIC DELAY RELAYS

- Actuated by a heater.
- Operates on A.C., D.C., or Pulsating Current.
- Hermetically sealed, Amperite Relays are not affected by altitude, moisture or other atmospheric conditions.
- Compact, lightweight and inexpensive.

TECHNICAL CHARACTERISTICS

CIRCUITS: SPST only — Normally open or normally closed.

HEATER WATTAGE: 2 W prox. — Heaters can be operated continuously.

CONTACT RATING: 115 V - 3A A.C. (or 440 V - 1.5A A.C.): maximum voltage across contacts — 1000 V. Maximum voltage between contacts and heater — 1500 V.

AMBIENT TEMPERATURES: Relays are compensated for temperatures of —55° to +70° C.

LIFE: With 115 V - 3A A.C., non-inductive, at least 25,000 operations.

BASE WIRING: Heater — Prongs 2-3; Contacts — 5-7.

LIST PRICE: Standard types of relays — $4.00 each.

DELIVERY: The types shown in bold type are most popular, and usually available from stock. Other types delivered in approximately 3 weeks.

Delay-Seconds	Tolerance Seconds	NORMALLY OPEN CONTACTS						NORMALLY CLOSED CONTACTS					
		HEATER VOLTAGES						HEATER VOLTAGES					
		2.5 V.	5.0 V.	6.3 V.	12 V.	26 V. (22-30)	115 V.	2.5 V.	5.0 V.	6.3 V.	12 V.	26 V. (22-30)	115 V.
2	± 1	2N02	5N02	**6N02**	12N02	26N02	115N02	2C2	5C2	**6C2**	12C2	26C2	115C2
5	± 2	2N05	5N05	**6N05**	12N05	**26N05**	**115N05**	2C5	5C5	**6C5**	12C5	**26C5**	**115C5**
10	± 3	**2N010**	5N010	**6N010**	12N010	**26N010**	**115N010**	2C10	5C10	**6C10**	12C10	**26C10**	**115C10**
15	± 3	2N015	5N015	**6N015**	12N015	**26N015**	**115N015**	2C15	5C15	**6C15**	12C15	**26C15**	**115C15**
20	± 4	2N020	5N020	**6N020**	12N020	**26N020**	**115N020**	2C20	5C20	**6C20**	12C20	**26C20**	**115C20**
30	± 7	**2N030**	**5N030**	**6N030**	**12N030**	**26N030**	**115N030**	**2C30**	5C30	**6C30**	**12C30**	**26C30**	**115C30**
45	± 9	2N045	5N045	**6N045**	12N045	**26N045**	**115N045**	2C45	5C45	**6C45**	12C45	**26C45**	**115C45**
60	± 10	**2N060**	**5N060**	**6N060**	12N060	**26N060**	**115N060**	**2C60**	5C60	**6C60**	12C60	**26C60**	**115C60**
75	± 12	2N075	5N075	**6N075**	12N075	**26N075**	**115N075**	2C75	5C75	**6C75**	12C75	**26C75**	**115C75**
90	± 12	**2N090**	5N090	**6N090**	12N090	**26N090**	**115N090**	2C90	5C90	**6C90**	12C90	**26C90**	**115C90**
120	± 20	2N0120	5N0120	**6N0120**	12N0120	**26N0120**	**115N0120**	2C120	5C120	**6C120**	12C120	**26C120**	**115C120**

Flashers available only in low voltage heaters . . . . 2.5, 5.0, 6.3 — 26 V.

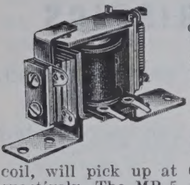
Flash Rate available — pre-set at factory — 15 to 100 fpm. . . . . List — $4.00 each

STANDARD ELECTRICAL PRODUCTS CO.
Staco
DAYTON, O.
U.S.A.
A QUALITY PRODUCT

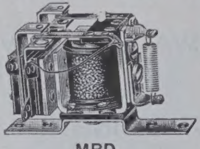
RELAYS
FOR AMATEUR AND INDUSTRIAL USES

NATIONAL ASSOCIATION RELAY MANUFACTURERS

MINIATURE RELAYS



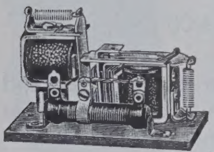
These units are very compact and are especially designed for plate circuit and general purpose control application. Overall dimensions: MR 1⅞" x 1⅜" x ⅞"—MRD 1⅞" x 1⅜" x 1¼". Contacts are fine silver rated 5 amps at 115 V. All AC relays are free from hum and AC chatter. The MR-2 and MRD-2 have 2500 ohm coil, will pick up at 6 ma. and 12 ma. respectively. The MR-5 and MRD-5 have 5000 ohm coils, will pick up at 3 ma. and 7.5 ma. respectively. The drop out value of these relays is approximately 50% of the pick up value.



MRD

Type	A.C.	D.C.	Contacts	Net Prices
MR-2		Plate Circuit	SPDT	$1.50
MR-5		Plate Circuit	SPDT	2.10
MR-6		6 V.	SPDT	1.50
MR-7	6 V.		SPDT	1.59
MR-11	110 V.		SPDT	1.59
MRD-2		Plate Circuit	DPDT	2.70
MRD-5		Plate Circuit	DPDT	3.60
MRD-6		6 V.	DPDT	2.70
MRD-7	6 V.		DPDT	3.00
MRD-11	110 V.		DPDT	3.00

OVERLOAD RELAYS

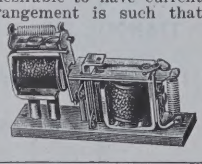


Adjustable overload relays provide accurate and positive protection against current surges and continuous overloads. Contact arrangements SPDT using $\frac{3}{16}$" fine silver contacts. This allows the use of either audible or visual signal to advise of overload. All models are of the electrical reset type which allows remote control resetting of the relay. Size—3¾" x 2" x 1½".

Type	Current Range	Reset Coil	Net Prices
OA-2	250–500 ma.	110 V. A.C.	$4.50
OA-5	500–1000 ma.	110 V. A.C.	4.50
OC-2	250–500 ma.	6 V. A.C.	4.50
OC-5	500–1000 ma.	6 V. A.C.	4.50
OD-2	250–500 ma.	6 V. D.C.	4.50
OD-5	500–1000 ma.	6 V. D.C.	4.50

LATCHING RELAYS

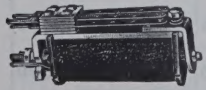
These relays are employed where it is not desirable to have current continuously on the coil. The latching arrangement is such that when the relay coil is energized the armature closes and locks in a closed position by mechanical latching. An electrical impulse on the reset coil releases the armature from the latch and allows the relay to assume its initial position. $\frac{3}{16}$" fine silver contacts. Bakelite Base. Size—3¾" x 2" x ¾".



Type	Reset Coil	Pull-in Coil	Net Prices
LEA	110 Volts A.C.	110 Volts A.C.	$3.75
LEA-6	6 Volts A.C.	6 Volts A.C.	3.75
LED	6 Volts D.C.	6 Volts D.C.	3.75

COMMUNICATION RELAYS

Ideally suited for use in telephone, remote control, signaling, communications circuits etc. High speed operation plus high sensitivity with high contact pressure. Contacts will handle 4 amps at 115 V. non-inductive load. Each relay has one make and one break contact sets. Size—3¾" x 1$\frac{3}{16}$" x 1⅝".

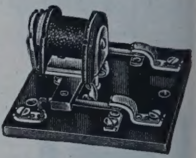


Type	Res. of Coil Ohms	Volts Pick-up	M.A. Pick-up	Net Prices
T10G	10,000	31	3.2	$3.30
T63F	6,300	24	4.0	3.30
T40F	4,000	19	5.0	3.15
T10F	1,000	10	10.0	2.85
T25E	250	5	20.0	2.55

ANTENNA CHANGE-OVER

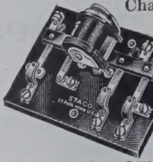
Mycalex Insulation is satisfactory for operation up to 60 MC. Triple-X insulation for operation up to 15 MC. All models use $\frac{3}{16}$" fine silver wiping action contacts rated at 4 amps. These relays are designed with ball-bearing armature pivot and have large contact spacing to assure minimum capacity between contact arms. The armature is designed so as to eliminate AC chatter. Size—3⅛" x 3⅛" x 2$\frac{3}{16}$".

Type	Insulation	Coil Voltage	Net Prices
ABA	TRIPLE-X	110 V. A.C.	$3.00
ABD	TRIPLE-X	6 V. D.C.	3.00
AMA	MYCALEX	110 V. A.C.	4.00
AMD	MYCALEX	6 V. D.C.	4.00



BREAK-IN RELAYS

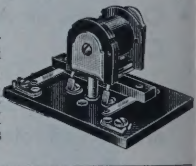
Same type of relay as above only two additional poles are added, one normally open, one normaly closed. This arrangement is perfect for PUSH-TO-TALK control. Contacts etc. identical with Antenna-Change-Over Relay. Size—4½" x 3⅛" x 2$\frac{3}{16}$".



Type	Insulation	Coil Voltage	Net Prices
BBA	TRIPLE-X	110 V. A.C.	$4.20
BBD	TRIPLE-X	6 V. D.C.	4.20
BMA	MYCALEX	110 V. A.C.	6.00
BMD	MYCALEX	6 V. D.C.	6.00

R.F. AND GENERAL PURPOSE RELAY

An excellent relay for R.F. or high voltage remote control. Contacts are $\frac{3}{16}$" fine silver rated 4 amps. Designed with extremely short R.F. path, Ball-bearing armature pivot. All metal parts cadmium plated. RB Series are TRIPLE-X insulated for frequencies up to 15 MC., RM series are MYCALEX insulated for frequencies up to 60 MC. Size—2¼" x 3⅛" x 2$\frac{3}{16}$".

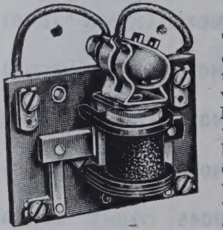


Type	Insulation	Contact Combination	Coil Voltage	Net Prices
RBA-1	TRIPLE-X	SPST (dble-break)	110 V. A.C.	$2.10
RBD-1	TRIPLE-X	SPST (dble-break)	6 V. D.C.	2.10
RMA-1	MYCALEX	SPST (dble-break)	110 V. A.C.	2.55
RMD-1	MYCALEX	SPST (dble-break)	6 V. D.C.	2.55
RBA-2	TRIPLE-X	DPST (sgle-break)	110 V. A.C.	2.25
RBD-2	TRIPLE-X	DPST (sgle-break)	6 V. D.C.	2.25
RMA-2	MYCALEX	DPST (sgle-break)	110 V. A.C.	3.00
RMD-2	MYCALEX	DPST (sgle-break)	6 V. D.C.	3.00

KEYING RELAY

Same specifications as RB Series except that the coil and return spring are faster acting. Follows a "Bug" with ease.

Type	Coil Voltage	Contacts	Net Prices
KBA	110 V. A.C.	SPST (double-break)	$2.10
KBD	6 V. D.C.	SPST (double-break)	2.10
KBA-6	6 V. A.C.	SPST (double-break)	2.10



MERCURY-SWITCH RELAY

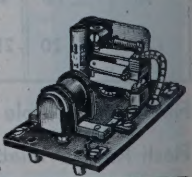
This type relay is used for controlling inductive loads and may be safely used in the presence of explosive dust, gas and vapor. This unit will safely handle a ¼ H.P. motor or its equivalent. This single pole single throw mercury relay can easily be changed from normally open to normally closed by reversing the mercury tube in the clip. In addition this relay is equipped with SPST double break $\frac{3}{16}$" fine silver contact sets which can be used to electricaly lock this relay, or other applications. Mounts vertically with adjusting screws. Size—3⅛" x 2⅞" x 3½".

Type	Coil Voltage	Net Prices
MSA	110 V. A.C.	$3.75
MSA-6	6 V. A.C.	3.75
MSD-6	6 V. D.C.	3.75

TIME-DELAY RELAY

Low cost Thermostatic Time delay relays designed for transmitting and industrial use. Prevents damage to tube filaments due to application of plate current before filaments are thoroughly heated. TD-11 is equipped so that it automatically compenastes for ambient temperature changes. Time delay can be adjusted by means of screwdriver. Stock models are 110 V. AC. Size—3⅛" x 3⅛" x 2$\frac{3}{16}$".

TD-11 (10-60 Sec.)—With compensator...... Net $4.75



SPEED-X

SPEED-X keys, formerly made by Les Logan Co. of San Francisco, Calif., have attained a pre-eminent position as the leading complete line. Now manufactured by JOHNSON, their reputation will be maintained, and improved wherever possible.

HIGH SPEED SEMI-AUTOMATIC KEYS

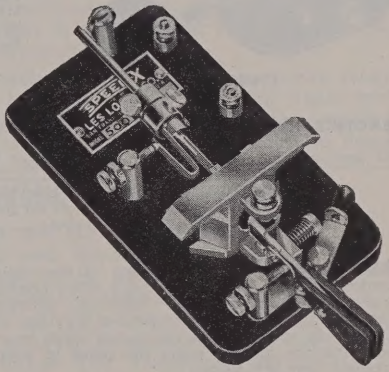
SPEED-X Semi-Automatic Keys are designed and constructed to rigid specifications and are approved by the experienced professional and amateur C. W. operators. They are fully adjustable from lowest to highest speeds. Manufactured in four distinctive and attractive models. Fully guaranteed against any defect in material or workmanship. Bases of all models drilled for stationary mounting.

STANDARD MODEL 114-500. New-Improved Standard Model Semi-Automatic Key mounted on extra heavy steel base 3½" x 6¼" x ½" finished in attractive wrinkle baked enamel. Mounted on four rubber feet to insure stationary position at all times. The finish will not scratch or chip and will last indefinitely. The frame is finished same as base and has five adjustments with lock nuts, assuring dependable operations at all speeds. Vibrator arm, posts, switch and all machine parts heavily plated in beautiful satin chromium. Complete with adjustable weight, ⅛" pure silver contacts, circuit-closing switch and two paddles adjustable to any desired height. Net weight 4½ lbs.

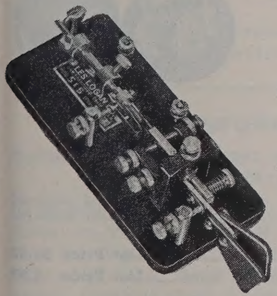
114-500	**List Price $17.50**
114-500-L (Left-handed model)	**List Price 19.50**

MODEL 114-501. Beautiful Chrome finish. Heavy steel base 6¼" x 3½" x ½" with four non-slip rubber feet. Heavy brass connector strips mounted under base. Heavy die cast frame with same finish as base and with five screws for sensitive adjustments. Vibrator is designed to obtain slowest and fastest speeds required by high speed operators. Pure silver ¼" contacts. Pigtail connections to vibrating arm. Perfectly aligned free acting vibrator bearings. Lock nuts on all adjustments. Paddles adjustable to any required height. All machine parts heavily chrome plated, which makes this the most outstanding semi-automatic key on the market. Furnished with circuit closing switch. Net weight 4½ lbs.

114-501	**List Price $25.00**
114-501-L (Left-handed model)	**List Price 27.50**



Nos. 500, 501



114-515

AMATEUR MODEL 114-515. Baked Black Wrinkle Enamel Finished Steel Base 6¼" x 3" x ⅜" with four rubber feet to prevent slipping or tilting. Heavy Brass connector strips. Die Cast Frame finished same as base with adjustable trunion screws. Chromium brass Vibrator has main spring and U-spring made of clock spring for smooth snappy action. Adjustable weight. Two adjustable black fibre paddles. Two sets ⅛" pure silver contacts. Lock nuts for every adjustment. Damping wheel, post screws, springs and terminals chrome plated. Packed in attractive carton. Net weight 3¼ lbs.

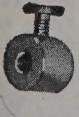
114-515	**List Price $12.50**
114-515-L (Left-handed model)	**List Price 15.00**

JUNIOR MODEL 115-510. Die Cast Base 2¾" x 6" x ¾" finished in black wrinkle baked enamel concealing heavy brass connector strips. Frame is same finish as base and all other parts are chromium plated. Vibrator Arm same as Standard model with lots of pep. Adjustable from eight words per minute to as high a rate as desired. Pure silver ⅛" contacts, adjustable weight and two adjustable paddles. Circuit closing switch mounted on base. Being small, compact and streamlined, this semi-automatic key is an outstanding value. A light-weight but sturdily built machine for clean-cut sending. Net weight 2½ lbs.

114-510	**List Price $13.50**

REPLACEMENT PARTS

114-370



114-330

114-333

Cat. No.	Description	List Price
114-330	Adjustable Weight	$0.25
114-333	Self-locking Adj. Weight	.50
114-335	Key Spring	.10
114-336	Dash Spring	.10
114-337	Dot Spring	.10
114-340	Set ⅛" Mounted Contacts	1.00
114-341	Set ¼" Mounted Contacts	2.00
114-342	Key Mounds—⅛" Contact	.40
114-345	(2) ⅛" Contacts	.20
114-346	(2) ¼" Contacts	.50
114-347	(4) .080 Contacts	.20
114-350	Black Key Knob	.20
114-351	Brown Key Knob	.20

Cat. No.	Description	List Price
114-352	Switch Knob	$0.15
114-360	Black Navy Knob	.30
114-361	½" Chrome Screw	.10
114-362	¾" Chrome Screw	.13
114-363	1" Chrome Screw	.15
114-364	½" Chrome Knurled Nut	.10
114-365	Chrome Terminal Nuts	.10
114-370	Fibre Paddle	.25
114-375	Vibrator Arm Complete	3.00
114-376	Vibrator Arm Only	1.75
114-380	Plug for Hi-Speed Key	1.50
114-390	⅛" U Spring Contact	.60
114-391	¼" U Spring Contact	.75

114-444 KIT

An assortment of the best selling parts for all makes of keys, selected from the above list, and packed in a beautiful display box.......**List Price $20.00**

114-360

114-350

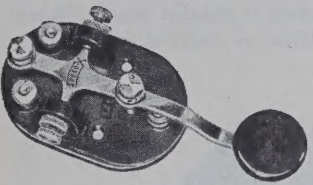
114-390

E. F. JOHNSON Company WASECA, MINNESOTA

SPEED-X

MOULDED BAKELITE KEYS, BUZZERS, PRACTICE SETS

SPEED-X Moulded Bakelite and Metal Hand Keys, Practice Sets and Buzzers are used throughout the world as standard equipment in amateur and commercial work. Each unit is built according to rigid specifications and is fully guaranteed. All models have holes for stationary mounting. Code card supplied with each individually packed unit.



114-301

AMATEUR KEY 114-301—A general purpose key with moulded black bakelite base. Perfect insulation—adjustable smooth acting bearings — improved spring — nickel key arm — pigtail connections—no current on bearings—1/8'' pure silver contacts. Net Wt. 6 oz.

114-301	**List Price $3.00**
114-301-S—Same as Model 301 with circuit closing switch mounted on base	**List Price 3.50**
114-301-SL with 1/4'' Contacts	**List Price 3.75**

PRACTICE KEY 114-300 — A well-built and inexpensive practice key for the beginner. Moulded Brown Bakelite base and knob. Spring bearings, perfect action, simple adjustments, 1/8'' pure silver contacts. All machine parts nickel plated. Standard Code card furnished. Net Wt. 5 oz.

114-300	**List Price $1.75**
114-300-L with 1/4'' Contacts	**List Price 2.00**

PRACTICE KEY 114-312—Heavy die cast base finished in Gray Wrinkled Enamel. Smooth adjustable contacts. 1/8'' pure silver contacts. Has provision for plugging in our semi-automatic keys when desired. Net Wt. 9 oz.

114-312	**List Price $3.25**
114-312-S—Same as Model 114-312 with circuit closing switch mounted on base	**List Price 3.75**
114-312-SL with 1/4'' Contacts	**List Price 4.00**

PRACTICE SET 114-450—Consists of one constant frequency adjustable buzzer and a standard hand key with 1/8'' pure silver contacts mounted on a moulded brown bakelite light-weight base 6'' x 4''. Adjusting screws, key arm and all machine parts nickel plated. Light Spring for perfect keying. A complete sending and receiving set. Three hook-up diagrams on carton show how this Practice Set may be used singly for code practice and in pairs for point to point communications. Standard Code Card included. Net Wt. 12 oz.

114-450	**List Price $4.50**

BUZZER
KEY
MODEL 450 PRACTICE SET
SPEED-X
SAN FRANCISCO
SPEED-X

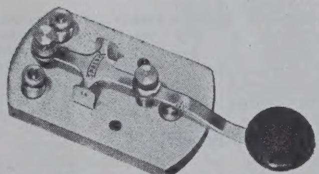
114-450

CONSTANT FREQUENCY BUZZER 114-400—Moulded Black Bakelite Base and Cap eliminates insulation problems. Large pure silver contacts—precision parts hold adjustments. Additional adjustment on vibrator. Resistance 2 ohms. Operates on two dry cells or one "C" battery. A high quality buzzer for all purposes. Net Wt. 3 oz.

114-400	**List Price $2.00**

114-400

HEAVY DUTY METAL HAND KEYS



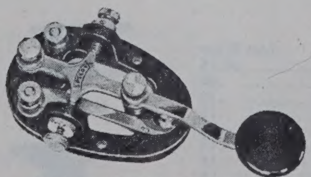
114-300, 114-305, 114-306

METAL HAND KEY 114-305—An inexpensive metal base key with black wrinkled enamel finish. Smooth acting spring bearings and adjustable key arm spring. Key arm and all machine parts bright nickel finish. 1/8'' pure silver contacts. Net Wt. 10 oz.

114-305	**List Price $1.90**
114-306—Same as Model 114-305 with Baked Wrinkle Brass finished base	**List Price 1.90**

STANDARD KEY 114-310—Heavy die cast base finished in black wrinkled enamel. Smooth adjustable bearings. 1/8'' pure silver contacts. Has provisions for plugging in our semi-automatic keys when desired. Net Wt. 9 oz.

114-310	**List Price $3.25**
114-311—Same as 114-310 with Chromium finish base and parts	**List Price 4.00**
114-316—Same as 114-310 with Baked Wrinkle Enamel Brass finish base	**List Price 3.25**
114-316-L with 1/4'' Contacts	**List Price 3.50**



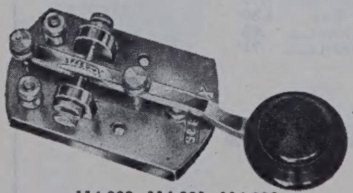
114-310, 114-311, 114-316

STANDARD KEY 114-310-S—Same specifications as Standard model key 114-310 with circuit closing switch mounted on base. 1/8'' pure silver contacts. An attractive high-quality key. Net Wt. 10 oz.

114-310-S	**List Price $3.75**
114-311-S—Same as 114-311 with circuit closing switch mounted on base	**List Price 4.50**
114-316-S—Same as 114-316 with circuit closing switch mounted on base	**List Price 3.75**

HEAVY DUTY KEY 114-320—Black wrinkle enameled extra heavy Die Cast Base. Large sturdy chromium plated key arm with adjustable steel bearings. Heavy brass connector strip concealed under base. Well insulated for heavy duty work. Improved Navy Type Knob and 1/4'' pure silver contacts. Net Weight 12 oz.

114-320	**List Price $4.25**
114-321—Chromium Base	**List Price 5.00**



114-320, 114-321, 114-326

HEAVY DUTY KEY 114-326—Same specifications as Heavy Duty Model 114-320 but base finished in a beautiful Lacquered BRASS finish. Arm and machine parts chromium plated. Well designed spring gives this model a light keying touch. Navy Type Knob and 1/4'' pure silver contacts. Net Wt. 12 oz.

114-326	**List Price $4.25**

The Vibroplex

A SEMI-AUTOMATIC TELEGRAPH AND WIRELESS TRANSMITTING MACHINE

Embodying the latest exclusive features

USED BY THE WORLD'S BEST OPERATORS

Prominent features which have been contributed to the success of the Vibroplex are:

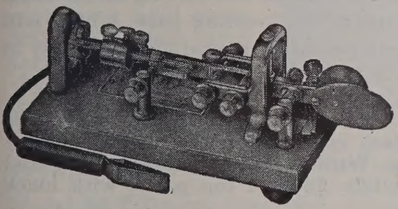
Simplicity • Durability
Perfect control • Easy adjustment
Strong carrier • Ease of manipulation
Adaptability to changing wire conditions
Ability to transmit perfect Morse and Continental signals at high speed

These features, which are found only in the genuine Vibroplex models illustrated on these pages, make for clear, rapid, easy transmission; relieve the arm of strain caused by sending on the ordinary key; rest and strengthen the overworked muscles, and prevent telegrapher's paralysis.

CLEAR, RAPID SENDING MADE EASY

The Vibroplex transmits the same grade of Morse and Continental code as the strongest clearest hand sender, faster than is possible on the ordinary key, and with less than half the labor.

There is no tensing of the muscles, no nerve strain, no pounding on the key in order to make clear, rapid signals. **You simply press the lever — the machine does the rest.**



Your name engraved on base, $1.50
Additional engraving, 15c per letter

New SUPER DE LUXE "PRESENTATION" VIBROPLEX

The Finest Bug Ever Built! 24K Gold-Plated Base Top, Patented Jewel Movement and Super-Speed Control!

New patented adjustable main spring affords wider range of speed than ever obtained before in semi-automatic transmitting key. Beautifully-designed with polished chromium machine parts mounted on a 24K gold-plated base top, colorful red switch knob, finger and thumb piece and precision-machined. This new Super-DeLuxe "Presentation" Vibroplex key at $27.50 affords a life-time of sending enjoyment. Harder than metal, the jewels in this key reduce friction, maintain smoother, easier operation and prolong life.

Amateur Net Price........ $27.50

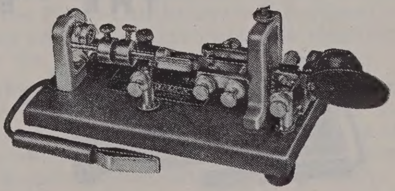
THE *Improved* "ORIGINAL" VIBROPLEX

Suitable for All Classes of Transmitting work Where Speed and Perfect Morse Are Prime Essentials

This great new Vibroplex is a smooth and easy working BUG. It has won fame on land and sea for its clarity, precision and ease of manipulation. Can be slowed down to 10 words per minute or less or geared to as high rate of speed as desired. Maintains the same high quality signal at whatever speed, insuring easy reception under all conditions.

SPECIFICATIONS

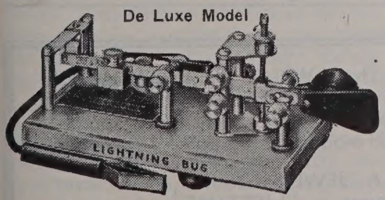
The improved model, single lever. Two pairs of contact points: one for dots, the other for dashes. Weight, 3 lbs. 8 oz. A handsome and efficient transmitting machine, with unlimited sending possibilities. Complete with cord and wedge.



Standard — Polished Chromium top parts, black base. Amateur Net Price.......... $15.95

DeLuxe—Polished Chromium base and top parts, with jeweled movement. Amateur Net Price 19.50

THE "LIGHTNING BUG" VIBROPLEX


De Luxe Model

High Quality Signals at All Speeds

SPECIFICATIONS

Single lever, with improved flat pendulum, instantly adjustable dot contact spring, circuit breaker parallel with pendulum. Two pairs of contact points, one for dots, the other for dashes. Complete with cord and wedge. Weight 3 lbs. 8 oz.

Standard—Polished Chromium top parts, black base. Amateur Net Price $13.95

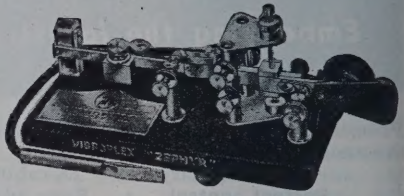
DeLuxe—Polished Chromium base and top parts, with jeweled movement. Amateur Net Price 17.50

The Vibroplex

Telegraph & Wireless Transmitting Machines

THE "ZEPHYR" VIBROPLEX

A Genuine Vibroplex. Slightly Lighter in Weight.
Having Plenty of "Pep" and "Power"



Smaller and more compact but designed in most details the same as the "Lightning Bug" model. Planned to meet the demand for a low priced, efficient and high speed transmitter for telegraph use.

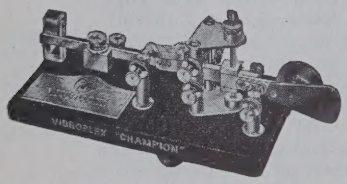
SPECIFICATIONS

Single lever with standard size contact points. Mounted on slightly smaller base. Weight 3 lbs. 2 oz. Equipped with circuit closer, cord and wedge. Standard finish only. Chromium finished top parts, with black crystal base.

Amateur Net Price **$12.50**

THE "CHAMPION" VIBROPLEX

For Radio Use Only



Designed to Fulfill the Demand for a Low Priced Radio Transmitter

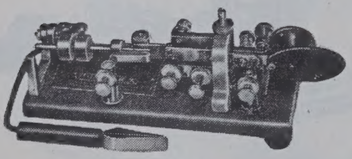
The new "Champion" is an inexpensive transmitter having exceptional sending qualities . . . clarity . . . speed . . . sending ease, which will appeal alike to amateur and professional radio operators. Designed to meet the demand for a low priced Vibroplex in the radio field.

SPECIFICATIONS

Single lever with two pairs of contact points. Mounted on large standard size base. Weight 3 lbs. 8 oz. Without circuit closer, cord and wedge. Standard finish only. Chromium finished top parts, with black crystal base.

Amateur Net Price **$9.95**

THE "BLUE RACER" VIBROPLEX



Very similar to the Original Vibroplex except that it is only half the size. Suitable for all classes of telegraph work and in high favor with wireless men.

Small and compact, the "Blue Racer" Vibroplex can be carried around and never be in the way. Embodies the same sending possibilities, the same carrying qualities, the same strength and durability as the larger models. Built especially to meet the demand of telegraphers requiring a small, lightweight and efficient sending machine.

SPECIFICATIONS

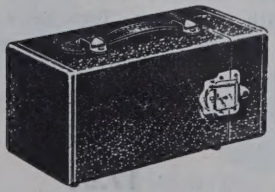
Single Lever. Two pairs of contact points—one for dots, the other for dashes. Weight, 2 lbs. 8 ozs. Complete with cord and wedge.

Standard—Polished Chromium top parts, black base . . . Amateur Net Price **$15.95**

DeLuxe—Polished Chromium base and top parts, with jeweled movement. Amateur Net Price **19.50**

VIBROPLEX CARRYING CASE

Keeps the Machine Free from Dust, Dirt and Moisture
Insures Safe-keeping When Not in Use



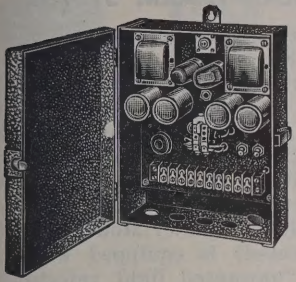
A cloth-lined case, finished in handsome simulated black morocco. Corners are reinforced, adding to its durability and attractiveness. A flexible leather handle makes it more convenient to carry. Has lock and key.

PRICE **$5.50**

The JEWELS used in the DeLuxe Model Vibroplexs are the same as placed in the world's finest precision made watches and instruments.

A JEWEL bearing main lever insures a "LIFETIME" of service and an ease of operation that can only be referred to as "FEATHER-TOUCH" sending.

MODEL 63 MASTER AMPLIFIER

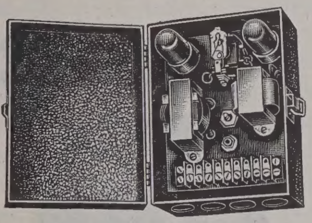


Model 63 Amplifier is especially designed for use with a correct combination of standardized Worner Photo-Cell and Light Source units. However, this Amplifier will operate also from Light Source units, such as daylight, artificial lights, radiant energy from metallic processing, etc.

Model 63 Amplifier is a specially engineered, highest quality unit. It enjoys wide preference as it efficiently meets 95 per cent of industrial requirements and replaces the need of costly individually engineered equipment. Technical details on request.

Model 63 Master Amplifier....................each $85.00

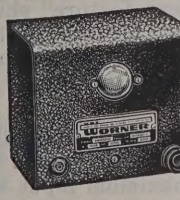
MODEL 64 ECONOMY AMPLIFIER



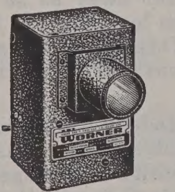
This Amplifier is an economical unit for practically any industrial application where economy is a factor or requires a light beam distance of not more than 50 feet or where the Relay is not required to operate in excess of 250 times a minute. Can be furnished for greater distances or speed, technical details furnished on request.

Model 64 Economy Amplifier....................each $56.00

MODEL 62 R & L AMPLIFIER AND LIGHT SOURCE SET



Model 62-R Amplifier



Model 62-L Light Source

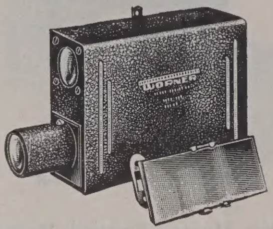
This "two-unit" set has specially designed Light Source unit and an Amplifier unit that includes the Photo-Cell Receiver, Relay and other electrical controls. This combination has proved efficient for countless simple applications for distances from a few inches to 75 feet or where Relay is not required to operate in excess of 300 times a minute.

The "two-unit" set will supervise efficiently on a simple application, such as: Counting or sorting large objects; limit switches; start and stop operations; light density; fire protection; flame control; opening doors, etc.

Model 62 R & L "Two-Unit Set....................per set $70.00
Model 62-R Amplifier only....................each 58.00
Model 62-L Light Source only....................each 18.00

FOTOLECTRIC ANNOUNCER

Automatically Announces the Entrance or Passing of Any Object



Model 61-A

The Fotolectric Announcer unit is designed to project a "beam of light" across any entrance to any room, building or premises. The breaking of this light beam by any person entering will activate a chime or other sound to automatically announce the entrant. Can serve countless purposes and solve most entrance problems efficiently.

Model 61 Fotolectric Announcer includes Light Source and sensitive Photo-Cell units in one compact metal case, finished in black crackle lacquer. Size, 10¾ x 7½ x 2¾ inches.

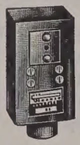
Model 61 Announcer with Chime....................each $31.25

Model 61-A Fotolectric Announcer, the same unit as described above except that it is equipped with an optical system to arrest unwanted light.

Model 61-A Announcer with Chime....................each $34.25

LIGHT SOURCE UNITS AND PHOTO-CELL RECEIVER UNITS

Model 33



Model 23

Model 31

Model 21

The Light Source unit is designed to project the light beam and the Photo-Cell Receiver is designed to pick up the beam and convert its light into electrical energy through the Amplifier unit.

Model 33 Light Source is "standard" for general applications and is most generally recommended. Its light beam covers a distance from a few inches to 50 feet from Light Source to Receiver. Heavy duty, cast iron unit with ½-inch conduit fittings. Gray finish.

Model 23 Photo-Cell Receiver is engineered for use with Model 33 Light Source and has the same case specifications.

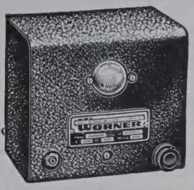
For use in damp surroundings, Models 33 and 23 can be made water-proof at slight additional cost.

Model 31 Light Source is "standard" where a lighter weight case is practical. Its light beam covers a distance from a few inches to 25 feet from Light Source to Photo-Cell Receiver. Case is 18 gauge steel, gray crackle finish. Has ½-inch knockout.

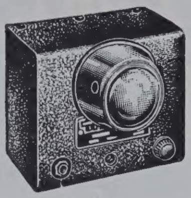
Model 21 Photo-Cell Receiver is engineered for use with Model 31 Light Source and has the same case specifications.

Model No.	Description	Size, Inches	Price, Each
33	Light Source Housing	4¼ x 2¾ x 2¾	$11.00
23	Photo-Cell Receiver	4¼ x 2¾ x 2¾	16.00
31	Light Source Housing	6⅝ x 2 x 1¾	9.00
21	Photo-Cell Receiver	6⅝ x 2 x 1¾	14.00

MODEL 9000 SERIES
FOTOLECTRIC BURGLAR ALARM SYSTEM



Amplifier Model 9100-R



Amplifier Model 9150-R

This series consists of One Master Control Panel operating with one or more (up to 4) Fotolectric Light Source and Amplifier sets. The combination may be used with traps, foil systems and other equipment as used by professional burglar alarm companies, to operate audible or visible alarms.

Any interruption of the light beam operates whatever alarms the user wishes to install. The complete alarm circuit is supervised by the Master Control Panel which is remotely located for operator's convenience.

All Model 9000 series Amplifiers contain the following: Heavy duty transformers 110-120-volt, 50 to 60 cycle, A.C. with dual secondary. Potentiometer type sensitivity control. Meter Jack to determine correct cut-off and plate current in Relay circuit. Electrolytic condensers. Double pole, double throw 5-amp. relay.

Constructed of 18-gauge steel, welded, gray wrinkle finish. Size: 7 x 6¼ x 4¼ inches. (Not weatherproof.)

Model No.	Description	Range per Set	Price, Each
9100	Master Trespass Trap	100 ft.	$70.00
9150	Master Trespass Trap	150 ft.	90.00
9250	Master Trespass Trap	250 ft.	130.00
9500	Master Trespass Trap	500 ft.	225.00

Model 9000 Control Panel, $45.00 list, supplied with plate relays equal to the 9000 series Amplifiers ordered. If 9000 series Amplifiers are ordered without Control Panel, plate relay is supplied with Amplifiers to be mounted in Control Panel.

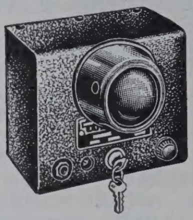
MODEL 7000 SERIES
FOTOLECTRIC BURGLAR ALARM SYSTEM

The Model 7000 series operates in conjunction with professional independent burglar alarm company's central office or local equipment.

The 7000 series Amplifiers are complete with the following scientifically engineered equipment: Tubes. Lenses. Heavy duty shielded Amplifier transformer 110-120 volt, 50-60 cycle, A.C. with dual secondary. Potentiometer sensitivity control. Meter Jack to determine correct cut-off and plate current in relay circuit. Electrolytic condensers. Single-pole, double-throw relay, self-wiping contacts rated at 5 amp. non-inductive at 110-120 volts, 50 to 60 cycle.

Model No.	Description	Range per Set	Price, Each
7100	Remote Cont. Trespass Trap	100 ft.	$70.00
7150	Remote Cont. Trespass Trap	150 ft.	90.00
7250	Remote Cont. Trespass Trap	250 ft.	130.00
7500	Remote Cont. Trespass Trap	500 ft.	225.00

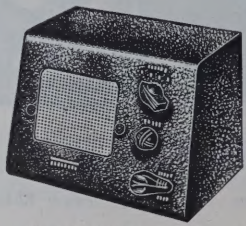
MODEL 5000 SERIES
FOTOLECTRIC BURGLAR ALARM SYSTEM



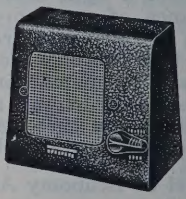
Model 5000 series consists of a Light Source unit and an Amplifier unit. This combination is designed for interior use where a single beam is considered ample protection; it is not intended for use with protective devices such as foil systems, etc. Furnished for 110 volts. Amplifier Model 5150-R (illustrated) is equipped with a scientifically engineered "unwanted light rejector," which materially increases the day-light range of the unit and makes it equal to the night-time range, if equipment is installed so that 90 per cent of the light reaching the Photo-Cell is that guaranteed by the Light Source.

Model No.	Description	Range	Price, Each
5100	Single Beam Trespass Trap	100 ft.	$75.00
5150	Single Beam Trespass Trap	150 ft.	95.00

WORNER
COMMUNICATING SYSTEMS



Models P-359, P-353



Model P-360

All WORNER units operate efficiently as far as 2000 feet unit. Persons at or near Sub-stations when called may answer without leaving their work, from as far away as 25 feet. "Silent feature" shuts out noise in vicinity at Station. 110 volt to 120 volt, A.C. or D.C. Units are shipped complete with wiring diagrams and instructions for easy installation.

Model P-359 Selective Master Station. Handles 1 to 5 Sub-stations. Has 3-tube amplifier. 1 watt output. Contains 5-inch speaker for maximum input without talking directly into unit. In substantial all-metal cabinet; size: 9 x 6¼ x 6 inches. Finished in hammered walnut lacquer finish. Complete with tubes and instructions.................each **$34.75**

Model P-353 Combination Master Station. 2 to 5 units may be used, in any combination of Masters to Masters, or Masters to Sub-stations. Contains 3-tube amplifier. Complete with tubes and instructions.................each **$47.50**

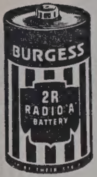
Model P-360 Sub-station. Has 5-inch speaker. Talk-listen switch used by Sub to originate call; not used after Master answers. In substantial all-metal cabinet as illustrated; size: 7¼ x 4 x 6 inches; finished in attractive hammered walnut lacquer finish.

each **$11.50**

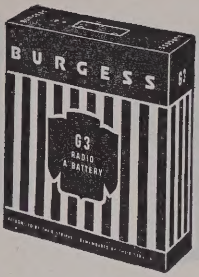
BURGESS BATTERIES

BURGESS
4F
RADIO
A BATTERY

4F



2R

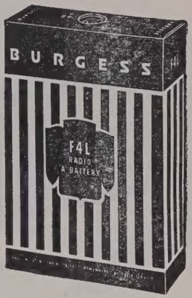


G3

BURGESS
F4PI

F4PI

T5



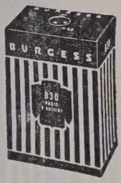
F4L

BURGESS PORTABLE "A" BATTERIES

No. 2F.	1½ volts.	Size, 2 17/32″x 1 5/16″x 4 3/16″.	Standard package 6	List price, $ .56
No. 2F4.	6 volts.	Size, 3 15/16″x 2¾″x 5⅜″.	Standard package 6	List price, 1.75
No. 2F4L.	6 volts.	Size, 3 29/32″x 1 7/16″x 10 11/16″.	Standard package 6	List price, 1.85
No. 2R.	1½ volts.	Size, 2 5/16″x 1 5/16″ diameter.	Standard package 12	List price, .10
No. 4F.	1½ volts.	Size, 2 9/16″x 2 9/16″x 4 1/32″.	Standard package 12	List price, .95
No. 4FL.	1½ volts.	Size, 3 27/32″x 1 5/16″x 5 17/32″.	Standard package 10	List price, .90
No. 6F.	1½ volts.	Size, 4 1/32″x 2 11/16″x 4″.	Standard package 6	List price, 1.30
No. 8F.	1½ volts.	Size, 3 27/32″x 2 21/32″x 5 7/16″.	Standard package 6	List price, 1.65
No. 8FL.	1½ volts.	Size, 3 29/32″x 1 13/32″x 10 11/16″.	Standard package 6	List price, 1.75
No. F4L.	6 volts.	Size, 3 5/16″x 1⅜″x 5¾″.	Standard package 6	List price, .90
No. F4PI.	6 volts.	Size, 2 19/32″x 2 19/32″x 4 1/16″.	Standard package 12	List price, .94
No. F4PIX.	6 volts.	Size, 2 19/32″x 2 19/32″x 4 1/16″.	Standard package 6	List price, 1.87
No. FX.	1½ volts.	Size, 1 5/16″ diameter x 3 15/32″.	Standard package 6	List price, .46
No. G3.	4½ volts.	Size, 4″x 1⅜″x 4⅝″.	Standard package 12	List price, .75
No. G5.	7½ volts.	Size, 3⅝″x 2 43/64″x 4 5/16″.	Standard package 10	List price, 1.10
No. T5.	7½ volts.	Size, 2½″x 2 9/16″x 3⅞″.	Standard package 6	List price, 1.25
No. C5.	7½ volts.	Size, 2 3/16″x 1 29/32″x 3″.	Standard package 6	List price, .95
No. B5.	7½ volts.	Size, 3⅞″x 27/32″x 2 13/16″.	Standard package 10	List price, .95
No. F3.	4½ volts.	Size, 3 15/16″x 1⅜″x 4 3/32″.	Standard package 6	List price, .75
No. Z4.	6 volts.	Size, 1 5/32″x 1 5/32″x 2 5/16″.	Standard package 24	List price, .50

BURGESS
A30
RADIO
B BATTERY

A30



B30

BURGESS
M30
RADIO
B BATTERY

M30

BURGESS PORTABLE "B" BATTERIES

No. A30.	45 volts.	Size, 3½″x 2 3/16″x 4 9/16″.	Standard package 6	List price, $2.15
No. A30M.	45 volts.	Size, 4 3/32″x 3½″x 2 21/32″.	Standard package 6	List price, 3.50
No. A60.	90 volts.	Size, 4⅜″x 3 5/16″x 4 7/16″.	Standard package 6	List price, 4.35
No. B30.	45 volts.	Size, 4 1/16″x 2 17/32″x 5 5/16″.	Standard packags 12	List price, 2.35
No. M30.	45 volts.	Size, 3½″x 1 11/16″x 5 7/16″.	Standard package 12	List price, 2.00
No. W20PI.	30 volts.	Size, 1 9/32″x 1 25/32″x 3 3/16″.	Standard package 6	List price, 2.00
No. W30PI.	45 volts.	Size, 2 15/16″x 1 3/16″x 3⅞″.	Standard package 6	List price, 2.05
No. XX30.	45 volts.	Size, 2 19/32″x 15/16″ x 3 21/32″.	Standard package 12	List price, 1.65
No. XX45.	67½ volts.	Size, 2 23/32″x 1 5/16″x 3 43/64″.	Standard package 12	List price, 2.25
No. Z30.	45 volts.	Size, 2 15/16″x 2¼″x 4 1/32″.	Standard package 6	List price, 2.50
No. Z59.	88½ volts.	Size, 3 9/16″x 2¼″x 5⅞″.	Standard package 6	List price, 3.70
No. N60.	90 volts.	Size, 3 21/32″x 1¼″x 3 11/16″.	Standard package 6	List price, 2.95
No. K45.	67½ volts.	Size, 2 21/32″x 1 9/32″x 2 7/32″.	Standard package 12	List price, 2.25

BURGESS
XX45
B BATTERY

XX45

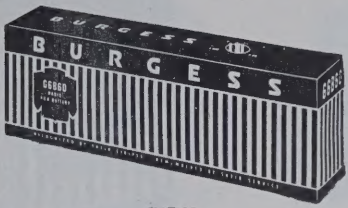
BURGESS
XX30
RADIO

XX30

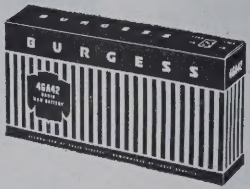
A QUALITY DRY BATTERY FOR EVERY PURPOSE

SUBJECT TO TRADE DISCOUNT

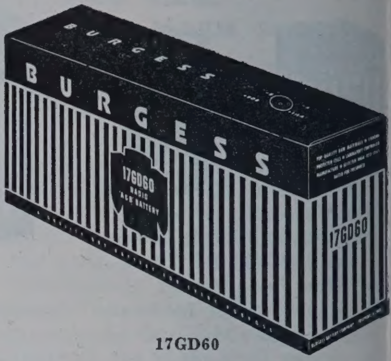
BURGESS BATTERIES



G6B60



4GA42



17GD60

BURGESS
6TA60

6TA60

BURGESS FARM "A & B" BATTERIES

No. 17GD60. 1½ volt "A", 90 volt "B". Size, 15⅝"x 4$\frac{5}{16}$"x 7". Standard package 1. List price, $5.95

No. 18GD60. 1½ volt "A", 90 volt "B". Size, 5⅝"x 6¾"x 12$\frac{7}{16}$". Standard package 1. List price, $7.95

No. 398. 6 volt "A", 90 volt "B". Size, 8$\frac{13}{16}$"x 4⅝"x 14". Standard package 1. List price, $12.35

No. 3G6D60. 9 volt "A", 90 volt "B". Size, 8⅛"x 4$\frac{5}{16}$"x 14". Standard package 1. List price, $7.95

No. 739. 7½ volt "A", 90 volt "B". Size, 8$\frac{13}{16}$"x 4⅝"x 14". Standard package 1. List price, $13.60

BURGESS
5DA60
RADIO
A&B BATTERY

5DA60

BURGESS
F6A60

F6A60

BURGESS
F4B60

F4B60

BURGESS PORTABLE "A" & "B" BATTERIES

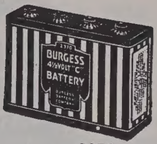
No.	Voltage	Size	List Price
2F4A60.	6A, 90B	12"x 2¾"x 4⅜"	$5.95
2F4B60.	6A, 90B	10⅝"x 3$\frac{29}{32}$"x 4$\frac{3}{16}$"	6.55
2TXX40.	1½A, 60B	2⅜"x 1$\frac{5}{16}$"x 7⅛"	3.00
3FA60.	1½A, 90B	4$\frac{7}{32}$"x 2$\frac{13}{32}$"x 10¾"	7.05
4FA60.	1½A, 90B	7"x 3$\frac{15}{32}$"x 4¼"	5.95
4GA41.	1½A, 61½B	9$\frac{3}{16}$"x 2$\frac{11}{16}$"x 3$\frac{5}{16}$"	4.15
4GA42.	1½A, 63B	9"x 2$\frac{1}{16}$"x 4$\frac{11}{16}$"	4.15
4TA60.	1½A, 90B	8⅛"x 2$\frac{11}{32}$"x 4$\frac{25}{32}$"	5.25
5DA60.	1½A, 90B	5$\frac{9}{16}$"x 2$\frac{9}{16}$"x 6$\frac{15}{16}$"	4.95
6FA60.	1½A, 90B	11$\frac{15}{16}$"x 1⅝"x 6$\frac{7}{32}$"	4.95
6TA60.	1½A, 90B	9$\frac{15}{16}$"x 2$\frac{7}{32}$"x 4$\frac{13}{32}$"	5.50
D4A60.	6A, 90B	5$\frac{15}{32}$"x 2¾"x 6$\frac{15}{16}$"	6.35
D5A60.	7½A, 90B	9$\frac{9}{16}$"x 2$\frac{23}{32}$"x 4$\frac{7}{32}$"	6.35
F4A41.	6A, 61½B	9$\frac{7}{16}$"x 2$\frac{11}{64}$"x 4$\frac{29}{32}$"	4.75
F4A50.	6A, 75B	9$\frac{1}{16}$"x 2$\frac{11}{16}$"x 3⅝"	4.50
F4B60.	6A, 90B	10¾"x 2$\frac{11}{16}$"x 4$\frac{31}{32}$"	4.95
F5M45.	7½A, 67½B	9$\frac{5}{32}$"x 2⅝"x 4$\frac{7}{16}$"	4.50
F6A60.	9A, 90B	9¼"x 2¾"x 4$\frac{7}{16}$"	4.95
G4B50.	6A, 75B	12⅜"x 2$\frac{11}{16}$"x 4⅛"	4.95
G4B60.	6A, 90B	10¾"x 2$\frac{25}{32}$"x 5"	5.50
G5A42.	7½A, 63B	9$\frac{1}{16}$"x 2¾"x 4$\frac{9}{32}$"	4.20
T5Z60.	7½A, 90B	9½"x 2⅛"x 3¾"	5.50
G6B60.	9A, 90B	13⅞"x 2$\frac{25}{32}$"x 4⅝"	5.50
G6M60.	9A, 90B	10$\frac{3}{16}$"x 3⅛"x 4$\frac{1}{32}$"	5.50
T5Z50.	7½A, 75B	8$\frac{7}{16}$"x 3$\frac{21}{32}$"x 2$\frac{11}{32}$"	4.50
F6A60P.	9A, 90B	9⅜"x 2$\frac{23}{32}$"x 4$\frac{5}{16}$"	5.25

A QUALITY DRY BATTERY FOR EVERY PURPOSE

BURGESS BATTERIES

5308

5540


2370

10308

2308

BURGESS RADIO "B" BATTERIES

No. 10308.	45 volts.	Size, 8 1/32"x 4 1/32"x 7 1/16".	Standard package 6	List price, $3.96
No. 21308.	45 volts.	Size, 8⅛"x 4 15/32"x 7 11/32".	Standard package 6	List price, 4.15
No. 2308.	45 volts.	Size, 8 1/32"x 2 29/32"x 7 1/16".	Standard package 6	List price, 2.88
No. 5156.	22½ volts.	Size, 4 1/32"x2 7/16"x2 23/32"x3¼".	Standard package 10	List price, 1.80
No. 5308.	45 volts.	Size, 4"x 2 17/32"x 5 1/16"x 5 9/16".	Standard package 10	List price, 2.15

BURGESS RADIO "B" & "C" BATTERIES

No. 2156.	22½ volts.	Size, 6 21/32"x 4 1/16"x 2 21/32"x 3 17/32".	Standard package 6	List price, 1.63
No. 2370.	4½ volts.	Size, 4 1/32"x 1 13/32"x 2 15/16"x 3 5/16".	Standard package 10.	List price, .81
No. 4156.	22½ volts.	Size, 3 15/32"x 2 1/16"x 2 19/32"x 2⅞".	Standard package 10.	List price, 1.80
No. 5360.	4½ volts.	Size, 2⅜"x 27/32"x 2⅝"x 2 15/16".	Standard package 10	List price, .50
No. 5540.	7½ volts.	Size, 3⅞"x 27/32"x 2 11/16"x 3 1/32".	Standard package 10	List price, .95

XX30E
BURGESS
hearing aid battery
XX30E

BURGESS FARM RADIO "A" BATTERIES

No. 12F3.	4½ volts.	Size, 10⅜"x 3⅞"x 6⅛".	Standard package 1	List price, 5.04
No. 20F.	1½ volts.	Size, 7⅝"x 2 19/32"x 6 15/16".	Standard package 6	List price, 3.95
No. 20F2.	3 volts.	Size, 11⅜" x3 15/16"x 6⅛".	Standard package 1	List price, 5.52

BURGESS HEARING AID BATTERIES

"A" BATTERIES FOR VACUUM TUBE HEARING AIDS

No. 1ES.	1½ volts.	Size, 1"x 1 15/16".	Standard package 10	List price, $ .10
No. 2ES.	1½ volts.	Size, 1 15/16"x 2 7/16".	Standard package 12	List price, .10
No. 2ZE.	1½ volts.	Size, 13/32"x 9/16"x 1⅞"x 1 31/32".	Standard package 10	List price, .25
No. 5ES.	1½ volts.	Size, 49/64"x 2 7/32".	Standard package 10	List price, .10
No. CL.	1½ volts.	Size, 1" diameter x 2 25/32".	Standard package 10	List price, .20
No. TE.	1½ volts.	Size, 1 1/16"x 3⅞".	Standard package 4	List price, .27
No. 9ES.	1½ volts.	Size, 1⅞" x 9/16".	Standard package 12	List price, 1.25

K15E
BURGESS
hearing aid battery
K15E

TE
BURGESS
hearing aid battery
TE

"B" BATTERIES FOR VACUUM TUBE HEARING AIDS

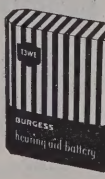
No. K10E.	15 volts.	Size, 1 7/32"x 27/32"x 1½".	Standard package 20	List price, .90
No. K15E.	22½ volts.	Size, 1 7/32"x 27/32"x 2⅛".	Standard package 20	List price, 1.40
No. K20E.	30 volts.	Size, 1 7/32"x 29/32"x 2 23/32".	Standard package 20	List price, 1.65
No. U10E.	15 volts.	Size, 1 7/16"x 9/16"x 31/32".	Standard package 20	List price, .85
No. U15E.	22½ volts.	Size, 1 31/32"x 9/16"x 31/32".	Standard package 20	List price, 1.05
No. U20E.	30 volts.	Size, 2 17/32"x 9/16"x 31/32".	Standard package 20	List price, 1.25
No. XX15E.	22½ volts.	Size, 1 11/32"x 15/16"x 3⅞".	Standard package 10	List price, 1.45
No. XX22E.	33 volts.	Size, 2 17/32"x 31/32"x 3⅓".	Standard package 10	List price, 1.65
No. XX30E.	45 volts.	Size, 2½"x 15/16"x 3⅞".	Standard package 20	List price, 1.90

U20E
BURGESS
hearing aid battery
U20E

2ZE
BURGESS
hearing aid battery
2ZE

"A" AND "B" ASSORTMENTS

HA73.	Consists of 30 No. 1ES, 24 No. 2ES, 12 No. TE, 6 No. XX30E, and 1 No. XX22E. Standard package 1	List price, $21.69
HA21.	Consists of 2 No. XX30E, 1 No. XX22E, 8 No. TE, 6 No. 1ES, 4 No. 2ES. Standard package 1	List price, 8.61



T3WE

For Carbon Hearing Aids—Universal Batteries

No. T2R.	3 volts.	Size, 2 3/16"x1 3/16"x4 1/16"x4⅛".	Standard package 12.	List price, $1.05
No. T3R.	4½ volts.	Size, 3⅛"x 1 3/32"x 3 15/32"x4 1/32".	Standard package 12	List price, 1.00

For Western Electric Ortho-Technic Models

No. C3WE.	4½ volts.	Size, 3⅛"x 1 3/32"x 2⅝".	Standard package 12	List price, .85
No. T2WE.	3 volts.	Size, 2 3/16"x 1 3/16"x 4".	Standard package 12	List price, 1.05
No. T3WE.	4½ volts.	Size, 3⅛"x 1 3/32"x 3 15/16".	Standard package 12	List price, 1.00

T3R
BURGESS
hearing aid battery
T3R

A QUALITY DRY BATTERY FOR EVERY PURPOSE

BURGESS BATTERIES

BURGESS
4FH
LITTLE-SIX
GENERAL UTILITY
BATTERY

4FH

BURGESS
4F2H
TWIN-SIX
GENERAL UTILITY
BATTERY

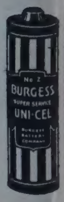
4F2H

BURGESS
CHROME
PROTECTED
FRESH
POWER
GUARANTEED

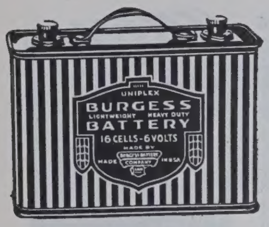
No. 2

No. 1
BURGESS
UNI-CEL
Flashlight
BATTERY
BURGESS
BATTERY
COMPANY

No. 1


No. Z
BURGESS
UNI-CEL

Z


UNIPLEX
BURGESS
BATTERY
16 CELLS-6 VOLTS

4F4H

BURGESS FLASHLIGHT BATTERIES

No. 1.	1½ volts.	Size, 1"x 1$\frac{15}{16}$".	Standard package 12	List price, $ .10
No. 2.	1½ volts.	Size, 1$\frac{15}{16}$"x 2$\frac{5}{16}$".	Standard package 48	List price, .10
No. Z.	1½ volts.	Size, $\frac{9}{16}$"x 1⅞".	Standard package 12	List price, .075

BURGESS
RADIO
"A" BATTERY

2F2H

BURGESS IGNITION BATTERIES

4FH.	1½ volts.	Size, 2$\frac{9}{16}$"x2$\frac{9}{16}$"x3$\frac{15}{16}$"x4¼".	Standard package 20	List price, $ .70
4F2H.	3 volts.	Size, 3$\frac{29}{32}$"x 2$\frac{11}{16}$"x 5$\frac{13}{32}$".	Standard package 8	List price, 1.35
4F4H.	6 volts.	Size, 8¼"x2¾"x5$\frac{13}{16}$"x6⅜".	Standard package 6	List price, 3.20
4F5H.	7½ volts.	Size, 7$\frac{3}{16}$"x3$\frac{31}{32}$"x5$\frac{13}{16}$"x6⅜".	Standard package 4	List price, 3.98
4F6H.	9 volts.	Size, 8½"x3$\frac{31}{32}$"x5$\frac{13}{16}$"x6⅜".	Standard package 4	List price, 4.55

BURGESS
IGNITION
BATTERY

F2BP

FOR INDUSTRIAL APPLICATIONS

BURGESS "A" BATTERIES

No. 2F2H.	3 volts.	Size, 2$\frac{9}{16}$"x 2$\frac{9}{16}$"x 4"x 4¾".	Standard package 10	List price, $ .90
No. 2FBP.	1½ volts.	Size, 2⅝"x 1$\frac{11}{32}$"x 3$\frac{31}{32}$"x4$\frac{11}{32}$".	Standard package 10	List price, .71
No. 4FH.	1½ volts.	Size 2$\frac{9}{16}$"x 2$\frac{9}{16}$"x 3$\frac{15}{16}$"x 4¼".	Standard package 20.	List price, .70
No. F2BP.	3 volts.	Size, 2⅝"x 1$\frac{11}{32}$"x 4"x 4$\frac{7}{16}$".	Standard package 10	List price, .71
No. F4BP.	6 volts.	Size, 2$\frac{9}{16}$"x 2$\frac{9}{16}$"x 3$\frac{15}{16}$"x 4$\frac{3}{16}$".	Standard package 10.	List price, .73

BURGESS
BATTERY

F4BP

BURGESS "B" BATTERIES

No. A75BP.	112½ volts	Size, 10$\frac{7}{32}$"x 3$\frac{7}{16}$"x 2½".	Standard package 1	List price, $6.18
No. W30.	45 volts.	Size, 2$\frac{31}{32}$"x1$\frac{7}{32}$"x3¾"x4$\frac{3}{16}$".	Standard package 6	List price, 3.00
No. W30BPX.	45 volts.	Size, 2$\frac{15}{16}$"x1$\frac{7}{32}$"x3$\frac{19}{32}$"x4⅛".	Standard package 6	List price, 2.73
No. Z30NX.	45 volts.	Size, 2$\frac{21}{32}$"x 1$\frac{13}{16}$"x 4$\frac{17}{32}$"x 5".	Standard package 10	List price, 2.58
No. Z30PX.	45 volts.	Size, 2$\frac{27}{32}$"x1¾"x4⅜"x4$\frac{15}{16}$".	Standard package 6	List price, 6.33

BURGESS
B BATTERY

Z30BP

BURGESS "C" BATTERIES

No. A8BP.	12 volts.	Size, 2¾"x 1$\frac{23}{64}$"x 2$\frac{7}{16}$"x 2¾".	Standard package 6.	List price, 2.25
No. B2BP.	3 volts.	Size, 1$\frac{19}{32}$"x $\frac{25}{32}$"x2$\frac{21}{32}$"x2$\frac{29}{32}$".	Standard package 6	List price, .65
No. W5BP.	7½ volts.	Size, $\frac{23}{32}$"x 2$\frac{21}{32}$"x 1⅜"x 1$\frac{11}{16}$".	Standard package 6	List price, 1.37

A QUALITY DRY BATTERY FOR EVERY PURPOSE

THE BATTERIES FOR THE RADIO TRADE— RCA BATTERIES

RADIO-ENGINEERED FOR EXTRA LISTENING HOURS

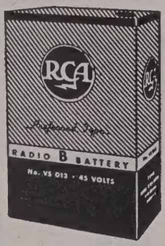
RCA Type	Voltage	Max. Dimensions, Inches Lgth.	Width or Diam.	Body Height	Interchangeable with Eveready	Burgess	Sugg'd List Price
→ → PORTABLE "A" BATTERIES							
VS002	4½	4	1⅜	4 11/16	746	G3	$ .80
VS003	7½	3⅞	2⅝	4 9/16	687	G5	1.10
VS004	1½	2⅝	2⅝	4 1/16	742	4F	.95
VS005	1½	3 13/16	1⅜	5⅝	—	4FL	.90
VS007	1½	3 15/16	2⅝	4 1/16	743	6F	1.30
VS008	1½	3⅞	1 7/16	10¾	745	8FL	1.75
VS009	6	2⅝	2⅝	4⅛	744	F4PI	.95
VS010	6	3⅞	2 13/16	5½	718	2F4	1.75
VS011	6	3⅞	1 7/16	10¾	747	2F4L	1.85
VS036	1½	—	1 5/16	2⅜	"Sealed-in-Steel"		.125
VS065	7½	2 5/16	2	3 1/16	Ensign A47	C5	1.00
VS067	4½	4	1⅜	4⅛	736	F3	.75
VS129	7½	4 1/16	15/16	3	—	B5	.95
→ → PORTABLE "B" BATTERIES							
VS012	45	4⅛	2⅝	5 5/16	762	B30	2.35
VS013	45	3 9/16	1 13/16	5½	482	M30	2.35
VS014	45	3 7/16	2¼	4 9/16	—	A30	2.15
VS015	45	3	2¼	4	738	Z30	2.60
VS016	67½	2⅝	1 5/16	3¾	467	XX45	2.45
VS055	45	2 21/32	31/32	3 11/16	455	XX30	1.75
VS090	90	3 11/16	1⅜	3¾	490	N60	3.25
→ → PORTABLE "AB" BATTERY PACKS							
VS018	7½-9-90	10⅝	3 7/16	4⅛	754	G6M60	5.95
VS019	7½-9-90	9½	2 23/32	4⅜	753	F6A60	5.95
VS020	6-7½-67½	9 7/16	2⅝	4⅜	—	F5M45	4.50
VS037	1½-90	11⅞	1½	6 7/16	—	6FA60	4.95
VS038	7½-63	8⅝	2¾	4 1/16	—	G5A42	4.20
VS041	1½-7½ 67½	4 5/16	3¾	6⅜	—	—	5.35
VS043	1½-90	5½	2 11/16	7⅛	—	5DA60	4.95
VS044	6-90	12⅛	2¾	4⅜	—	2F4A60	5.95
VS046	6-75	12⅝	2¾	4⅛	Zenith Z675	G4B50	4.95
VS047	9-90	13⅝	2¾	4 9/16	Zenith Z985	G6B60	5.95
VS048	6-90	10¾	2¾	5	Zenith Z659	F4B60	4.95
VS050	6-7½-75	8 9/16	2 7/16	3 11/16	—	T5Z50	4.95
VS052	1½-61½	9⅜	2 11/16	3 7/16	Philco 41A4G	4GA41	3.95
VS053	1½-63	9⅛	2	4¾	Philco 41A4FL	4GA42	3.95
VS054	1½-90	10	2 3/16	4⅞	—	6TA60	5.50
VS057	7½-9-90	9⅜	2 3/16	3¾	Philco P361	T5Z60	5.50
VS058	9-90	9½	2 23/32	4⅜	Zenith Z909	F6A60P	5.95
Kit #1	Includes 6-VS036, 1-VS016				—	—	3.19
→ → FARM "AB" BATTERY PACKS							
VS021	1½-90	10 13/16	2¾	6⅜	758	—	5.95*
VS022	1½-90	15¾	4¼	6 13/16	759	17GD60	7.95*
VS045	1½-90	12 9/16	5⅜	6 13/16	Zenith Z28	18GD60	7.95*
VS049	6-75	14⅜	4 3/16	6 11/16	Zenith Z682	3G4D50	7.50*
VS099	1½-90	15¾	4 11/16	6¾	Deluxe "Sealed in Steel"		8.95*

* Prices slightly higher on Pacific Coast
All prices in effect 3/28/49.

SERVICING 99% OF PORTABLE & FARM HOME RADIO REQUIREMENTS

RCA
RADIO "A" BATTERY

VS036

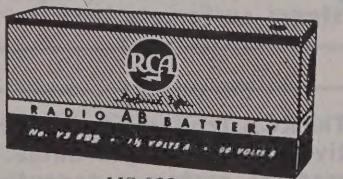

RCA
Preferred Type
RADIO B BATTERY
No. VS 013 • 45 VOLTS

VS013

RCA
Preferred Type
RADIO AB BATTERY
No. VS 019 • 9 VOLTS A • 90 VOLTS B

VS019

RCA's *selective distribution* primarily to the RADIO TRADE steers customers back to you!


RCA
Preferred Type
RADIO AB BATTERY
No. VS 022 • 1½ VOLTS A • 90 VOLTS B

VS 022

The RCA Trademark and attractive package guarantee immediate customer acceptance!

RCA
FLASHLIGHT BATTERY

VS 001

RCA
FLASHLIGHT BATTERY
No. VS 033

VS 033

RCA
PENLITE BATTERY
No. VS034

VS 034

RCA
IGNITION DRY CELL
Radio Corporation of America

VS006S

Turn page for additional types →

RCA BATTERIES — THE BATTERIES FOR THE RADIO TRADE

RADIO-ENGINEERED FOR EXTRA LISTENING HOURS

SERVICING 99% OF PORTABLE & FARM HOME RADIO REQUIREMENTS

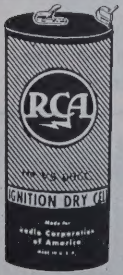
VS002

VS016

VS 053

RCA's *selective distribution* primarily to the RADIO TRADE steers customers back to you!

The RCA Trademark and attractive package guarantee immediate customer acceptance!


VS 006C

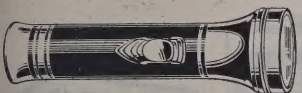
VS127W

RCA Type	Voltage	Max. Dimensions, Inches Lgth.	Width or Diam.	Body Height	Interchangeable with Eveready	Burgess	Sugg'd List Price
→ → FARM "A" BATTERIES							
VS024	1½	7 11/16	2 13/16	7	740	20F	$3.30
VS025	3	11 11/16	4	6	X125	20F2	5.50*
→ → FARM "B" BATTERIES							
VS026	22½-45	8 1/16	3 3/16	7 3/16	485	2308PI	2.95
VS027	22½-45	8 1/16	4 5/16	7 3/16	386	10308P1	3.95*
→ → RADIO HEARING AID "A" BATTERIES							
VS070	1½	—	1 5/16	4 1/16	Zenith Z1-S	TE	.30
→ → FLASHLIGHT BATTERIES							
VS001	1½	—	1 11/32	2 13/32	950	2	.10
VS033	1½ (Baby)	—	1 1/32	1 15/16	935	1	.10
VS034	1½ (Penlite)	—	37/64	2	915	Z	.075
→ → INDUSTRIAL & SPECIAL BATTERIES							
VS006C	1½	—	2⅝	6⅝	6 IGN	—	.70*
VS006S	1½ (Ign.)	—	2⅝	6 9/16	6	—	.70*
VS028	4½	2⅜	13/16	2⅞	781	5360	.50
VS029	1½-3-4½ 6-7½	3 15/16	⅞	3⅛	773	5540	.95
VS030	3-4½	4 1/16	1 7/16	3 1/16	X771	2370PI	.85
VS031	3-4½-16½-22½	4	2½	3	768	5156PI	1.95
VS039	6 (Hotshot)	10⅜	2⅞	7⅜	1461-2	4F4H	3.35*
VS040 (Spring)	6 (Lant.)	2 11/16	2 11/16	4 5/16	409	F4H	.80
VS040 (Screw)	6 (Lant.)	2 11/16	2 11/16	4 3/16	—	F4BP	.80
VS042C	1½	—	2⅝	6⅝	TEL	—	.65*
VS042S	1½	—	2⅝	6 9/16	TEL	—	.65*
VS100	3	2⅝	1⅜	4 9/16	—	F2BP	.71
VS101	1½	2⅝	1⅜	4 9/16	—	2FBP	.71
VS102	22½	3⅜	2⅛	2¾	763	4156	1.95
VS106	1½	2 11/16	2 11/16	4 3/16	—	4FH	.70*
VS112	22½-45	4⅛	2⅝	5 5/16	762S	5308	2.50
VS114	22½-45	2 21/32	1 27/32	4 13/16	—	Z30NX	2.58
VS126	22½-45	8⅛	3¼	7 9/16	—	2308SC	2.95
VS127W	22½-45	8	4	7⅜	—	10308SC	3.95*
VS130	1½-3-4½	4	1 7/16	3 7/16	761T	2370BP	.85
VS131	3-4½-6-9-10½-16½-22½	4⅛	2½	3 5/16	778	5156SC	2.00
VS132	9	4 1/16	2 13/16	2⅞	—	D6BP	1.90
VS133	4½	2⅜	13/16	3 1/16	703	532	.45
VS136	3	2 11/16	2 11/16	4 3/16	—	2F2H	.90
VS137	18-22½	6½	4	3⅞	766T	2156	1.63
VS138	3	3⅞	2 15/16	5⅞	—	4F2H	1.35
VS139	6	7 3/16	3 21/32	6 3/16	—	4F5H	3.98*
VS140	9	8 1/16	3 15/16	6	1662	4F6H	4.55*
VS157	22½-45	8⅛	4⅝	7 11/16	794	21308SC	4.15*
VS214	45	3 7/16	2¼	4 9/16	Spec. Positioned Socket		2.30

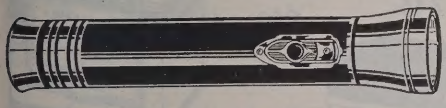
All prices in effect 3/28/49.

*Prices slightly higher on Pacific Coast.

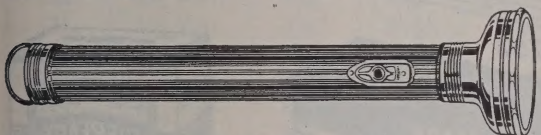
THE COMPLETE LINE OF EVEREADY TRADE-MARK FLASHLIGHTS



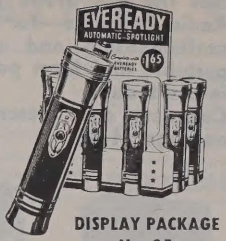
No. 2231 TWO-CELL "EVEREADY" AUTOMATIC SPOTLIGHT — Seamless brass tube. Chromium finish with rolled-on black decoration. Uses 2 "Eveready" No. 935 batteries and "Eveready" Lamp No. PR6. Unit package quantity 1.
List Price Each (Complete With Batteries) $1.6



No. 2351 THREE-CELL "EVEREADY" AUTOMATIC SPOTLIGHT—Seamless brass tube. Chromium finish with rolled-on black decoration. Uses 3 "Eveready" No. 950 batteries and "Eveready" Lamp No. PR3. Unit package quantity 1.
List Price Each (Complete With Batteries)........$1.95



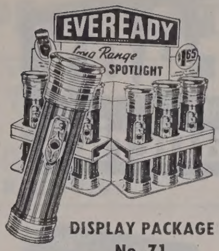
No. 2645 FIVE-CELL "EVEREADY" FOCUSING SEARCHLIGHT—Chromium fittings, seamless brass tube with durable black, baked on finish equipped with ring hanger. Uses 5 "Eveready" No. 950 batteries and "Eveready" Lamp No. 605. Unit package quantity 1.
List Price Each (Complete With Batteries)........ $4.50



DISPLAY PACKAGE No. 25

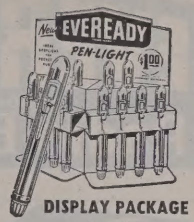
Contains 6 No. 2251 two-cell "Eveready" Automatic Spotlights, displays 6. Seamless brass tube, chromium finish with rolled-on black decoration. Uses 2 "Eveready" No. 950 batteries and "Eveready" Lamp No. PR2.

List Price Each (Complete With Batteries) . . . $1.65



DISPLAY PACKAGE No. 71

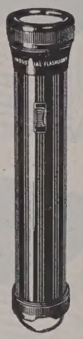
Contains 12 No. 2671 two-cell "Eveready" Focusing Spotlights, displays 6. Chromium fittings . . . seamless brass tube with durable black baked on finish . . . equipped with ring hanger. Uses 2 "Eveready" No. 950 batteries and "Eveready" Lamp No. 14.
List Price Each (Complete With Batteries) . . . $1.65



DISPLAY PACKAGE No. 22

Contains 12 No. 220 Penlights . . . all chromium finish on seamless brass . . . Uses 2 "Eveready" No. 915 batteries and "Eveready" Lamp No. 222.

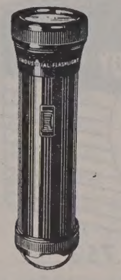
List Price Each (Complete With Batteries) . . . $1.00



No. 1351

Three-Cell Prefocused Industrial Flashlight —General purpose type. Uses 3 "Eveready" No. 950 batteries and "Eveready" Lamp No. PR7. Unit Package quantity 1.
List Price Each (Complete With Batteries)

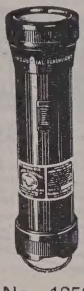
$3.15



No. 1251

Two-Cell Prefocused Industrial Flashlight —General purpose type. Uses 2 "Eveready" No. 950 batteries and "Eveready" Lamp No. PR6. Unit package quantity 1.
List Price Each (Complete With Batteries)

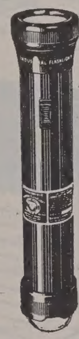
$2.95



No. 1259

Two-Cell Prefocused Permissible Safety Flashlight — Uses 2 "Eveready" No. 950 batteries and "Eveready" Lamp No. PR6. Extra lamp in bottom cap included. Unit package quantity 1.
List Price Each (Complete With Batteries)

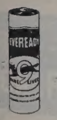
$5.20



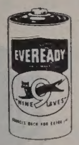
No. 1359

Three-Cell Prefocused Permissible Safety Flashlight — Uses 3 "Eveready" No. 950 batteries and "Eveready" Lamp No. PR7. Extra lamp in bottom cap included. Unit package quantity 1.
List Price Each (Complete With Batteries)

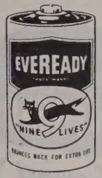
$5.50



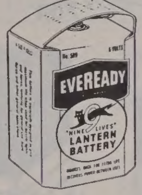
No. 915
1½ volts.
Length
1 31/32″
Diameter
35/64″
Weight
½ oz.



No. 935
1½ volts.
Length 2″
Diameter
1 1/32″
Weight
1⅓ oz.



No. 950
1½ volts.
Length
2 27/64″
Diameter
1 21/64″
Weight
3½ oz.



No. 509
Lantern
Battery.
6 volts.
2⅝″ x 2⅝″ x
3 27/32″.
Weight
1 lb., 7 oz.

SCHEDULE OF PRICES

Cat. No.	No. of Cells	Cell Size	List Price Each	Unit Pkg. Qty.	Weight of Unit Packages	
					Lbs.	Ozs.
915	1	AA	$ .075	12	—	7½
935	1	C	.10	12	1	4
950	1	D	.10	48	9	4

Lantern Battery

509	4	F	.70	12	16	8

"Eveready" Miniature Lamps for Radio Panel Service

"Eveready" No.	Bulb	Volts	Amp.	List Price
40	T-3¼	6-8	0.15	$.10
41	T-3¼	2.5	0.50	.10
44	T-3¼	6-8	0.25	.10
46	T-3¼	6-8	0.25	.10
47	T-3¼	6-8	0.15	.10
48	T-3¼	2	0.06	.15
49	T-3¼	2	0.06	.15
50	G-3½	6-8	C.P. 1	.10
1490	T-3¼	3.2	0.16	.11

FLASHLIGHT LENS ASSORTMENT

Cat. No.	Type	Unit Package Quantity
102	40 No. 53419 Spotlight Lenses and................ 2 No. 53123 Baby Spotlight Lenses................. 2 No. 53390 Searchlight Lenses.....................	1 Assortment

"EVEREADY" LAMPS

TWO CELL

"Eveready" No.	Bead Color	Bulb	Volts	Amp.	List Price	Use with Following "Eveready Batteries"
14	Blue	G-3½	2.5	0.30	$ .10	2 Nos. 935 or 950
PR-2	Blue	B-3½	2.4	0.50	.14	2 No. 950
PR-4	Lt. Gr.	B-3½	2.3	0.27	.14	2 No. 935
PR-6	Brown	B-3½	2.5	0.30	.14	2 Nos. 935 or 950
222	White	TL-3	2.2	0.25	.10	2 No. 915

THREE CELL

13	Green	G-3½	3.8	0.30	$ .10	3 No. 950
PR-3	Green	B-3½	3.6	0.50	.14	3 No. 950
PR-7	Pink	B-3½	3.8	0.30	.14	3 No. 950

FIVE CELL

605	Brown	G-4½	6.0	0.50	$ .11	5 No. 950
PR-12	—	B-3½	6.0	0.50	.15	5 No. 950

EVEREADY
TRADE-MARK
Radio Batteries

Sell the one brand your customers will always buy—"Eveready" Radio Batteries—for fast turnover, repeat sales! Famous for fine craftsmanship and quick profits, "Eveready" Radio Batteries—portable and farm packs—equip virtually every battery-type radio in use today!
Complete data describing these best-selling batteries are given on page M-9.

No. 482
45 VOLTS
EVEREADY
"NINE LIVES" RADIO "B" BATTERY
A NATIONAL CARBON COMPANY PRODUCT MADE IN U.S.A.
482

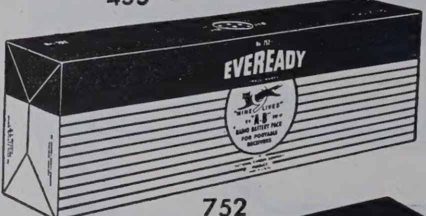
No. 467
67½ VOLTS
EVEREADY
"NINE LIVES" RADIO "B" BATTERY
467

No. 455
45 VOLTS
EVEREADY
"NINE LIVES" RADIO "B" BATTERY
455

No. 746
3 SIZE C CELLS
4½ VOLTS
EVEREADY
"NINE LIVES" RADIO "A" BATTERY
746

EVEREADY
"NINE LIVES"
BOUNCES BACK FOR EXTRA LIFE
950

No. 718
EVEREADY
PORTABLE "A" BATTERY
6 VOLTS
718


No. 752
EVEREADY
"NINE LIVES" "A-B" RADIO BATTERY PACK FOR PORTABLE RECEIVERS
752

No. 753
EVEREADY
"NINE LIVES" 7½ & 9 V "A-B" 90 V RADIO BATTERY PACK FOR PORTABLE RECEIVERS
753

No. 754
EVEREADY
"NINE LIVES" 7½ & 9 V "A-B" 90 V RADIO BATTERY PACK
754

8 SIZE F CELLS
No. 741
1½ VOLTS
EVEREADY
PORTABLE "A" BATTERY for 1.4 VOLT RECEIVERS
741

No. 742
4 SIZE F CELLS
1½ VOLTS
EVEREADY
"NINE LIVES" RADIO "A" BATTERY
742

6 SIZE F CELLS
No. 743
1½ VOLTS
EVEREADY
PORTABLE "A" BATTERY FOR 1.4 VOLT RECEIVERS
743

No. 744
4 SIZE F CELLS
6 VOLTS
EVEREADY
"NINE LIVES" RADIO "A" BATTERY
744

No. 493
300 VOLTS
EVEREADY
MINI-MAX BATTERY FOR ANY HIGH VOLTAGE LOW DRAIN PORTABLE EQUIPMENT
493

No. 487
EVEREADY
MINI-MAX 45 VOLT "B" BATTERY FOR FARM TYPE RECEIVERS
487

EVEREADY
"NINE LIVES" 1½ V "A-B" 90 V RADIO BATTERY PACK
759

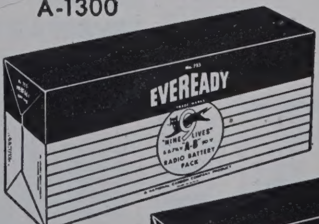
EVEREADY
AIR CELL
RADIO "A" BATTERY
A-1300

No. 490
90 VOLTS
EVEREADY
"NINE LIVES" RADIO "B" BATTERY
490

No. 736
3 SIZE F CELLS
4½ VOLTS
EVEREADY
"NINE LIVES" RADIO "A" BATTERY
736

10 SIZE F CELLS
No. 740
EVEREADY
RADIO "A" BATTERY
740

INSPECT SOLUTION LEVELS MONTHLY
EVEREADY
AIR CELL
RADIO "A" BATTERY FOR RECEIVERS USING 2 VOLT TUBES
NATIONAL CARBON COMPANY PRODUCT
A-2600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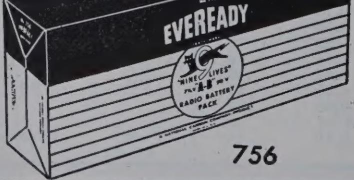
EVEREADY
"NINE LIVES" "A-B" RADIO BATTERY PACK
755


No. 756
EVEREADY
"NINE LIVES" "A-B" RADIO BATTERY PACK
756

No. 724
6 VOLTS
EVEREADY
"NINE LIVES" RADIO "A" BATTERY
724

No. 457
67½ VOLTS
EVEREADY
MINI-MAX "B" BATTERY FOR MINIATURE RADIOS ETC.
457

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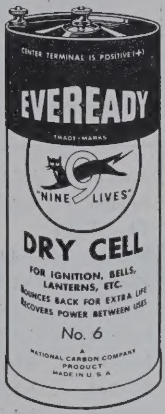
"EVEREADY" BATTERY SPECIFICATIONS

Catalog Number	VOLTAGE	Overall Dimensions			List Price Each	Unit Package Quantity	Weight of Unit Package in Pounds	Battery Weight	Terminals
		Length	Width	Height					
				"B" BATTERIES FOR PORTABLE RECEIVERS					
455	45 Volt...	2 21/32″	1″	3 11/16″	$1.65	6	3¼	8 oz.	Snap Type —, +45
457	67½ Volt...	2 13/16″	1⅜″	2½″	2.25	6	2½	7⅔ oz.	Snap Type —, +67½
467	67½ Volt...	2 13/16″	1⅜″	3 45/64″	2.25	6	4½	12 oz.	Snap Type —, +67½
482	45 Volt...	3 19/32″	1 27/32″	5½″	2.00	6	11½	1 lb. 14 oz.	Socket —, +45
490	90 Volt...	3 23/32″	1⅜″	3 45/64″	2.95	6	6½	1 lb. ½ oz.	Snap Type —, +90
493	300 Volt...	2 11/16″	2 7/32″	3 29/32″	10.00	1	1¼	1 lb. 1 oz.	Pin Jacks —, +300
738	45 Volt...	3″	2 5/16″	4⅛″	2.50	2	2¾	1 lb. 4 oz.	Socket —, +22½, +45
				"A" BATTERIES FOR PORTABLE RECEIVERS					
717	7½ Volt...	2 7/32″	1 15/16″	3 1/32″	$0.95	6	3	8¾ oz.	Socket —, +7½
718	6 Volt...	3 15/16″	2¾″	5½″	1.75	1	2¾	2 lb. 13 oz.	Socket —, +6
724	6 Volt...	1 7/32″	1 7/32″	2 11/32″	0.50	12	2¼	2⅔ oz.	Flashlight
736	4½ Volt...	3 15/16″	1 5/16″	4 3/32″	0.75	6	6¾	1 lb. 1 oz.	Socket —, +4½
741	1½ Volt...	3⅞″	2 11/16″	5⅜″	1.65	1	2¾	2 lb. 13 oz.	Socket —, +1.5
742	1½ Volt...	2 19/32″	2 19/32″	4″	0.95	6	8¼	1 lb. 6 oz.	Socket —, +1.5
743	1½ Volt...	3 13/16″	2 21/32″	4 1/32″	1.25	3	6½	2 lb. 1 oz.	Socket —, +1.5
744	6 Volt...	2 21/32″	2 21/32″	3 31/32″	0.95	6	8⅜	1 lb. 6 oz.	Socket —, +6
745	1½ Volt...	3⅞″	1 7/16″	10 25/32″	1.75	2	5¾	2 lb. 13 oz.	Socket —, +1.5
746	4½ Volt...	3 15/16″	1 5/16″	4 21/32″	.75	6	7½	1 lb. 4 oz.	Socket —, +4.5
747	6 Volt...	3⅞″	1 7/16″	10 25/32″	1.75	2	5¾	2 lb. 13 oz.	Socket —, +6
950	1½ Volt...	1 21/64″ Diam.		2 27/64″	0.10	48	9¼	3⅓ oz.	Flashlight
				"A-B" PACK FOR 1.4 VOLT PORTABLE RECEIVERS					
752	9 "A" 90 "B"	14 1/16″	2 11/16″	4 1/16″	$5.50	1	6¾	6 lb. 5 oz.	Recessed Plug — "A", +9"A",—"B",+90"B"
753	7½ & 9 "A" 90 "B"	9 7/32″	2 23/32″	4 5/16″	5.50	1	5¼	4 lb. 15 oz.	Socket —"A" +7½ "A", +9 "A" —"B", +90 "B"
754	7½ & 9 "A" 90 "B"	10 15/32	3¼″	4″	5.50	1	6½	6 lb. 8 oz.	Socket —"A", +7½ "A", +9 "A", — "B", +90 "B"
755	6 & 7½ "A" 75 "B"	8 9/16″	2 7/16″	3¾″	4.50	1	3⅞	3 lb. 8 oz.	Socket—"A",+6"A", +7½"A"—"B",+75 "B"
756	7½ "A" 90 "B"	9 17/32″	2⅛″	3 27/32″	5.50	1	4⅛	3 lb. 14 oz.	Socket—"A", +7½ "A", —"B", +90"B"
				"B" BATTERY FOR FARM TYPE RECEIVERS					
487	45 Volt...	5⅛″	2 1/16″	7¼″	$2.75	10	44	4 lb. 4 oz.	Socket —, +22½, +45
				"A-B" PACK FOR 1.4 VOLT FARM TYPE RECEIVERS					
758	1½ "A"... 90 "B"...	10 11/16″	4⅛″	6 13/16″	$5.95	1	14¾	14 lbs. 8 oz.	Socket —, +1.5 Socket —, +90
759	1½ "A"... 90 "B"...	15 11/16″	4 5/32″	6 15/16″	$5.95	1	18¼	17 lb. 6 oz.	Socket —, +1.5 Socket —, +90
				"AIR CELL" "A" BATTERIES FOR 2 VOLT RECEIVERS					
A-2600	2½ Volt...	9 29/32″	6 19/32″	11 3/16″	$10.95	1	24	21 lb. 5 oz.	Screw —, +2.5
SA-2600	2½ Volt...	9 29/32″	6 19/32″	11 3/16″	12.10	1	24	21 lb. 5 oz.	Screw —, +2.5
A-2300	2½ Volt...	8¼″	5 5/16″	8⅝″	8.50	1	12½	11 lb.	Screw —, +2.5
				"A" BATTERIES FOR 1.4 VOLT RECEIVERS					
*A-1300	1¼ Volt...	5 5/16″	4 11/32″	8⅝″	$4.85	1	7	5 lb. 13½ oz.	Socket —, +1.25
740	1½ Volt...	4 19/32″	3⅞″	7¾″	3.95	1	6¼	6 lb. 4 oz.	Socket —, +1.5

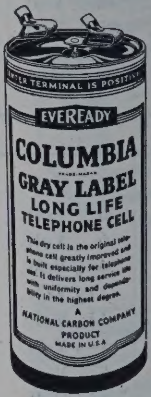
*Air Cell "A" Battery

EVEREADY
TRADE-MARK
Dry Batteries

Illustrated below are "Eveready" Dry Batteries, known for dependable and long service. Information describing famous "Eveready" Dry Batteries is given with each illustration.


CENTER TERMINAL IS POSITIVE(+)
EVEREADY
TRADE-MARKS
NINE LIVES
DRY CELL
FOR IGNITION, BELLS, LANTERNS, ETC.
BOUNCES BACK FOR EXTRA LIFE
RECOVERS POWER BETWEEN USES
No. 6
A NATIONAL CARBON COMPANY PRODUCT
MADE IN U. S. A.

NUMBER 1461
4 CELL POWER 6 VOLTS
EVEREADY
TRADE MARKS
NINE LIVES
HOT SHOT
TRADE-MARK
MULTIPLE BATTERY
FOR ELECTRIC FENCE CONTROLLERS, IGNITION, ALARMS, ETC.
BOUNCES BACK FOR EXTRA LIFE
RECOVERS POWER BETWEEN USES
A NATIONAL CARBON COMPANY PRODUCT
MADE IN U. S. A.


CENTER TERMINAL IS POSITI
EVEREADY
COLUMBIA
TRADE-MARK
GRAY LABEL
LONG LIFE
TELEPHONE CELL
This dry cell is the original telephone cell greatly improved and is built especially for telephone use. It delivers long service with uniformity and dependability in the highest degree.
A NATIONAL CARBON COMPANY PRODUCT
MADE IN U.S.A.

"EVEREADY" "IGNITOR" DRY CELL NO. 6 — For extra long life and heavy service in all Dry Cell applications. Its exceptionally high quality and recuperative powers have made the "Eveready" "Ignitor" dry cell famous for ignition, radio, bells, buzzers, electric games, toys, lanterns and other battery operated devices.

"EVEREADY" R.R. AND INDUSTRIAL NO. 6 — Especially designed for Railroad and Industrial use where a wide range of service conditions, from extremely heavy to extremely light are encountered.

"EVEREADY" "COLUMBIA" "GRAY LABEL" TELEPHONE CELL NO. 6 — Especially designed for telephone service. Noted for its long life on light drain service.

Brand and Type	Jacket	Voltage	Overall Dimensions In Inches		Quantity in Standard Package	Approx. Wt. of Std. Pkg. in Pounds	List Price Each	†P. C. List Price Each
			Diameter	Height				
*"Eveready" "Ignitor" No. 6	Round	1½	2⅝	6⅝	12	27	$0.70	$0.75
*"Eveready" R.R. and Industrial No. 6	Round	1½	2⅝	6⅝	12	28	0.75	0.80
**"Eveready" "Columbia" "Gray Label" Telephone Cell No. 6	Round	1½	2⅝	6⅝	12	26	0.65	0.70

**Equipped with screw terminals unless Fahnestock spring terminals are specified.*
***Equipped with Fahnestock spring terminals unless screw terminals are specified.*

"EVEREADY" "HOT SHOT" BATTERIES — For all purposes requiring four or more dry cells in series. Particularly adapted for electric fences, gas engines (tractors, motor boats, etc.), blasting, fire and burglar alarms, gongs, bells, annunciators, signals, lights for closets, out-houses, camps, boats, searchlights, etc.

"Eveready" "Hot Shot" Batteries are composed of specially selected cells. Internal connections are securely soldered and the cells are completely insulated against accidental short circuits. Terminals are insulated.

Brand and Type	Voltage	Overall Dimensions In Inches			Quantity in Standard Package	Approx. Wt. of Std. Pkg. in Pounds	List Price Each	†P. C. List Price Each
		Length	Width	Height				
"Eveready" No. 1461	6	10⅜	2¾	7¼	6	59	$3.35	$3.65
"Eveready" No. 1462	6	5 5/16	5 5/16	7¼	4	41	3.35	3.65
"Eveready" No. 1562	7½	7⅞	5	7¼	4	52	4.35	4.75
"Eveready" No. 1662	9	7 13/16	5¼	7¼	4	62	4.95	5.40

Standard Packages Contain One Type of 6-Inch Dry Cell or "Hot Shot" Battery Only.

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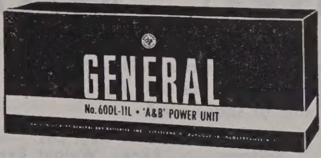
†Pacific Coast Price

be sure with GENERAL DRY BATTERIES

DURO POWER G&B PATENTED

GENERAL dry batteries contain many outstanding advancements such as extra heavy seamless extruded zinc cups, the famous paper thin separator permitting more mix and more active zinc area by utilization of the cell bottom, the curled rim lock seal which seals each cell individually. These features, found only in Generals, assure long shelf life as well as the maximum in dry battery performance.

GENERAL A & B RADIO FARM PACKS



General A-B packs are made with L size cells in the A section. These cells are 40% longer than the largest conventional 1¼″ diameter cell. This construction assures the perfect balance between these "A" and "B" sections for current drains established by the Radio Industry.

Type	Voltage	Standard Package	Pkg. Lbs. Weight	Interchangeable With Eveready	Burgess	Ray-O-Vac	Price East	Pacific Coast
60DL11L	1½-90	1	24.5	759	17GD60	AB82	$ 7.95	$ 8.25
Z60D12L	1½-90	1	24	—	18GD60	—	7.95	8.25
60D12L6	9-90	1	24	—	3G6D60	AB982	8.25	8.55
60B6L	1½-90	4	39	758	—	AB85	5.95	5.95
90FL6D	135-9C	1	45	—	F90-D6	P8960	10.50	11.11

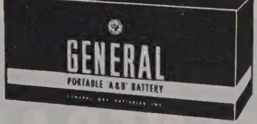
GENERAL ABC HOME RADIO BATTERIES

GENERAL
GENERAL
No Y30D • B BATTERY
45 VOLTS

All cells used in General batteries are filled with active mix by loading equipment developed by General which automatically puts the right amount of mix into each cell and packs it uniformly. General home radio batteries are accepted for their uniformity, dependability and long service.

Type	Voltage	Standard Package	Pkg. Lbs. Weight	Interchangeable With Eveready	Burgess	Ray-O-Vac	Price East	Pacific Coast
12L1L	1½	4	34	740	20F	P9203	$3.30	$3.30
12L1S	1½	4	34	A1300	19G	P168A	3.30	3.30
P24L2	3	1	17	X125	20F2	P9403	4.73	5.15
5H5	7½	4	8.6	687	G5	P85A	1.25	1.25
V30D	45	6	45	—	2308	P5233	2.45	2.45
V30DL	45	6	51	487	—	—	2.55	2.55
V30F	45	6	68	—	10308	P5933	2.95	3.13
V30FL	45	3	39	—	21308	P9303	3.40	3.60
H3D	4½	10	7.5	X771	2370P1	P231W	.85	.85
H3BS	4½	10	3	781	5360	531R	.50	.50
V5B	7½	10	6.3	773	5540	551	.95	.95
H15B5	22½	10	15.4	768	5156P1	P5151	1.95	1.95
H15B	22½	10	15.4	778	5156SC	—	2.00	2.00
H15A	22½	10	10	763	4156	4151	1.95	1.95

GENERAL PORTABLE A & B PACKS



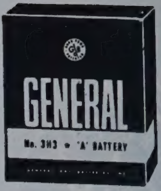
The small size cells used in portable batteries greatly reflect the benefits derived from General's patented construction. General Batteries deliver more service hours per dollar, therefore you will find them used as original equipment in more battery radios than any other brand.

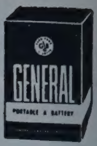
Type	Voltage	Standard Package	Pkg. Lbs. Weight	Interchangeable With Eveready	Burgess	Ray-O-Vac	Price
40CW2CF	1½-60	6	8.7	—	—	—	$3.00
41A4FL	1½-61½	6	25.5	—	4GMA41	AB419	4.25
60A2L	1½-90	1	5	—	5DMA60	—	5.95
60A4L	1½-90	6	38.5	—	6FMA60	AB84	5.95
42A5G5	7½-63	6	30	—	5GMA42	AB794	4.70
291	7½-9-90	1	6.5	754	G6M60	AB878	5.95
60A4F4	6-90	6	33.5	—	2F4A60	AB694	5.95
60A6F6-5	7½-9-90	1	6	753	F6A60	AB994	5.95
362	7½-9-90	6	24	756	T5Z60	—	5.95
Z50B4H4	6-75	1	7	—	G4B50	AB670	5.00
Z60B6H6	9-90	1	89	752	G6B60	AB677	5.95

See next page for more General Batteries.

GENERAL PORTABLE A BATTERIES

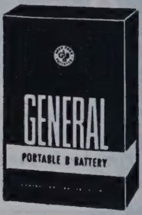
Type	Voltage	Pkge. Std.	Weight Pkg. Lbs.	Interchangeable With Eveready	Interchangeable With Burgess	Interchangeable With Ray-O-Vac	Price
D	1½ Radio A	50	12	—	—	—	$0.125
4F1	1½	6	9	742	4F	P94A	.95
6F1	1½	6	13	743	6F	P96A	1.30
8F1	1½	6	17.4	741	8F	P98A	1.65
3L1	1½	6	11.4	745	4FL	P94L	.80
3H3	4½	6	8	746	G3	P83A	.80
4F4	6	6	9	744	F4P1	P694A	.95
8F4	6	6	17.4	718	2F4	P698A	1.75

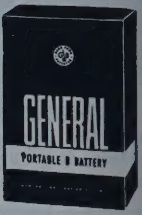




GENERAL PORTABLE B BATTERIES

Type	Voltage	Std. Pkge.	Pkg. Lbs. Weight	Interchangeable With Eveready	Interchangeable With Burgess	Interchangeable With Ray-O-Vac	Price
V30A	45	6	11.4	—	A30	P430	$2.35
F30A	45	6	11.4	—	A30X	BB30P	2.35
V30B	45	6	17	—	B30	P5303	2.35
V30AA	45	6	9	738	Z30	P7R30	2.60
V30AA2	45	6	9	—	Z30N	—	2.60
W30B	45	6	12	482	M30	P7830	2.35

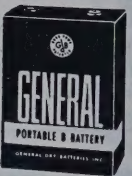


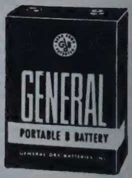


GENERAL "DuroMite" BATTERIES

New General DuroMite batteries are the finest in battery design and assembly. Thin, well-balanced flat cells are stacked like a roll of wafers. Each stack of cells sealed in its own plastic case, keeping the cells fresh until put in use. Maximum service life can be obtained from minimum of space used.

Type	Voltage	Std. Pkge.	Pkg. Lbs. Weight	Interchangeable With Eveready	Interchangeable With Burgess	Interchangeable With Ray-O-Vac	Price
W45A	67½	12	10	467	XX45	4367	$2.45
W30A	45	12	7	455	XX30	P3A30	1.75
W60A	90	12	13.5	490	—	—	3.25

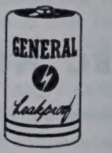


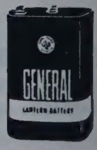


GENERAL *"Leakproof"* & LANTERN BATTERIES

The New General *"Leakproof"* flashlight cell comes to the market to fulfill the demand of practically every user. This demand is for extra long service, years of shelf life and protection against corrosion damage. The Industrial cell is recommended when light is needed frequently and for long periods.

Type	Voltage	Std. Pkge.	Pkg. Lbs. Weight	Interchangeable With Eveready	Interchangeable With Burgess	Interchangeable With Ray-O-Vac	Price
C	1½	72	8	935	1	1LP	$0.10
DLP	1½	240	59	—	—	2LP	.10
D	1½	240	57	950	2	—	.10
D Industrial	1½	250	59.5	1050	#2 Ind	2111	.10
AA	1½	180	8	915	Z	7-R	.07½
V4F Lantern	6	10	15.8	409	F4H	941	.80
4FB Bicycle	6	10	15.5	—	—	—	1.20



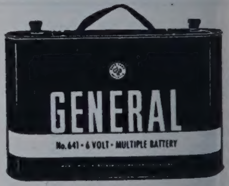


GENERAL IGNITION & ELECTRIC FENCE BATTERIES

All General batteries are designed to use the most efficient cells available. The 641 is made with 12 L cells and this construction has proven to produce exceptional performance when used on Electric Fence controls and other ignition applications.

Type	Voltage	Std. Pkge.	Pkg. Lbs. Weight	Interchangeable With Eveready	Interchangeable With Burgess	Interchangeable With Ray-O-Vac	Price East	Price Pacific Ct.
#6	1½	24	60	#6 Ig	—	#6 Ig	.70	$0.75
#6 Tele	1½	24	60	#6 Co.	—	#6 Tele	.70	.75
641 Multiple	6	6	54	1461	—	641	3.35	3.75

GENERAL
No. 6 • DRY CELL

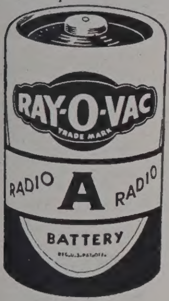


We manufacture all types of Hearing Aid and Model Airplane batteries. Write for particulars.

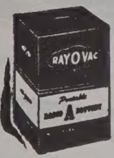
GENERAL DRY BATTERIES, INC.

MAIN OFFICES AND FACTORY • 13000 ATHENS AVE., CLEVELAND, OHIO
FACTORIES • DUBUQUE, IA. • MEMPHIS, TENN. • TORONTO, ONT.
BRANCH OFFICES & WAREHOUSES • NEW YORK, CHICAGO, DALLAS, SAN FRANCISCO, LOS ANGELES, PORTLAND, MEMPHIS, MINNEAPOLIS

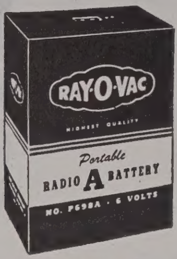
RAY-O-VAC PORTABLE RADIO BATTERIES


RAY-O-VAC
TRADE MARK
RADIO A RADIO
BATTERY

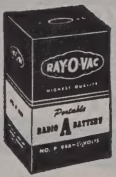
2R


RAY-O-VAC
Portable
RADIO A BATTERY

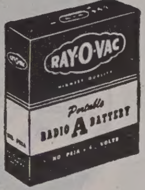
P-694A


RAY-O-VAC
HIGHEST QUALITY
Portable
RADIO A BATTERY
NO. P698A · 6 VOLTS

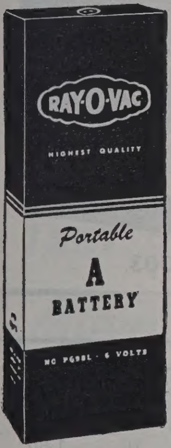
P-698A


RAY-O-VAC
HIGHEST QUALITY
Portable
RADIO A BATTERY

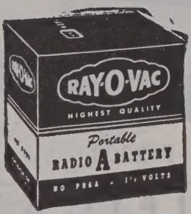
P-94A


RAY-O-VAC
HIGHEST QUALITY
Portable
RADIO A BATTERY

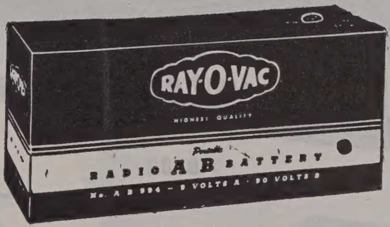
P-83A


RAY-O-VAC
HIGHEST QUALITY
Portable
A
BATTERY
NO. P698L · 6 VOLTS

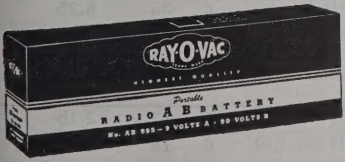
P-698L


RAY-O-VAC
HIGHEST QUALITY
Portable
RADIO A BATTERY
NO. P96A · 1½ VOLTS

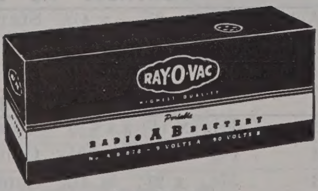
P-96A


RAY-O-VAC
HIGHEST QUALITY
Portable
RADIO A B BATTERY
No. A B 994 – 9 VOLTS A · 90 VOLTS B

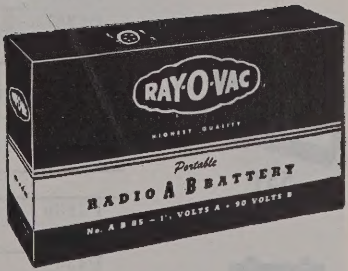
AB-994


RAY-O-VAC
HIGHEST QUALITY
Portable
RADIO A B BATTERY
No. AB 995 – 9 VOLTS A · 90 VOLTS B

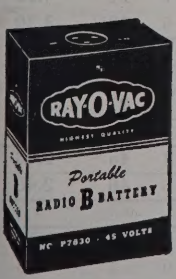
AB-995


RAY-O-VAC
HIGHEST QUALITY
Portable
RADIO A B BATTERY
No. A B 878 – 9 VOLTS A · 90 VOLTS B

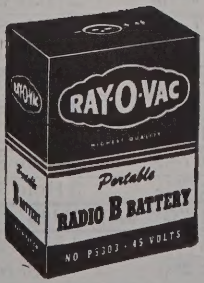
AB-878


RAY-O-VAC
HIGHEST QUALITY
Portable
RADIO A B BATTERY
No. A B 85 – 1½ VOLTS A · 90 VOLTS B

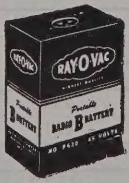
AB-85


RAY-O-VAC
HIGHEST QUALITY
Portable
RADIO B BATTERY
NO. P7830 · 45 VOLTS

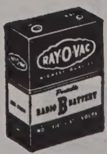
P-7830


RAY-O-VAC
HIGHEST QUALITY
Portable
RADIO B BATTERY
NO. P5303 · 45 VOLTS

P-5303


RAY-O-VAC
Portable
RADIO B BATTERY

P-430


RAY-O-VAC
Portable
RADIO B BATTERY

4367

Turn page for more RAY-O-VAC Batteries and Specifications →

RAY-O-VAC

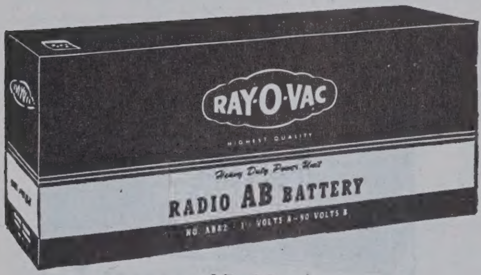
FARM RADIO BATTERIES

RAY-O-VAC
RADIO A BATTERY

P-9403

RAY-O-VAC
RADIO A BATTERY

P-9203


RAY-O-VAC
Heavy Duty Power Unit
RADIO AB BATTERY

AB-82

RAY-O-VAC
Standard
RADIO B BATTERY

P-2303

RAY-O-VAC
Heavy Duty
RADIO B BATTERY

P-9303

RAY-O-VAC
RADIO C BATTERY

P-5151

RAY-O-VAC
RADIO C BATTERY

551

RAY-O-VAC
RADIO C BATTERY

531R

RAY-O-VAC
RADIO C BATTERY

P-231W

SPECIFICATIONS

Catalog No.	Voltage and Type	Dimensions in Inches	Terminals	Standard Pkg.		List Price Ea.	
				Quan.	Wt.	EC	PC
PORTABLE "A" BATTERIES							
P694A	6A	2 9/16 x 2 9/16 x 4⅛	2 Hole Socket	6	8½	$0.95	
*P698A	6A	3⅞ x 2 13/16 x 5½	2 Hole Socket	6	16	1.80	
P94A	1½A	2⅝ x 2⅝ x 4 1/16	2 Hole Socket	6	8	.90	
P83A	4½A	4 x 1⅜ x 4 11/16	2 Hole Socket	6	6¾	.75	
P698L	6A	3⅞ x 1 7/16 x 10¾	2 Hole Socket	6	16	1.80	
P96A	1½A	3 15/16 x 2⅝ x 4⅛	2 Hole Socket	4	8	1.25	
PORTABLE "AB" BATTERIES							
AB994	7½ or 9A-90B	9⅝ x 2⅞ x 4½	Standard 8 Hole Socket	6	35	5.25	
AB995	9A-90B	13⅝ x 2⅞ x 4⅝	Recessed 4 Pr. Male Plug	6	49	5.35	
AB878	7½ or 9A-90B	10⅝ x 3 7/16 x 4⅛	Standard 8 Hole Socket	6	44	5.45	
PORTABLE "B" BATTERIES							
P7830	45B	3 9/16 x 1 13/16 x 5½	Combination B Socket	6	13	2.15	
P5303	45B	4⅛ x 2⅝ x 5 5/16	Combination B Socket	6	16	2.15	
P430	45B	3 7/16 x 2¼ x 4½	Combination B Socket	6	10¼	2.30	
4367	67½B	2⅝ x 1 5/16 x 3⅝	2 Snap Fasteners	12		2.45	
FARM "A" BATTERIES							
P9403	3A	11 11/16 x 4 x 5 15/16	2 Hole Socket	1	14	4.90	$5.15
P9203	1½A	7 11/16 x 2 13/16 x 7	2 Hole Socket	6	42½	3.30	3.30
FARM "AB" BATTERIES							
AB85	1½A-90B	10 13/16 x 2¾ x 6⅜	4 Hole Socket	6	53½	5.70	6.00
AB82	1½A-90B	15¾ x 4⅛ x 6¾	4 Hole Socket	1	21	7.50	7.80
FARM "B" BATTERIES							
P9303	45B	8 1/16 x 4 5/16 x 7 3/16	3 Hole Socket	4	45	2.93	3.14
P2303	45B	8 1/16 x 3 3/16 x 7 3/16	3 Hole Socket	6	46	2.40	2.40
FARM "C" BATTERIES							
*P231W	4½C	4 1/16 x 1 7/16 x 3 1/16	3 Hole Socket	10	7¼	.75	
* 531R	4½C	2⅜ x 1 3/16 x 2 9/16	Screw	10	3	.63	
* 551	7½C	3 15/16 x ⅞ x 2 13/16	5 Screw 1 Pigtail	10	6	1.10	
*P5151	22½B or C	4 x 2½ x 3	5 Hole Socket	6	8	1.70	

*Indicates special battery types made on order only and not carried in stock.

DESCRIPTIVE CATALOG OF

RADIO BATTERIES

OLIN

OPEN and see for yourself!

WITH NEW INTERLOCKED FLAT CELL "B" Batteries that give... MUCH LONGER HI-VOLTAGE LIFE!!!

67½ VOLTS
No. 1710
OLIN
"B" BATTERY
INTERLOCKED FLAT CELLS FOR LONGER LIFE

CORRECT SERVICE For 3 Major Markets

- ● PERSONAL
- ● PORTABLE-
- ● FARM

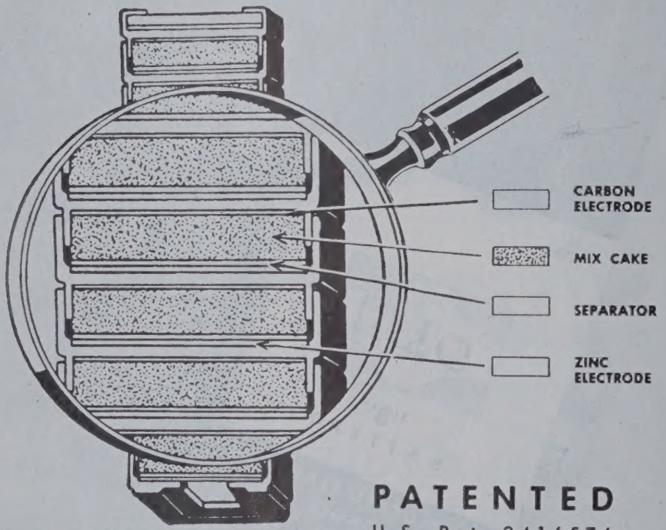
OLIN INDUSTRIES, INC.

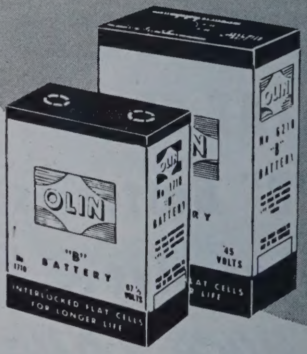
Electrical Division, New Haven, Conn. and Branches

LATEST DEVELOPMENT IN POWER!

ONLY OLIN "B" BATTERIES HAVE THIS NEW INTERLOCKED FLAT CELL CONSTRUCTION

ALREADY STANDARD EQUIPMENT WITH 15 RADIO SET MANUFACTURERS


CARBON ELECTRODE
MIX CAKE
SEPARATOR
ZINC ELECTRODE


OLIN
"B" BATTERY
INTERLOCKED FLAT CELLS FOR LONGER LIFE
45 VOLTS

PATENTED
U.S. Pat. 2416576

EXCLUSIVE

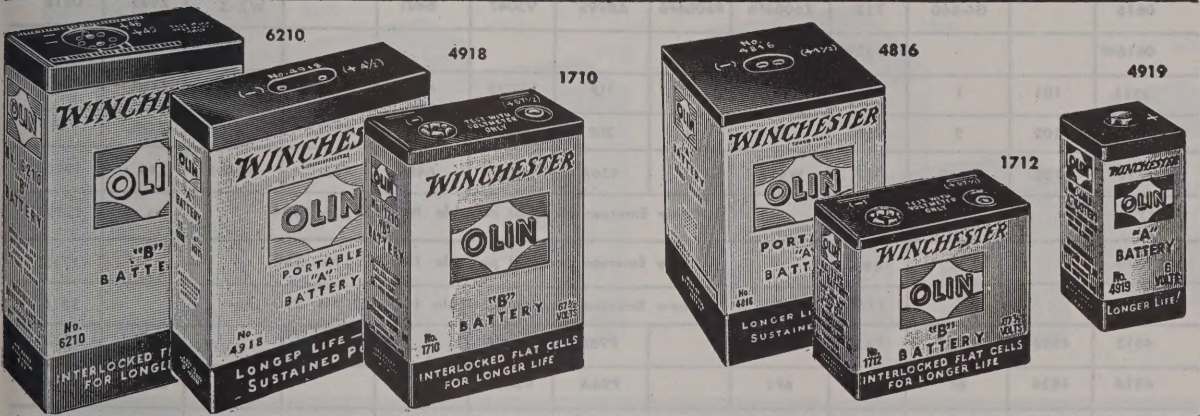
NOTE:

OLIN Interlocked flat cells have no waste space and hold more power producing chemicals than previous conventional "B" battery assemblies.

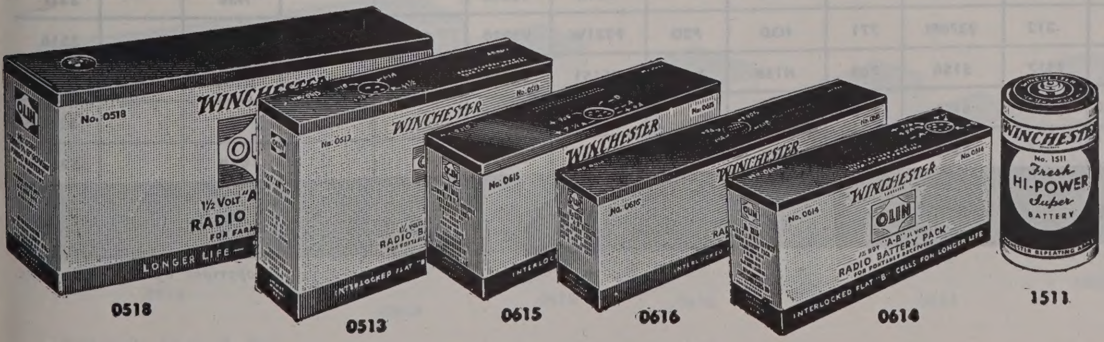
Result:

LONGER HI-VOLTAGE LIFE!

	Catalog Number	Dimensions H x W x D	Std Pkg	Std Pkg Wgt	Dlr Unit Carton	Bond	Comparative Numbers			
							Burgess	Eveready	Ray-O-Vac	RCA
"B" BATTERIES	1710 – 67-1 2 Volt "B"	3-11/16" x 2-3/4" x 1-3/8"	12	10-1/2	6	1710	XX45	467	4367	VS016
	1712 – 67-1 2 Volt "B"	2-5 16" x 2-11/16" x 1-5/16"	24	12	6	1712		457		
	1713 – 90 Volt "B"	3-23 32" x 1-3/8" x 3-11/16"	6	6	6	1713		490		
	6211 – 45 Volt "B"	3-5 8" x 2-5/8" x 15/16"	12	6-1 2	6	6211	XX30	455		VS055
"A" – BATTERIES	3816 – 4-1/2 Volt "A"	3-15/16" x 1-5/16" x 4"	10	11	10	3816		736		
	4919 – 6 Volt "A"	2-11/32"x1-5/32"x1-5/32"	24	4-1 2	12	4919		724		
	1511 – 1-1 2 Volt "A"	2-1/4" x 1-1/4"	480	107	48	102	2	950	2LP	VS036
	1311 – 1-1 2 Volt "A"	1-13/16" x 15/16"	60	7	12	101	1	935	1LP	VS033


6210
4918
1710
4816
1712
4919
WINCHESTER
OLIN
"B" BATTERY
No. 6210
INTERLOCKED FLAT CELLS FOR LONGER LIFE
PORTABLE "A" BATTERY
No. 4918
LONGER LIFE – SUSTAINED POWER
"B" BATTERY 67½ VOLTS
No. 1710
No. 4816
"B" BATTERY
No. 1712
"A" BATTERY
No. 4919
6 VOLTS
LONGER LIFE!

	Catalog Number	Dimensions H x W x D	Std Pkg	Std Pkg Wgt	Dlr Unit Carton	Bond	Comparative Numbers			
							Burgess	Eveready	Ray-O-Vac	RCA
"B"	6210 – 45 Volt "B" with new interlocked flat cells	5-1/2" x 3-1/2" x 1-3/4"	6	11	6	6210	M30	482	P7830	VS013
"A" BATTERIES	4918 – 4-1/2 Volt "A" correct for 249 Portable Radios	4-11/16" x 3-7/8" x 1-5/16"	10	13	10	4918	G3	746	P83A	VS002
	4816 – 1-1/2 Volt "A" correct for 224 Portable Radios	4" x 2-9/6" x 2-9/16"	10	15	10	4816	4F	742	P94A	VS004
	4819 – 1-1/2 Volt "A" correct for 143 Portable Radios	5-5/16" x 3-11/16" x 2-9/16"	6	18	6	4819	8F	741	P98A	
	4815 – 6 Volt "A" correct for 98 Portable Radios	3-13/16" x 10-13/16" x 1-3/8"	6	20	6	4815	2F4L	747	P698L	VS011
	4814 – 1-1/2 Volt "A" correct for 83 Portable Radios	4" x 3-13/16" x 2-9/16"	6	13	6	4814	6F	743	P96A	VS007
	4914 – 6 Volt "A"	4" x 2-9/16" x 2-9/16"	10	15	10	4914	F4PI	744	P694A	VS009
	4817 – 6 Volt "A"	5-9/16" x 3-13/16" x 2-11/16"	10	30	10	4817	2F4	718	P698A	VS010
	4813 – 1-1/2 Volt "A"	3-13/16" x 10-13/16" x 1-3/8"	6	20	6	4813	8FL	745	P98L	VS008


0518
0513
0615
0616
0614
1511
No. 0518
No. 0513
No. 0615
No. 0616
No. 0614
WINCHESTER
OLIN
RADIO
LONGER LIFE
"A-B" BATTERY PACK
HI-POWER
No. 1511

SEE REVERSE SIDE FOR COMPLETE LISTING OF RADIO BATTERIES

BATTERY COMPARATIVE GUIDE CHART

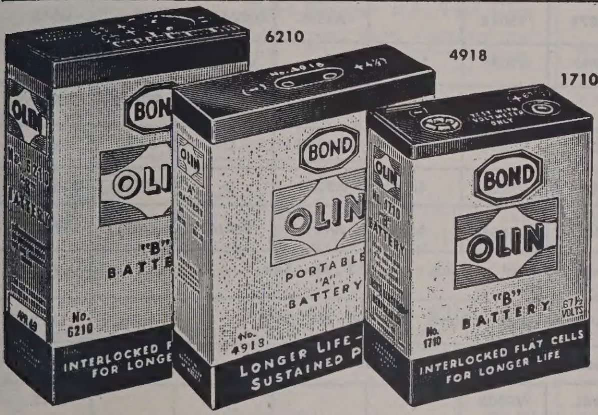
PORTABLE

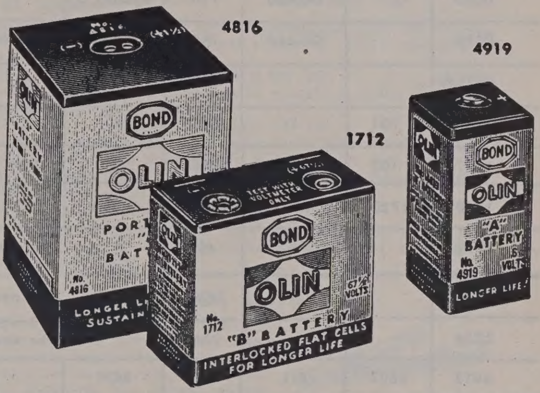
WINCHESTER OLIN	BOND (old)	BURGESS	EVE-READY	GENERAL	PHILCO	RAY-O-VAC	R.C.A.	SEARS	WARD	WILLARD	ZENITH	BOND OLIN
0513				60B6L	P60B6L	AB85	VS021	06303	A59M	60B6L		0513
0614		F6A60	753	60A6F6 5	P841A	AB994	VS019		A33	60A6F6/5	P841A	0614
0615		G6M60	754	60B6F6 5		AB878	VS018		A35M	60B6F6/5		0615
0616		G6-B60	752	Z60B6F6	P60B6F6	AB995	VS047	6401		WZ-3	Z985	0616
0616W			752W								Z985X	0616W
1311	101	1	935	C	C	1LP	VS033	4659	A3258	C	Z1NL	101
1511	102	2	950	D	D	2LP	VS036	4650	A3259	D	Z2NL	102
1710	1720	XX45	467	W45A	P67	4367	VS056	6480	A43	WBM-2	Z45	1710
1712			457	For new Emerson personal portable No. 558, No. 584								1712
1713			490	For new Emerson personal portable No. 559, No. 560								1713
3816			736	For new Emerson personal portable No. 559, No. 560								3816
4813	4823	8FL	745	8CF1		P98L	VS008					4813
4814	4824	6F	743	6F1		P96A	VS007	6431		6F1	Z96	4814
4815	4825	2F4L	747	8CF4		P698L	VS011	6452			Z698L	4815
4816	4826	4F	742	4F1	P94	P94A	VS004	6430	A21	4F1	Z94	4816
4817	4827	2F4	718	8F4		P698A	VS010	6450		WA4-1		4817
4819	4829	8F	741	8F1	P8F1	P98A				8F1		4819
4914		F4P1	744	4F4		P694A	VS009	6451	A28			4914
4918	4928	G-3	746	3H3	P100	P83A	VS002	6440	A24	WA3-1	Z83A	4918
4919			724	For new Emerson personal portable No. 558, No. 584								4919
6210	6220	M30	482	W30B	P 45	P7830	VS013	6461	A42	WBM-1	Z783	6210
6211		XX30	455	W30A			VS055					6211

FARM AND CONSOLE RECEIVERS

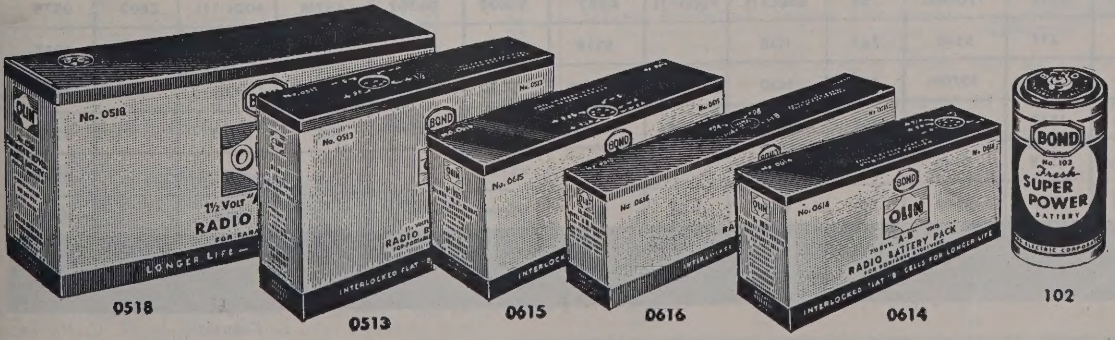
0511		18GD60		Z60D12L			VS045	06309			Z28	0511
0512		3G6D60		E60D12L6		AB982			A54M		Z334	0512
0513				60B6L	P60B6L	AB85	VS021	06303	A59M	60B6L		0513
0518	0528	17GD60	758	60DL11L	P60D11L	AB82	VS022	06302	A57M	60DL-11L	Z802	0518
3217	317	5360	781	H3B		531R	VS028			H3B		3217
3516	312	2370PI	771	H3D	P3D	P231W	VS030	5005	A83	H3D		3516
5216	1517	5156	768	H15B	P15B	P5151	VS031	6390	A84	H15B		5216
5216-8	1519	5156	778	H15B8		5151	VS131					5216-8
5218	517	5540	773	V5B	P5B	551	VS029			V5B		5218

	Catalog Number	Dimensions H x W x D	Std. Pkg	Std. Pkg. Wgt.	Dlr. Unit Carton	Win chester	Comparative Numbers			
							Burgess	Eveready	Ray-O-Vac	RCA
"B" BATTERIES	1710 – 67-1 2 Volt "B"	3-11/16" x 2-3/4" x 1-3/8"	12	10-1 2	6	1710	XX45	467	4367	VS016
	1712 – 67-1 2 Volt "B"	2-5 16" x 2-11/16" x 1-5/16"	24	12	6	1712		457		
	1713 – 90 Volt "B"	3-23 32" x 1-3/8" x 3-11/16"	6	6	6	1713		490		
	6211 – 45 Volt "B"	3-5 8" x 2-5/8" x 15/16"	12	6-1 2	6	6211	XX30	455		VS055
"A" BATTERIES	3816 – 4-1/2 Volt "A"	3-15/16" x 1-5/16" x 4"	10	11	10	3816		736		
	4919 – 6 Volt "A"	2-11/32"x1-5/32"x1-5/32"	24	4-1 2	12	4919		724		
	102 – 1-1 2 Volt "A"	2-1/4" x 1-1/4"	480	107	48	1511	2	950	2LP	VS036
	101 – 1-1 2 Volt "A"	1-13/16" x 15/16"	60	7	12	1311	1	935	1LP	VS033


6210
4918
1710
BOND
OLIN
"B" BATTERY
No. 6210
INTERLOCKED FLAT CELLS FOR LONGER LIFE
PORTABLE "A" BATTERY
No. 4918
LONGER LIFE– SUSTAINED POWER
"B" BATTERY 67½ VOLTS
No. 1710


4816
1712
4919
BOND
OLIN
No. 4816
LONGER LIFE SUSTAINED
TEST WITH VOLTMETER ONLY
"B" BATTERY 67½ VOLTS
No. 1712
INTERLOCKED FLAT CELLS FOR LONGER LIFE
"A" BATTERY No. 4919 6 VOLTS
LONGER LIFE

	Catalog Number	Dimensions H x W x D	Std Pkg	Std Pkg. Wgt	Dlr Unit Carton	Win chester	Comparative Numbers			
							Burgess	Eveready	Ray-O-Vac	RCA
"B"	6210 – 45 Volt "B" with new interlocked flat cells	5-1/2" x 3-1/2" x 1-3/4"	6	11	6	6210	M30	482	P7830	VS013
"A" BATTERIES	4918 – 4-1/2 Volt "A" correct for 249 Portable Radios	4-11/16" x 3-7/8" x 1-5/16"	10	13	10	4918	G3	746	P83A	VS002
	4816 – 1-1/2 Volt "A" correct for 224 Portable Radios	4" x 2-9/6" x 2-9/16"	10	15	10	4816	4F	742	P94A	VS004
	4819 – 1-1/2 Volt "A" correct for 143 Portable Radios	5-5/16" x 3-11/16" x 2-9/16"	6	18	6	4819	8F	741	P98A	
	4815 – 6 Volt "A" correct for 98 Portable Radios	3-13/16" x 10-13/16" x 1-3/8"	6	20	6	4815	2F4L	747	P698L	VS011
	4814 – 1-1/2 Volt "A" correct for 83 Portable Radios	4" x 3-13/16" x 2-9/16"	6	13	6	4814	6F	743	P96A	VS007
	4914 – 6 Volt "A"	4" x 2-9/16" x 2-9/16"	10	15	10	4914	F4PI	744	P694A	VS009
	4817 – 6 Volt "A"	5-9/16" x 3-13/16" x 2-11/16"	10	30	10	4817	2F4	718	P698A	VS010
	4813 – 1-1/2 Volt "A"	3-13/16" x 10-13/16" x 1-3/8"	6	20	6	4813	8FL	745	P98L	VS008


0518
0513
0615
0616
0614
102
No. 0518
No. 0513
No. 0615
No. 0616
No. 0614
1½ VOLT "A" RADIO
LONGER LIFE
OLIN
BOND
RADIO BATTERY PACK
INTERLOCKED FLAT "B" CELLS FOR LONGER LIFE
No. 102 Fresh SUPER POWER BATTERY

SEE REVERSE SIDE FOR COMPLETE LISTING OF RADIO BATTERIES

Copyright by U. C. P., Inc.

BATTERY COMPARATIVE GUIDE CHART

PORTABLE

BOND OLIN	BOND (old)	BURGESS	EVE-READY	GENERAL	PHILCO	RAY-O-VAC	R.C.A.	SEARS	WARD	WILLARD	ZENITH	WIN OLIN
0513				60B6L	P60B6L	AB85	VS021	06303	A59M	60B6L		0513
0614		F6A60	753	60A6F6 5	P841A	AB994	VS019		A33	60A6F6/5	P841A	0614
0615		G6M60	754	60B6F6 5		AB878	VS018		A35M	60B6F6/5		0615
0616		G6-B60	752	Z60B6F6	P60B6F6	AB995	VS047	6401		WZ-3	Z985	0616
0616W			752W								Z985X	0616W
101	101	1	935	C	C	1LP	VS033	4659	A3258	C	Z1NL	1311
102	102	2	950	D	D	2LP	VS036	4650	A3259	D	Z2NL	1511
1710	1720	XX45	467	W45A	P67	4367	VS056	6480	A43	WBM-2	Z45	1710
1712			457	For new Emerson personal portable No. 558, No. 584								1712
1713			490	For new Emerson personal portable No. 559, No. 560								1713
3816			736	For new Emerson personal portable No. 559, No. 560								3816
4813	4823	8FL	745	8CF1		P98L	VS008					4813
4814	4824	6F	743	6F1		P96A	VS007	6431		6F1	Z96	4814
4815	4825	2F4L	747	8CF4		P698L	VS011	6452			Z698L	4815
4816	4826	4F	742	4F1	P94	P94A	VS004	6430	A21	4F1	Z94	4816
4817	4827	2F4	718	8F4		P698A	VS010	6450		WA4-1		4817
4819	4829	8F	741	8F1	P8F1	P98A				8F1		4819
4914		F4P1	744	4F4		P694A	VS009	6451	A28			4914
4918	4928	G-3	746	3H3	P100	P83A	VS002	6440	A24	WA3-1	Z83A	4918
4919			724	For new Emerson personal portable No. 558, No 584								4919
6210	6220	M30	482	W30B	P 45	P7830	VS013	6461	A42	WBM-1	Z783	6210
6211		XX30	455	W30A			VS055					6211

FARM AND CONSOLE RECEIVERS

0511		18GD60		Z60D12L			VS045	06309			Z28	0511
0512		3 G6D60		E60D12L6		AB982			A54M		Z334	0512
0513				60B6L	P60B6L	AB85	VS021	06303	A59M	60B6L		0513
0518	0528	17GD60	758	60DL11L	P60D11L	AB82	VS022	06302	A57M	60DL-11L	Z802	0518
3217	317	5360	781	H3B		531R	VS028			H3B		3217
3516	312	2370PI	771	H3D	P3D	P231W	VS030	5005	A83	H3D		3516
5216	1517	5156	768	H15B	P15B	P5151	VS031	6390	A84	H15B		5216
5216-8	1519	5156	778	H15B8		5151	VS131					5216-8
5218	517	5540	773	V5B	P5B	551	VS029			V5B		5218

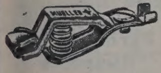
Mueller Electric Co.

CLEVELAND, OHIO

MUELLER BATTERY AND TEST CLIPS

U.S. PATENTS: 1,521,903; 1,686,842; 1,779,442; 1,794,976; 1,965,151; 1,994,251; 1,999,613: 2,074,324; 2,136,814; 2,416,113.

For use in making quick, temporary electrical connections. Packed 10 in a box, half marked + half plain to indicate polarity.
Screw connections



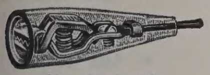
No. 45 PEE WEE

A very small test clip for radio, ignition, meter and similar work. 1½″ long. Jaw spread ⅜″. Steel, cadmium plated.

EACH NET..................$0.07 **LOTS OF 10**..................$0.045

No. 45-C

Solid Copper R.F. Test Clip

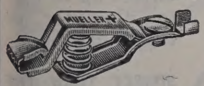


No. 45-C Clip
No. 47 Insulator

Solid copper radio frequency test clip. Phosphor bronze spring, brass screw. Will not heat up in high frequency test work, entirely non-ferrous. 1½″ long.

EACH NET..................$0.10 **LOTS OF 10**..................$0.07

Use **No. 47** Insulator for clips 45 and 45-C.



No. 48-B

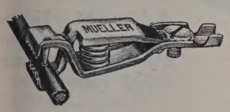
A small test and battery clip for radio use and general testing purposes. 2″ long. Jaw spread ½″. Steel, cadmium plated.

EACH NET....$0.07 **LOTS OF 10**...$0.05

No. 48C—Solid Copper. Same size as 48-B.

EACH NET..................$0.12 **LOTS OF 10**..................$0.085

No. 82 Needle Clip

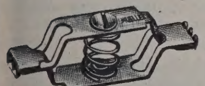


Needle pierces insulated wire. Ideal for quick hookup of truck trailer lighting systems, telephone and signal work. Steel, cadmium plated. 2″ long.

EACH NET..................$0.15
LOTS OF 10..................$0.10

Use **No. 49** Insulator for Clips 48-B, 48-C and 82.

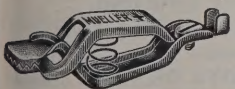
No. 22 Twin-Clip



Jaws on both ends. Great time-saver in test work. Used to hold or rack articles for display or processing. 2″ long. Steel cadmium plated.

EACH NET....$0.10 **LOTS OF 10**....$0.07

No. 27



A high grade test clip with meshing teeth on three sides of jaws. For laboratory and shop test work 2 7/16″ long. Jaw spread ⅝″. Steel, cadmium plated.

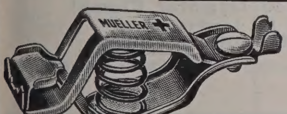
EACH NET..................$0.10 **LOTS OF 10**..................$0.07

No. 27-C—Solid copper. Same size as No. 27.

EACH NET..................$0.18 **LOTS OF 10**..................$0.125

Use **No. 29** Insulator for clips 27 and 27-C.

No. 24-A



A medium sized battery clip. Stands erect on battery post. Lead coated, copper shunt protects spring. 2⅞″ long. Jaw spread 1″. Steel, lead plated.

EACH NET..................$0.14
LOTS OF 10.................. .095

No. 24—Solid copper. Same size as No. 24-A.

EACH NET..................$0.25 **LOTS OF 10**..................$0.18

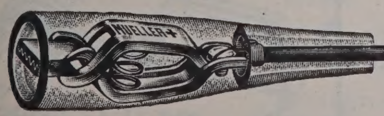
Use **No. 26** Insulator for Clips 24-A and 24.

LARGER SIZES OF CLIPS

	Each Net	Lots of 10
No. 21-A—Heavy Duty Steel, lead plated, 4″ long	$0.21	$0.15
No. 21—100 Amp. Solid Copper, 4½″ long	.61	.43
No. 11A—100 Amp. Steel, lead plated. 6″ long	.75	.53
No. 11—200 Amp. Solid copper. 6″ long	1.17	.82
No. 33—300 Amp. Solid copper. 7¾″ long	2.00	1.40

(Above furnished with lug connections.)

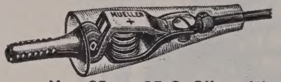
FLEXIBLE INSULATORS FOR CLIPS



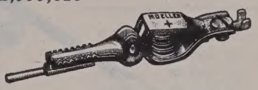
A convenient protection against short circuit and electric shock. Packed 10 in a box, 5 red and 5 black to indicate polarity. Long tail prevents breakage of wire. Constructed so that clip is held in firmly.

CROCODILE CLIPS

U.S. Patent No. 1,999,613



No. 85 or 85-C Clip with No. 87 Insulator



No. 85-T Clip

No. 85—A very small clip with slender, elongated jaws for getting into tight places in radio or electrical test work. Screw connection. 2⅛″ long.

EACH NET..................$0.08 **LOTS OF 10**.................. $0.05

No. 85-C—Same as No. 85, except solid copper. A radio frequency, entirely non-ferrous test clip.

EACH NET..................$0.11 **LOTS OF 10**..................$0.08

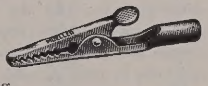
No. 85-T—New Crocodile "Tip-Clip"—equipped with standard phone tip on one jaw, otherwise same as No. 85. Ideal for use as a prod, for ordinary clip connections and for connections to insulated binding posts having non-removable heads. 2⅝″ long.

EACH NET..................$0.16 **LOTS OF 10**..................$0.11

Use No. 87 Insulators for clips 85, 85-C and 85-T. Red and Black. Cover entire clip except nose. Protects against short and shock. Helps to distinguish leads.

ALLIGATOR CLIPS

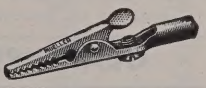
No. 60—CONVENTIONAL TYPE



Accurately made, slim jaws, fine meshing teeth. Convenient, round thumb grip, barrel connection for banana plug. Equipped with small soldering lip. Strong spring with a hard bite. Cadmium plated. 2″ long.

EACH NET..................$0.07 **LOTS OF 10**..................$0.045

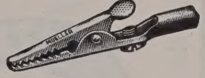
No. 60-S—SCREW CONNECTION



Eliminates necessity for soldering. Otherwise same as No. 60.

EACH NET $0.08 LOTS OF 10 $0.05

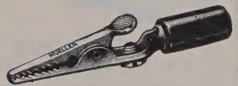
No. 60-CS—COPPER R.F. ALLIGATOR CLIP



Same as No. 60-S except made of solid copper. Has brass screw connection. Ideal for R.F. work. Will not heat up in H.F. circuits. Bright, natural copper finish. 2″ long.

EACH NET..................$0.11 **LOTS OF 10**..................$0.08

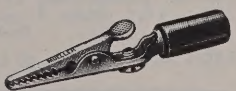
No. 60-HS—STEEL ALLIGATOR CLIP WITH INSULATED HANDLE



Same as No. 60-S except equipped with red and black insulating sleeves on end. Very convenient for distinguishing leads. Has screw connection also. Cadmium plated. 2¼″ long.

EACH NET..................$0.11 **LOTS OF 10**..................$0.08

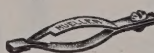
No. 60-CHS—COPPER ALLIGATOR CLIP WITH INSULATED HANDLE



Same as No. 60-CS except equipped with red and black insulating sleeves on end. Brass screw connection, for R.F. work. 2¼″ long.

EACH NET..................$0.15 **LOTS OF 10**..................$0.10

WEE-PEE-WEE No. 88



Entirely Non-ferrous. Smaller Than Ever! An extremely small clip for fine testing in radio and electrical work. Light-Weight; thin-nosed; spring-temper phosphor bronze. **Ideal for close-wound coils.** 1 11/16″ long; jaw spread ¼″.

EACH NET..................$0.16 **LOTS OF 10**..................$0.11

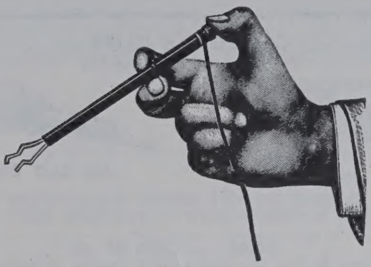
Use No. 93-P R.F.Insulator.

Insulator No.	For Use with Clip No.	Each Net	Lots of 10
13	11, 11-A	$0.54	$0.38
23	21, 21-A	.33	.23
26	24, 24-A	.23	.16
29	27, 27-C	.17	.12
35	33	1.42	1.00
47	45, 45-C	.11	.075
49	48-B, 48-C, 82	.11	.075
87	85, 85-C, 85-T	.10	.066
93-P	88	.05	.035

Mueller Electric Co.

THE SNAPPER

A Long Insulated Test Clip and
A "Triple Threat" Radio Tool



U. S. Patent No. 2,074,324

No. 99—7″ Long Insulated

The long tube is of insulating material and is fitted with spring contact jaws on the far end.

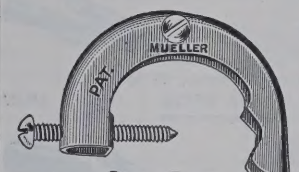
The jaws are operated by a push of the thumb on the near end. Wire is quickly and easily connected in a hole in the insulator knob binding post on the near end.

May be used as (1) A **"Deep Sea" Electric Test Clip**—test contacts with ease, deep in the recesses of radio chassis with no danger of short circuits; (2) An **Electric Contact Prod**—clip jaws may be used to make quick prod contacts, or clip one Snapper on ground circuit and prod with another; (3) A **Retriever**—start small screws and nuts or pick up odds and ends that may accidentally be dropped into inaccessible places.

PRICE....$0.90 EACH Dealers' Wholesale Price, each....**$0.54 Net**

Snappers are generally used in pairs—1 red and 1 black.

CLAMPIPE GROUND CLAMP



CLAMPIPE
U.S. PATENT No. 1,794,976

No. 58

The exclusive patented feature of a U-shaped cross section in combination with a U-shaped clamp gives a rigidity and effectiveness to the ClamPipe that cannot be found in any other make.

The ClamPipe will not bend or lop over when applied to a pipe. The point of the large case hardened screw, cuts through rust, paint or corrosion into clean, fresh metal, insuring a good contact. The Clamp may be installed on a pipe lying flush against a wall. Will not spread open.

The best ground clamp value on the market. Applicable to pipe ⅜″ to 1⅜″ outside diameter.

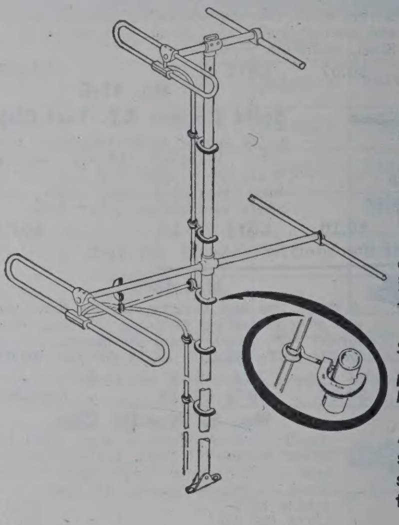
Packed 10 in a box

EACH NET....................$0.13 **LOTS OF 10......................$0.09**

THE "TENNA-CLAMPIPE"

(ClamPipe Trade-mark Reg. U. S. & Can. Pat. Off.)

A Standoff Insulator that clamps on **Quickly—Easily—almost anywhere** for Television and FM Antenna Lead-Ins.



Quickly and Permanently Supports Lead-Ins

- **On antenna masts & cross-arms.**
- **On pipes, I-beams, etc., on basement ceilings.**
- **On any rigid object up to 1⅜″ in diameter or thickness.**

SIMPLY TURN THE SCREW-EYE BY HAND FOR A SOLID, PERMANENT GRIP.

A great time-saver — the installation man's third hand.

Consists of an assembly of the famous Mueller ClamPipe Ground Clamp and a steel screw-eye with an insulating grommet. Holds lead-in wire from 1¼″ to 2½″ away from clamp. Can be applied to any antenna mast, pipe or other object up to 1⅜″ in diameter or thickness.

All metal parts are completely weatherproofed.

Insulating grommet is molded of high quality plastic having superior dielectric and non-absorptive properties. Will withstand exposure to weather.

No. 130 for all types of Flat Twin-lead.
No. 131 for all Coax Cables up to ½″ O.D.

Packed 100 in a carton

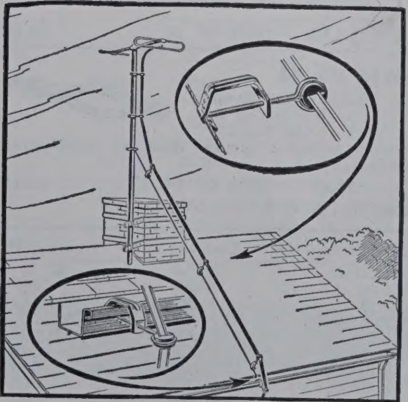
EACH NET...........$0.16 **LOTS OF 10...........$0.11**
LOTS OF 100...........$0.098

THE "TENNA-CLAMP"

A New 3-in-1 Stand-off Insulator Clamp!

Supports TV and FM Lead-ins on
MASTS, PIPES, GUTTERS AND GUY-WIRES

Has same general features and specifications as Tenna-ClamPipe described above except different type clamp channeled on end to take standard guy-wire in addition to pipes.



HAS THESE USEFUL FEATURES —

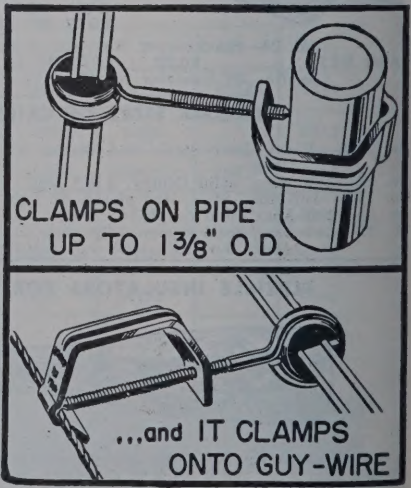
- One standard size solves many lead-in problems — far more useful than straps or wire bands.
- Brings lead-in to edge of roof — right where you want it — no more "draping" of wire across the roof.
- On those high jobs, come right down a guy-wire — and get around the gutter in the clear.

LOW PRICES!

All packed 100 in a carton

No. 135 For all types of Flat Twin-Lead.
No. 136 For Coax Cables up to ½″ O.D.
EACH NET, $0.13 LOTS OF 10, $0.09
LOTS OF 100, $0.078

Also in these Double Lead-in Types:
No. 135-DB For Flat Twin-Lead.
No. 136-DB For Coax Cables up to ½″ O.D.
EACH NET, $0.25 LOTS OF 10, $0.18
LOTS OF 100, $0.15



PRICES SUBJECT TO CHANGE WITHOUT NOTICE

MALLORY VIBRATORS • VIBRAPACKS* • RECTIFIERS • BATTERY CHARGERS
SPECIAL COMPONENTS AND MISCELLANEOUS ITEMS

*Reg. U. S. Pat. Off.

★ Complete descriptions of these parts will be found on the following pages.

Mallory Page 2

IBRATOR DEAL

Mallory Cat. No.	List Price
2448	$43.70

Mallory Page 3

IBRATORS

Mallory Cat. No.	List Price
222	$8.30
245	7.00
245A	7.00
245C	7.00
W245A	7.00
246	7.00
246A	7.00
247	7.00
F247	7.75
248	7.00
249	7.00
270B	8.30
271HD	8.30
273C	8.30
273D	8.30
292	5.75
294	4.45
F294	6.50
298	5.75
F502P	8.30
505P	4.45
506P	5.75
509P	3.75
514	7.00
716	7.00
725C	7.75
G725C	9.05
742	7.00
743	7.00
748	7.00
G749C	9.05
825C	6.25
826C	5.75
F826C	7.00
G826C	7.00
839	5.75
852	4.45
853	4.45
854	4.45
859	4.45
860	4.45
870	4.45
903M	3.75
952W	7.00
953W	7.00
954	7.00
1100	4.45

Mallory Page 3

Mallory Cat. No.	List Price
1501	$5.75
1502	6.25
T4002	9.70
T4003	8.90
GC7	.40
AR-1 Adapter	1.35

Mallory Page 5

VIBRAPACK* POWER SUPPLIES
*Reg. U.S. Pat. Off.

Mallory Cat. No.	List Price
VF-223	$ 8.00
VP-540	30.00
VP-551	22.00
VP-552	26.25
VP-553	24.50
VP-554H	28.75
VP-555H	52.00
VP-557	52.00
VP-G556	28.75
VP-F558	31.25

Mallory Page 6

BATTERY CHARGERS AND ACCESSORIES

Mallory Cat. No.	List Price
6AC4	$14.95
6AC6	19.95
6AC10	27.95
12AC5	35.95
R-652	1.80
R-653	.25
R655	1.80
MMF12	9.50

Mallory Page 7

Mallory Cat. No.	List Price
6AC60	$84.50
R-654	7.50

Mallory Page 8

RECTIFIERS

Mallory Cat. No.	List Price
IB4R	$2.05
IB8R	2.45
IB12R	2.80
IB12C1J	5.45
IB12C3	5.90
F16C3	7.65
IF16CB7M	8.50
IS16CB7	8.10
IS16B7	10.10
IS16B9	11.10

Mallory Page 8

Mallory Cat. No.	List Price
F20C7	$10.10
IS24C7J	10.05
IS24B9	15.55
IS28C7J	11.85
F16H1P	5.85
F20H1P	7.20
F24H1P	8.55
F28H1PM	9.90
F32H1PM	11.25

Mallory Page 9

MALLORY INDUCTUNER*
*Reg. Trade Mark

Mallory Cat. No.	List Price
8301	$27.50

VIDEOCOUPLER

Mallory Cat. No.	List Price
VC-101	$1.75

YARD-OHM Resistance Kits

Mallory Cat. No.	List Price
YO-1	$0.75
YO-5	.75
YO-10	.75
YO-25	.75
YO-50	.75
YO-100	.75
YO-250	.75
YO-500	.75

GRID BIAS CELLS

Mallory Cat. No.	List Price
BC-2	$0.45 each
GB11A	.15 each
GB11B	.20 each
GB12	.25 each
GB13	.35 each
GB14	.40 each
GB15	.15 each
GB16	.15 each

Mallory Page 10

KNOBS

Mallory Cat. No.	List Price
365-1	$0.25
365-R-1	.25
366-1	.20
366-R-1	.20
367-1	.25
368-1	.20

MOUNTING NUTS

Mallory Cat. No.	List Price
232	$0.15 per 10
255	.20 each
A-11260-2	.30 each
A-11260-12	.25 each

Mallory Page 10

WASHERS

Mallory Cat. No.	List Price
203	$0.30 per 10
212	.20 per 10
225	.20 per 10
226	.20 per 10
227	.20 per 10

SOLDERING IRON TIPS

Mallory Cat. No.	List Price
311	$0.70
312	.80

DIAL PLATES

Mallory Cat. No.	List Price
453	$0.20
454	.20
455	.20
456	.20
457	.20
458	.20
459	.20
460	.20
461	.20
462	.20
463	.20
464	.20
465	.20
466	.20
467	.20
468	.20
472	.20
473	.20
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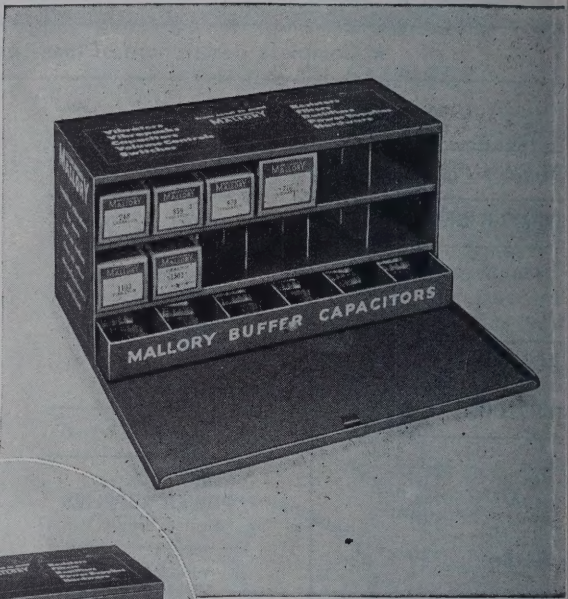
488	.20
372	.20
373	.20
374	.20
375	.20
376	.20
377	.20
378	.20
379	.20
380	.20
381	.20
382	.20
383	.20
384	.20
385	.20
386	.20
387	.20
388	.20
389	.20
390	.20
394 Special	.20

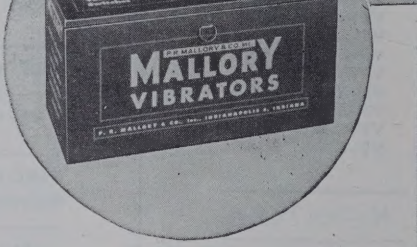
THE MALLORY 2448 VIBRATOR DEA

Here's What You Get:

1. **Six popular Mallory vibrators**
2. **Twelve Mallory buffer capacitors**
3. **Services 75% of your replacement needs**
4. **Simplifies your inventory control**
5. **Extra space for flexible inventory**
6. **Cabinets firmly "stack" together; use as many as you need to handle your stock**



You Get the Cabinet at no Additional Cost... When You Purchase the Vibrators at Your Regular Discount



MALLORY CONTROLS
MALLORY BUFFER CAPACITORS

Picture at right shows how your vibrator cabinet nests with any Mallory Control Deal cabinet. Your vibrator cabinets nest together, too, to handle your complete stock of vibrators. The Mallory Radio Service Encyclopedia is purchased separately.

APPLICATION—The Mallory 2448 Vibrator Deal cabinet assures more speed in vibrator replacement work . . . gives you the advantage of work-bench accessibility . . . simplifies your inventory problems . . . gives you wide coverage with a minimum selection of Mallory vibrators.

GENERAL DESCRIPTION—Consists of 6 of the most popular type Mallory vibrators. Cabinet contains 12 individual compartments, enabling you to make 6 additional selections. A large drawer is divided into 6 sections to hold a large stock of Mallory buffer capacitors. Twelve capacitors come with the 2448 Deal. Cabinet constructed of 28-gauge sheet steel, neatly finished in blue with white lettering and orange trim.

USE IN INVENTORY CONTROL—With the Mallory 2448 Vibrator Deal cabinet in your shop, inventory control is simplified. You keep similar type vibrators together. You determine at a glance which vibrators you need to re-order. This assures an adequate up-to-date supply of Mallory vibrators you need.

CONTENTS—(Complete descriptive information on each of the following vibrators and buffer capacitors may be found on the following page and in the Mallory Capacitor Section page 9, respectively.

Mallory Vibrators, 1 each:
248, 716, 859, 870, 1100, 1501

Mallory Buffer Capacitors, 2 each:
OT-371, OT-372, OT-373, OW-344, OW-345, OW-346

PRICE—When you purchase the vibrators and buffer capacitors included in the Mallory 2448 Vibrator Deal, at your regular discount, you get the cabinet at no additional cost!

You'll Use Your MALLORY 2448 VIBRATOR DEAL in all These Radio Sets

Admiral
Arvin
Atwater-Kent
Belmont
Buick
Cadillac
Chevrolet
Chrysler
Clarion
Crosley
Delco
De Soto
Detrola
Dodge
Emerson
Firestone
Ford
Gamble-Skogmo
General Electric
Goodrich
Goodyear
Grunow
Howard
Hudson
Kaiser-Frazer
Lincoln
Montgomery-Ward
Motorola
Nash
Oldsmobile
Packard Motor Car
Philco
Plymouth
Pontiac
RCA
Sears-Roebuck
Sentinel
Sonora
Spartan
Spiegel
Stewart-Warner
Studebaker
Truetone
Wells-Gardner
Westinghouse
Willys
Zenith

(See Page M-25 for Mallory List Prices)

MALLORY VIBRATORS

P.R. MALLORY & CO. INC.
MALLORY
VIBRATOR
FOR USE ON
6 VOLT BATTERY
MFG. UNDER ONE OR
MORE U. S. PATS.
1,943,240
2,049,310
2,190,685
2,223,516
2,339,973
ET. AL.
INDIANAPOLIS, IND.
MADE IN U.S.A.

Type No.	Volt	Type	Base Dia.	Can Type	Size
222	6	Syn.	20	2	4⅞ x 1⅞ x 1¹³⁄₁₆
▲245	6	Syn.	21	1	1½ x 3¼
▲245A	6	Syn.	21	1	1¹⁵⁄₁₆ x 3½
245C	6	Syn.	28	1	1½ x 3¼
▲§ W245A	4	Syn.	21	1	1¹⁵⁄₁₆ x 3½
▲246	6	Syn.	38	1	1½ x 3¼
▲‡246A	6	Syn.	38	1	1¹⁵⁄₁₆ x 3½
247	6	Syn.	46	1	1½ x 3¼
F247	32	Syn.	46	1	1½ x 3¼
▲248	6	Syn.	44	1	1½ x 3¼
▲249	6	Syn.	32	1	1½ x 3¼
270B	6	Syn.	23	1	2 x 4½
271HD	6	Syn.	24	1	2 x 4½
273C	6	Syn.	29	1	2 x 4½
273D	6	Syn.	31	1	2 x 4½
292	6	Int.	3	2	1½ x 1⅜ x 2⁷⁄₁₆
294	6	Int.	8	1	1½ x 3¼
▲F294	32	Int.	8	1	1½ x 3¼
298	6	Int.	51	1	1½ x 2⅞
F502P	32	Int.	9	5	1⅝ x 3⅝
505P	6	Int.	8	1	1¹⁵⁄₁₆ x 3½
506P	6	Int.	36	1	1¹⁵⁄₁₆ x 3½
509P	6	Int.	8	1	1½ x 2⅞
514	6	Syn.	30	6	1¹⁵⁄₁₆ x 3½
716	6	Syn.	30	7	1¹⁵⁄₁₆ x 3½
▲*725C	6	Syn.	32	1	1½ x 3¼
▲*G725C	12	Syn.	32	1	1½ x 3¼
742	6	Syn.	32	1	1½ x 2⅞
743	6	Syn.	38	1	1¼ x 3¼
748	6	Syn.	44	1	1½ x 2⅞
▲*G749C	12	Syn.	21	1	1½ x 3¼
▲*825C	6	Int.	8	1	1½ x 3¼
▲*826C	6	Int.	8	1	1½ x 3¼
▲*F826C	32	Int.	8	1	1½ x 3¼
▲*G826C	12	Int.	8	1	1½ x 3¼
839	6	Int.	8	1	1½ x 3¼
852	6	Int.	14	3	1⅝ x 3⅝
853	6	Int.	10	3	1⅝ x 3⅝
854	6	Int.	11	1	1½ x 3¼
▲859	6	Int.	8	1	1½ x 2⅞
860	6	Int.	14	7	1½ x 3¼
870	6	Int.	14	1	1½ x 3
903M	6	Int.	8	1	1½ x 2⅞
952W	6	Syn.	16	1	1⅜ x 2⅞
953W	6	Syn.	16	1	1½ x 3⁵⁄₁₆
954	6	Syn.	39	1	1½ x 3⁵⁄₁₆
▲1100	6	Int.	8	1	1⁵⁄₁₆ x 2⅜
▲1501	6	Int.	53	1	1½ x 2⅞
1502	6	Int.	54	1	1½ x 2⅞
T4002	2	Syn.	52	8	1½ x 1½ x 2⅛
T4003	2	Syn.	50	1	1⁵⁄₁₆ x 2⅛
†GC7	Ground Cup				
AR-1	Adapter				

Int.—Interrupter Syn.—Synchronous

*Hermetically Sealed Construction.

†A grounding cup for 1½″ dia. vibrators which makes a low r.f. ground connection between vibrator can and power supply chassis.

§To be discontinued when supplies are exhausted.

‡No ground strap.

▲Use only these types in design of new equipment. Other types are for replacement purposes only.

Recommended Substitutions for Discontinued Vibrators

Discontinued Type	Recommended Replacement	Discontinued Type	Recommended Replacement
220B	See Note 2	F297	F294 (See Note 3)
F220C	See Note 2	299	298
221	292	500P	853
223	222 (See Note 1)	501P	853
F223	See Note 2	503	292
224	222 (See Note 1)	504	246 (See Note 1)
226	222 (See Note 1)	507P	853
245SW	245	508P	859
G245	G749C	509P	859
G249	G725C	510P	859
F251	F294	722A	246 (See Note 1)
G253	G826C	728A	246 (See Note 1)
253Y	294	850	859
271	270B	G850	G826C
277S	248 (See Note 1)	866	859
P285Y	246 (See Note 1)	868	870
286S	248	869	859
289Y	249	901M	294
294C	852	902M	859
294SW	854	903M	859
296	298	951P	246
297	298	T4000	T4003

NOTE 1. To make this substitution certain wiring changes are necessary. See instruction sheet packed with vibrator or installation note in the Mallory Vibrator Guide and the 6th Edition Mallory Radio Service Encyclopedia.

NOTE 2. An exact duplicate is no longer available. Every effort is being exerted to determine a satisfactory substitute. If a substitute can be made available, your Mallory Distributor will be advised.

NOTE 3. To make this substitution the six-prong socket must be changed to a 4-prong UX base socket and wired to match base diagram 8.

MALLORY TECHNICAL MANUAL

● This simply written, practical book bridges the gap between radio theory and practice. Designed for the radio serviceman, engineer, amateur or experimenter who wants the latest technical information . . . presented so that he can easily apply it to everyday problems.

Contains page after page of information profusely illustrated. It's worth far more than its price.

MALLORY VIBRATORS

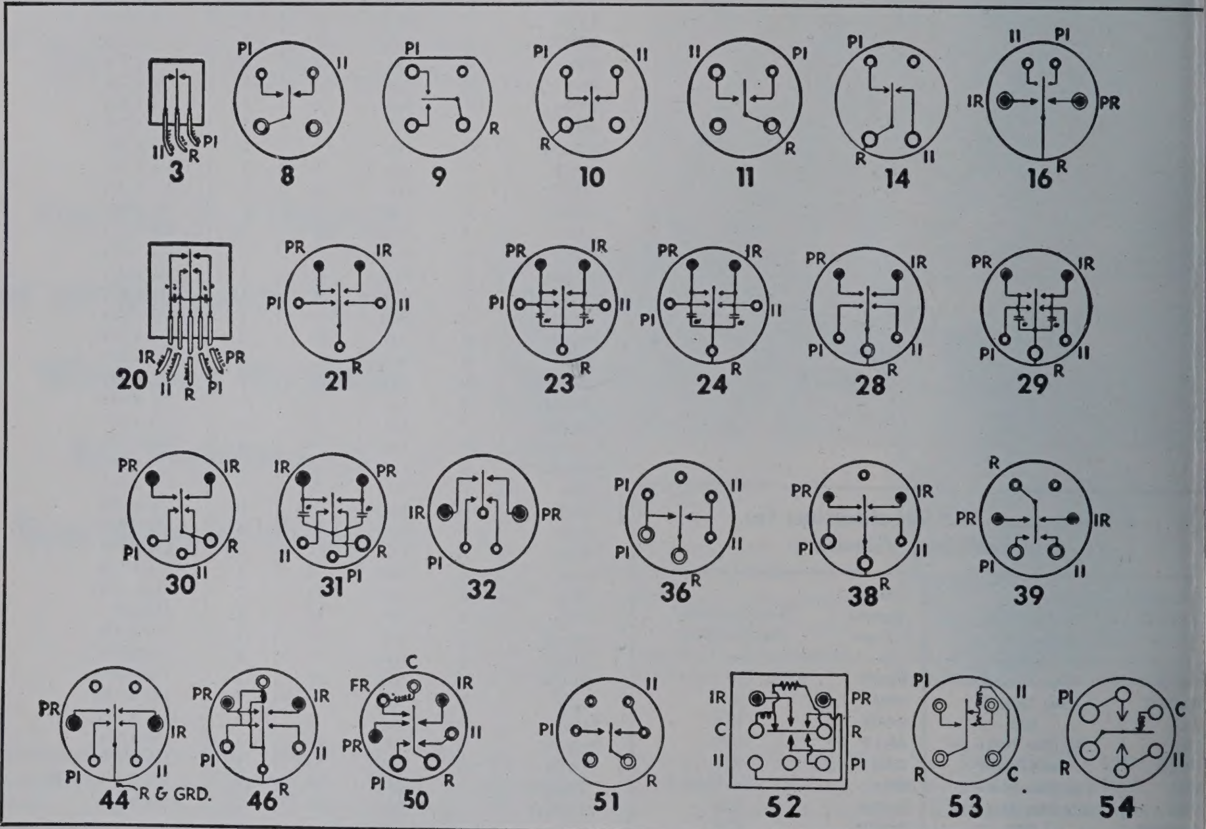
These Mallory Vibrators Meet 90% of Your Replacement Need

● The 12 basic vibrator types listed at right cover 90% of your replacement needs. The entire line of Mallory Vibrators has been simplified so that replacements can be made easily and quickly. By effecting substitutions, Mallory is materially reducing the number of vibrators needed to meet your requirements.

This Mallory standardization program means that your distributor stocks fewer vibrator types and more units of each—thus delivery is tremendously speeded up.

The vibrator replacement problem is being simplified but Mallory quality remains the same. Mallory precision vibrators, backed by years of outstanding performance, still offer the dependability, the long life and the trouble-free service that you and your customers expect. It pays to insist on Mallory Approved Precision Products.

Type No.	Volt	Type	Base Dia.	Size
245	6	Syn.	21	1½ x 3¼
246	6	Syn.	38	1½ x 3¼
248	6	Syn.	44	1½ x 3¼
249	6	Syn.	32	1½ x 3¼
273C	6	Syn.	29	2 x 4½
294	6	Int.	8	1½ x 3¼
716	6	Syn.	30	1¹⁵⁄₁₆ x 3½
852	6	Int.	14	1⅝ x 3⅝
854	6	Int.	11	1½ x 3¼
859	6	Int.	8	1½ x 2⅞
870	6	Int.	14	1½ x 3
1100	6	Int.	8	1⁵⁄₁₆ x 2⅜

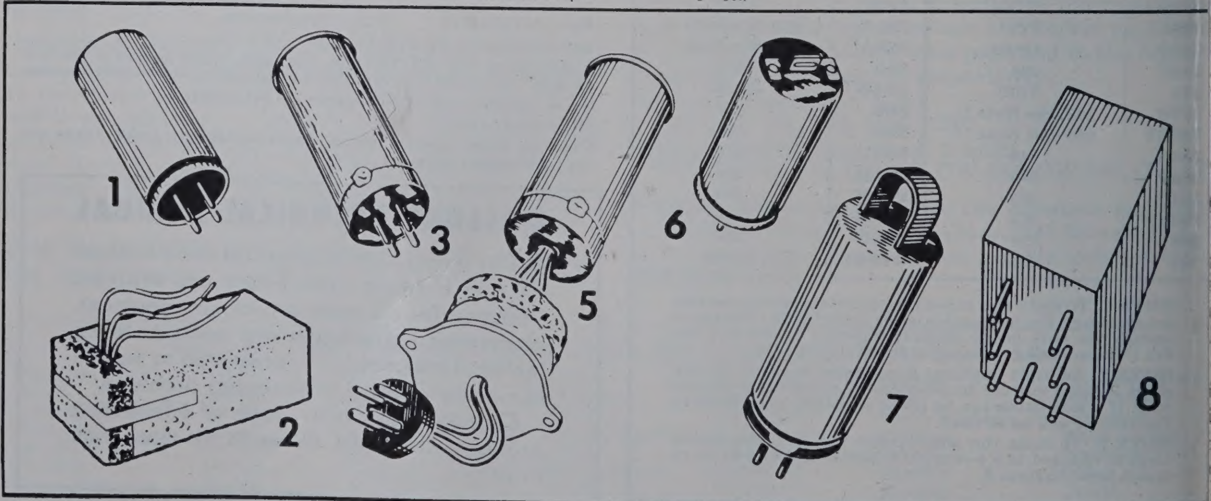


R=Reed
PI=Pull Interrupter

PR=Pull Rectifier
II=Inertia Interrupter

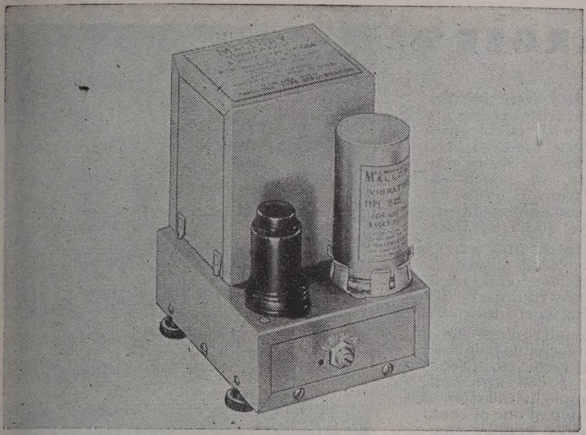
IR=Inertia Rectifier
C=Coil

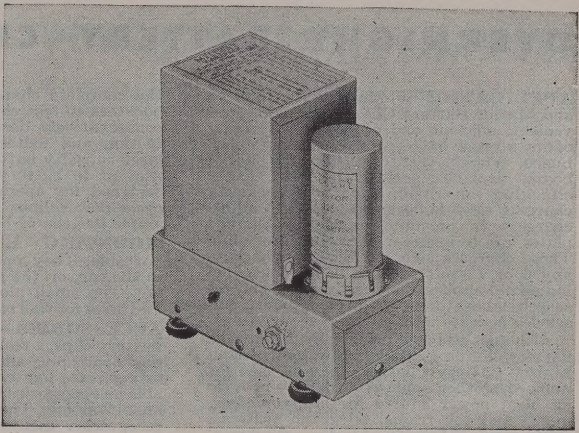
FR=Frame

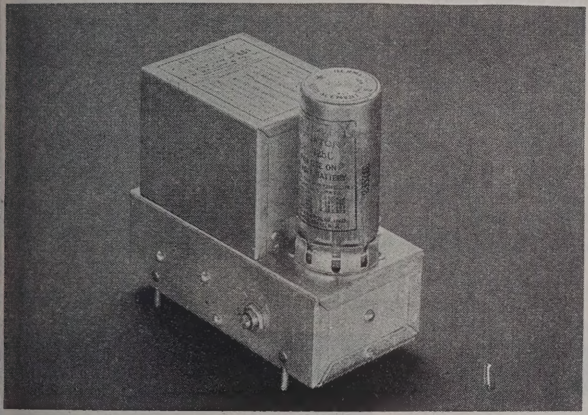


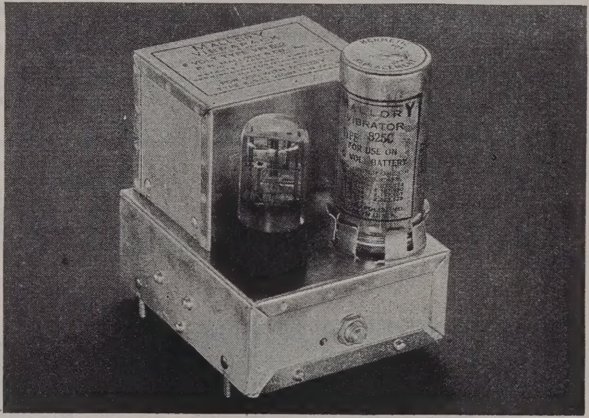
(See Page M-25 for Mallory List Prices)

MALLORY VIBRAPACK* POWER SUPPLIES

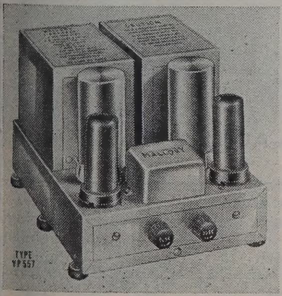

Type VP-554H • VP-F558


Type VP-552 • VP-G556

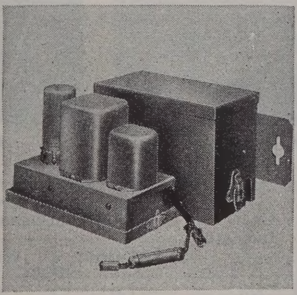

Type VP-551



Type VP-553

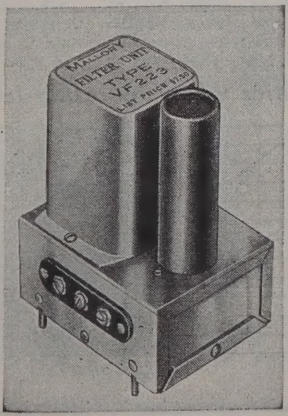


Type VP-555H • VP-557


Type VP-540

Type VF-223 Audio Filter

● A complete audio filter system for use with all single-unit Vibrapacks. Designed to give maximum suppression of hum with minimum voltage drop. Especially recommended for applications which are sensitive to hum, or where voltage regulation is important as in Class "B" audio amplifiers.



NOISE SUPPRESSION

● Vibrapacks are equipped with built-in noise suppression equipment. Type VP-555 also includes an efficient low-frequency hum filter. Type VP-557 incorporates the first input filter condenser only. Other Vibrapacks do not include the high-voltage hum filter. High-voltage filter requirements are similar to equivalent AC power packs.

Catalog Number	Nominal Operating Voltage	Nominal Output Voltage	Maximum Output Current	Type
VP-540*	6.3	250	60 ma.	Self-Rectifying
VP-551	6.3	125-150 175-200	100 ma.	Self-Rectifying
VP-552†	6.3	225-250 275-300	100 ma.	Self-Rectifying
VP-553	6.3	125-150 175-200	100 ma.	Tube Rectifier
VP-554H†	6.3	225-250 275-300	100 ma.	Tube Rectifier
VP-555H†	6.3	300	200 ma.	Tube Rectifier
VP-557†	6.3	400	150 ma.	Tube Rectifier
VP-G556	12.6	225-250 275-300	100 ma.	Self-Rectifying
VP-F558	32.	225-250 275-300	100 ma.	Tube-Rectifier

*Includes complete audio filter.

†Maximum ratings are for mobile transmitter service. For continuous duty with radio receivers where longer vibrator life is essential, reduce maximum output watts ratings to 75% of listed values.

OVERNIGHT BATTERY CHARGERS

APPLICATIONS—Mallory Automotive and Marine Battery Chargers provide convenient, efficient and economical charging of any storage battery used in automobiles, buses, trucks, tractors, taxicabs, small boats, airplanes, and on the farm. Taper charging (an automatically decreasing charging rate) is designed into all Mallory chargers to prevent damage to battery plates and to insure maximum battery life. These chargers also are ideal for charging any 6 or 12-volt storage battery used in industrial applications, engineering and research laboratories, test equipment, and service benches, etc.

Although designed principally for storage battery charging, Mallory Automotive and Marine Battery Chargers may be used for numerous other applications. They provide an ideal power source for electroplating, model and toy trains, telegraph systems, relays and solenoids, vending machines, electric organs, generator fields, etc. In conjunction with an adequate filter they may be used as a power source for farm and portable radio filaments, auto radio receivers, telephone systems, loud speaker fields, exciter lamps, scientific apparatus, etc.

DESCRIPTION—The heart of these chargers is the Mallory Magnesium-Copper Sulfide all-metal rectifier. Unaffected by temperature and able to withstand phenomenal abuse, they provide stable output without adjustment over long life. With an exclusive self-healing feature, Mallory rectifiers have been time-tested and proved to be the most rugged dependable rectifier for battery-charging applications.

Mallory Automotive and Marine Battery Chargers are made in five models to cover the complete charging field from battery boosters to fast chargers. All chargers are conservatively designed with circuit protection and meters where required, and large capacity battery clips for ready connection to battery posts. All models are designed for operation from 115-volt 60-cycle power lines and are equipped with ample lengths of both AC and DC cables.

MOUNTING—All chargers are readily portable. They may be placed anywhere: in the car, on the garage floor, on a bench, etc. The small models are equipped with two holes for wall mounting where desirable.

ACCESSORIES—Although equipped with battery clips, a readily attachable polarized dashboard plug and receptacle (No. R-652) or cigarette lighter plug (R-655) are available as accessories for simple installation in an automobile. The addition of one of these receptacles makes possible simple plug-in connection of the charger to the car battery. Extra battery clips (No. R-653) are available. Automatic timer control (No. R-654) is offered for use with battery chargers to control the charge. It may also be used with many household appliances.

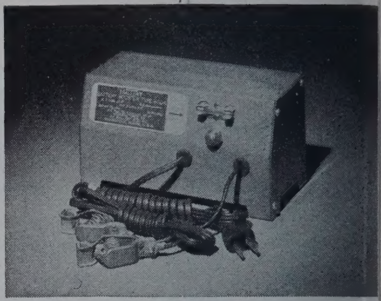
PACKAGING—One charger per cardboard shipping carton.

No. R-652—Polarized Dashboard Receptacle, for use with these chargers.

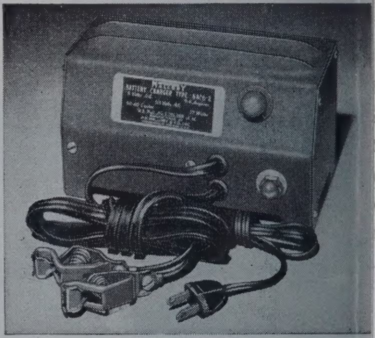
No. R-653—Extra Battery clips.

No. R-655—Cigarette lighter plug.

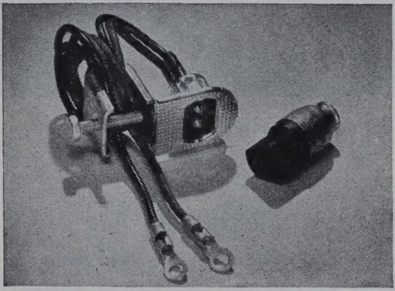
No. MMF-12—Specially designed filter for use in conjunction with 6-AC-4, 6-AC-6, 6-AC-10 chargers. Efficiently reduces AC ripple when these chargers are used as a DC power supply. May also be used with 6-AC-60 where max. current does not exceed 20 amps.



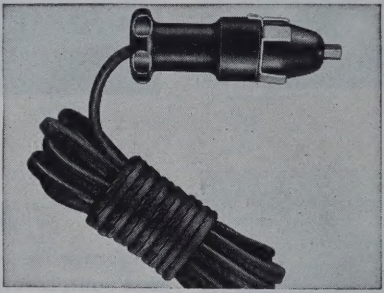
6-AC-4



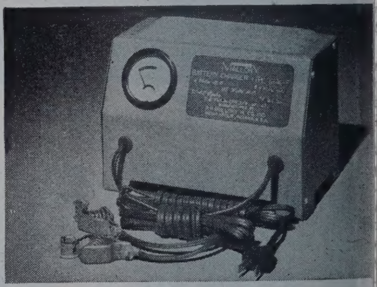
6-AC-6



R-652



R-655

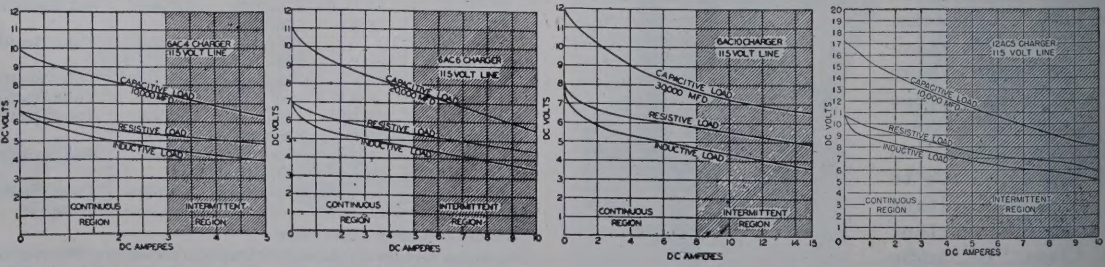


6-AC-10 • 12-AC-5

Mallory Charger Catalog Number	Nominal Battery DC Volts	Maximum Charging Rate DC Amps.	Tapered Rate DC Amps.	Approx. 10 Hr. Charge in Amp. Hrs.	Charging Indicator	Approx. Overall Dimensions in Inches			Approx. Shipping Weight in Pounds
						Height	Width	Depth	
6AC4	6	4	2	30	No	4 7/16	7⅜	3 5/16	4¾
6AC6	6	6	4	50	Light Bulb	4 7/16	7⅜	3 5/16	7
6AC10	6	10	7	85	Meter	6	8	4¼	12¼
12AC5	12	5	3	40	Meter	6	8	4¼	10¾

These chargers come with 6 feet of AC and DC cord.

The graphs below show typical charger characteristics when operating into various types of load



MALLORY FAST CHARGERS AND RECTIFIERS

PORTABLE FAST CHARGER

● The Mallory 6-AC-60 Quick Starter is a portable unit providing 2 minute starting service or fast charging of batteries in a few hours.

A Mallory 80 amp Magnesium-Copper Sulfide rectifier stack insures dependable and rugged service. A 6 step charge control switch and ammeter allow charging rate adjustment. To provide automatic charging use the Mallory Automatic Timer Control (R-654).

Rectifier stack and transformer are efficiently cooled by a quiet running fan with an oil-less bearing motor. A convenient rack holds both AC and DC cables. The entire unit weighs only 45 lbs.

The Mallory Quick Starter will provide approximately 100 amp. hrs. charge in 2 hours. It also provides a convenient power supply for test and service equipment for horns, heaters, radio receivers, and electroplating.

Catalog No. 6-AC-60

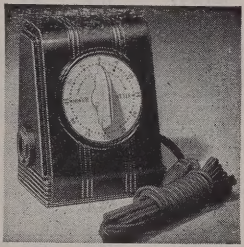
MALLORY
Quick Starter

SPECIFICATIONS

abinet—18″ long, 10¾″ high, 9¾″ wide, including handle and able rack. *Weight*—45 lbs. net. *Shipping Weight*—47 lbs. *.C. Input*—115 v., 50-60 cycles, 10 am. *D. C. Output*—To harge 6 v. battery at 60 amp. max. *Cables*—Heavy insulation —long wearing. *D.C. Cables*—No. 6-9′ long. Color identification for polarity. Heavy duty terminal clamps. *A.C. Cables*— o. 16—15′ long. With rugged AC plug.

Automatic Timer Control for 6AC60 Charger. Variable time setting up to 60 minutes. Contacts rated 20 amperes, 115 volts AC or 10 amperes, 230 volts, (suitable for DC loads). Also ideally suited to control lights, sunlamps, radios, fans, heating devices and numerous DC loads). Also ideally suited to control lights, sunlamps, radios, fans, heating devices and numerous other electrical household appliances.

Catalog No. 654



MALLORY MAGNESIUM-COPPER SULFIDE RECTIFIERS

PPLICATION—Mallory Magnesium-opper Sulfide Rectifiers are time-tried and roved to be the most rugged, dependable ectifiers for those applications requiring low C voltages at medium and high currents uch as battery chargers and eliminators, lectroplating, motion picture projector arcs, elding, engine starting, circuit breaker relosing, solenoid and relays operation, etc.

ESCRIPTION—Mallory Magnesium-opper Sulfide Rectifiers are all metal in onstruction, ruggedly assembled under high ressure to withstand severe vibrations and hock. There are no bulbs, liquids, moving arts or sparking contacts. Unlike all other ypes of rectifiers, they contain no temperaure-sensitive films or layers, and have phe-omenal ability to withstand abuse and exremes of temperature (—90° to +265°F.). onstant output without circuit adjustments assured over many years of useful life. hould an accidental voltage surge occur, the ctifying film will "self-heal."

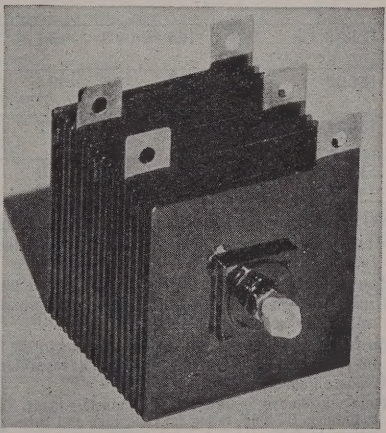
COPE AND SIZES—Many sizes are available to supply low DC voltages from watts to ilowatts. A new rectifier engineering data lder is available upon request, covering ther sizes for single phase and three phase pplications, both convection and fan cooled. addition to rectifier stacks, P. R. Mallory Co., Inc. also manufacture a complete line Rectoplaters (distributed exclusively by e Udylite Corporation, 1651 East Grand Boulevard, Detroit 11, Michigan), Rectotruck Chargers (industrial electric truck chargers available through truck agents).

REPLACEMENT RECTIFIERS—The Mallory Magnesium-Copper Sulfide Rectifiers listed on page 53 are only those popular sizes regularly carried in stock, principally for replacement purposes. These same rectifiers, however, may be used for numerous other applications. For example, the IB8R and IB12R rectifiers are ideal for reversing the direction of HO and O gauge model train locomotives respectively, using wound field motors (as illustrated in the wiring diagram, following page). IB12C1J, IS16CB7, and IS16B9 rectifiers may be readily used to assemble tapering battery chargers as illustrated in the wiring diagram. The IS24B9 rectifier may be used to make up a battery eliminator to operate and test modern automobile radio receivers as shown. Other applications immediately suggest themselves, such as electroplating, model and toy train DC power sources, radio filament supplies, chatter-free relay and solenoid operation, electric organ, automotive electrodynamic speaker field supplies, generator fields, telephone and telegraph system power supplies, etc.

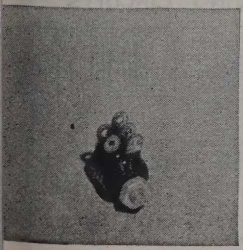
MOUNTING—Rectifiers are available in either foot, bolt, or stud mounting, the latter two insulated from mounting means. Refer to note below table for type of mounting on replacement rectifiers.

HARDWARE—Wherever possible or practical, universal mounting hardware is included to assist in the ready replacement of old rectifier types.

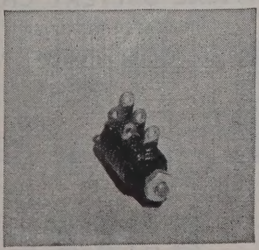
PACKAGING—Rectifiers are packed one per display carton.



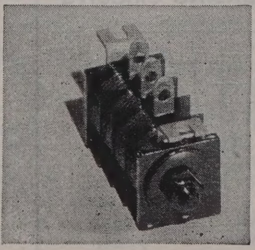
IS16B9



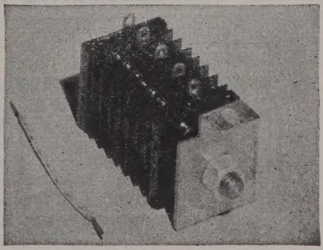
IB4R



IB8R



F24H1P



IB12C1J

MALLORY RECTIFIERS

CHART OF REPLACEMENT RECTIFIERS

New Catalog Number	Maximum AC Volts (Normal Line)		Approx. DC Volts			Max. DC† Amperes		Approximate Overall Dimensions in Inches			Replacement for Old Catalog Number	Replacement in Equipment
	No Load	Full Load	Inductive Load	Resistive Load	Capacitive-Battery Load	Continuous Duty§	Intermittent Duty	Length	Width	Height		
Ultra-Compact Replacement Rectifiers for Battery Eliminators, etc.												
IB4R	3.6	3.2	1.5	1.7	2.5	1.5	5.0	1	9/16	7/8		G.T.C. Porta-Power Electro Battery Eliminator
IB8R	7.2	6.4	3.1	3.4	5.1	1.5	5.0	1⅜	9/16	7/8		G.T.C. Porta-Power Electro Battery Eliminator
IB12R	10.8	9.7	4.8	5.2	7.8	1.3	5.0	1¾	9/16	7/8		All Power Supplies for Electric Fence
Replacement Rectifiers for Automotive Chargers and Eliminators, etc.												
IB12C1J	10.8	9.8	4.6	5.1	7.7	3.2	24	2¾	1¼	1⅝	12C1, F12C1, IF12C1B, 12C1F, F12C1K, IB12C1, IB12C1M, X12, X112, U12	4-2 Amp. Boosters Mallory 3C, 6AC4
IB12C3	10.8	9.7	4.5	5.0	7.6	4.5	24	2¾	1¾	2⅛		Mallory 6-AC-6-2
F16C3	14.4	13.0	6.1	6.8	10.2	3.9	24	3	1¾	2⅛	16C3, F16CB3, 16CB3, 16C3B*, XB16*, M16*, X16, X116, ME16	5-3 Amp. Old Chargers Mallory 5535
IF16CB7M	14.4	12.8	5.9	6.6	9.9	6.0	24	3	2½	3³⁄₁₆		6-3 Amp. Charger, Mallory 553
IS16CB7	14.4	12.8	5.9	6.6	9.9	6.0	24	3¾	2½	3	IS16CB7M	6-3 Amp. Charger Mallory 5535B, 6AC6
IS16B7	14.4	12.8	5.8	6.5	9.8	8.3	24	5½	2½	3	IS16B7M, IB16B7	10-7 Amp. Charger, Mallory 1 6-AC-10-2
IS16B9	14.4	12.7	5.7	6.4	9.7	11.6	24	5½	3½	4¼		10-7 Amp. Charger, Mallory 6AC10
F20C7	18.0	16.2	7.6	8.4	12.6	4.8	24	4⅜	2½	3³⁄₁₆	F20C7P	A.T.R. Battery Eliminators, etc
IS24C7J	21.6	19.4	9.0	10.1	15.1	4.5	24	4¾	2½	3³⁄₁₆	IB24C7, F24C3, F24C3P, F24C7P, F24C7, FCX24D7, 201C1, R24LR, R24LS	Mallory 12-AC-5-2, Stancor Eliminators, Univerters, Pin Game Supplies, etc.
IS24B9	21.6	19.1	8.5	9.6	14.4	11.0	24	7½	3½	4¼		Stancor Battery Eliminators, e
IS28C7J	25.2	22.7	10.7	11.7	17.8	4.3	24	6	2½	3	F28C7, F28C7P, 228C1, 267C1, R28LS	5-3 Amp. 12-volt Chargers, Mallory 125, 12AC5
Replacement Rectifiers for Pin Ball Machines, Power Supplies, etc.												
F16HIP	14.4	13.1	6.3	7.0	10.4	2.2	24	2¼	1¼	2	16A1, F16G1, F16G1P, F16HI, W16A1, 211C1, R16S	Electropak, Rectopak, Univerter, etc.
F20HIP	18.0	16.4	7.9	8.7	13.0	2.0	24	2¾	1¼	2	20A1, F20G1, F20G1P, F20H1, W20A1, 212C1, R20S, X20	Electropak, Rectopak, Univerter, etc.
F24HIP	21.6	19.7	9.6	10.4	15.7	1.9	24	3	1¼	2	F24G1, F24G1P, F24H1, W24A1, 203C1, R24S	Electropak, Rectopak, Univerter, etc.
F28HIPM	25.2	23.0	11.2	12.2	18.4	1.7	24	3¼	1¼	2	F28G1, F28G1P, F28H1, F28HIP, W28A1, F28H1MP, 210C1, R28S	Electropak, Rectopak, Univerter, etc.
F32HIPM	28.8	26.2	12.8	14.0	21.0	1.6	24	3¾	1¼	2	F32G1, F32G1P, F32H1, F32H1P	Electropak, Rectopak, Univerter, etc.

NOTE: All rectifiers are single phase, full wave, bridge type.

Mounting Prefix: IB=Insulated Bolt; B=Grounded Bolt; F=Grounded Foot; IF=Insulated Foot; IS=Insulated Stud.

P suffix designates reverse polarity stacking. Center terminal is DC positive.

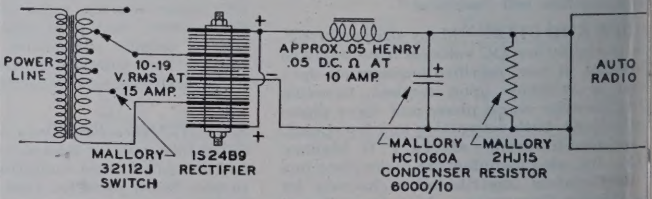
J suffix designates universal construction with loose mounting feet for foot, bolt or stud mounting replacement.

†To determine AC Amps: Multiply the DC amps by the following factors: Inductive load by 1.1; resistive load by 1.2; capacitive load by 1.4.

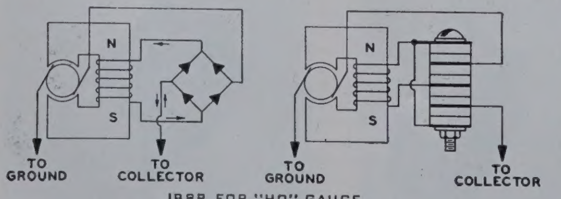
*Use base from old rectifier.

§Ratings given are for resistive and inductive loads. To determine the Max. continuous DC amp. rating for capacitive and battery loads multiply these ratings by 0.82.

AUTOMOBILE RADIO POWER SUPPLY CIRCUIT

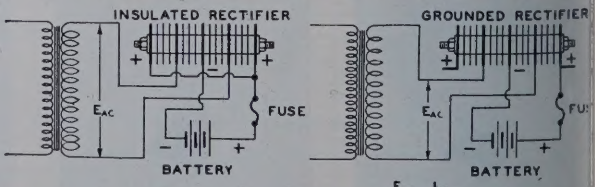


MODEL TRAIN LOCOMOTIVE REVERSING CIRCUITS



IB8R FOR "HO" GAUGE
IB12R FOR "O" GAUGE

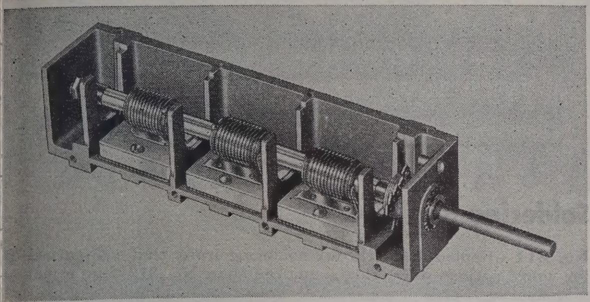
TYPICAL BATTERY CHARGING CIRCUITS



		E_{AC}	I_{AC}
FOR 4-2 D.C. AMPS. USE	IB12C1	9.8	5.7
FOR 6-3 D.C. AMPS. USE	IS16CB7	11.1	8.0
FOR 10-7 D.C. AMPS. USE	IS16B9	12.0	13.5

(See Page M-25 for Mallory List Prices)

MALLORY SPECIAL COMPONENTS AND MISCELLANEOUS ITEMS



Mallory Inductuner* Type 8301

● The Inductuner is a three-gang, infinitely variable inductance tuning device, designed to provide continuous frequency selection over a range of frequencies from approx. 50 to 240 megacycles, covering the 1¼, 2, and 6-meter bands, as well as all television and FM bands.

Various tuning ranges can be selected by varying the circuit constants, as required. The ten-turn, or 3600° rotation, permits convenient selection of the frequency desired without the use of a bandspread mechanism or intricate gear drive. Band width can be easily controlled by the use of a suitable bandpass circuit.

At the present time the Inductuner has acceptance as the tuning unit in television receivers that offer FM, police, aircraft and amateur reception, as well as the full 13 channels assigned for video transmission.

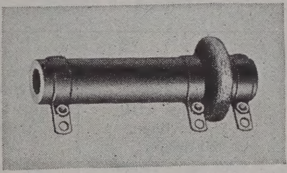
The complete assembly is substantially mounted in a die-cast frame, completely shielded. Size $7\frac{3}{16}''$ long x $1\frac{13}{16}''$ x $1\frac{13}{16}''$.

A technical information bulletin is available on request, containing complete details, electrical characteristics, and suggested circuits.

Inductuner*—Registered trade mark for Mallory variable inductance tuning devices. Manufactured and sold under one or more of the following Paul Ware and Mallory patents: 2,163644, 2,163645, 2,163646, 2,163647, 2,260877, 2,377789, 2,377790, 2,399060, 2,405890. Other patents applied for.

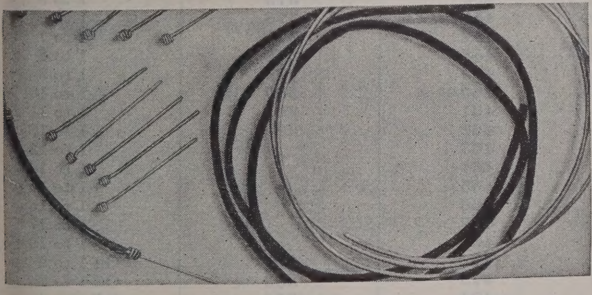
TYPE VC-101

Videocoupler



● The Mallory VC-101 Videocoupler is a compact inter-stage coupling unit for use in the wide-band amplifiers commonly found in television, radar and oscilloscope equipment. It consists of peaking inductances and a load resistance which provide an essentially flat frequency response to 4 mc. per second. It is designed to work into a terminating capacity of 22.5 mmfd. When used with a 6AC7 tube in a proper circuit, a stage gain of approximately 25 may be realized.

Mounting space required: 1¾″ long x ¾″ in diameter; max. dissipation 2 watts; finish, high-temperature enamel. Use a No. 6 bolt through the core for mounting.



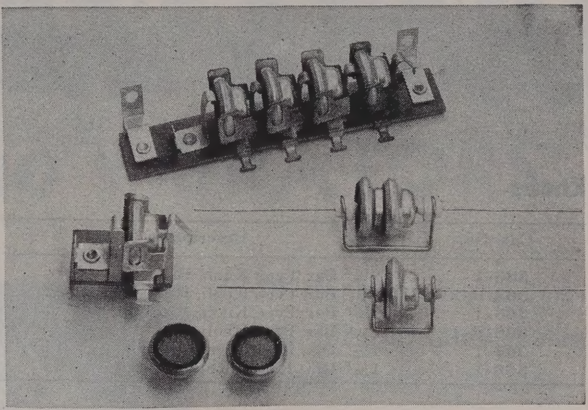
Yard-Ohm Resistance Kits

● Each Yard-Ohm Resistance Kit consists of all necessary materials to construct flexible resistors of a wide range of values. The Yard-Ohm Kit provides a real solution to the odd-value resistor problem. In addition to replacement applications, resistors made from the Yard-Ohm Kit are ideal for meter shunts, and for use wherever a high quality flexible resistor is desired.

Each Mallory Yard-Ohm Kit consists of the following: 1 yard spiral wound resistance wire; 1 yard insulated braid; 24 spiral wire leads. The kit is available in eight resistance values.

Dissipation—all types: ½ watt per inch.

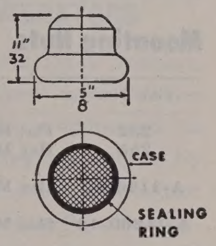
Catalog Number	Resistance Value (Ohms per Inch)	Carrying Capacity in Amperes	Catalog Number	Resistance Value (Ohms per Inch)	Carrying Capacity in Amperes
YO-1	1	.707	**YO-50**	50	.100
YO-5	5	.315	**YO-100**	100	.071
YO-10	10	.223	**YO-250**	250	.044
YO-25	25	.141	**YO-500**	500	.031



Grid Bias Cells

● The Mallory Grid Bias Cell is a small acorn-shaped, self-contained device. The metal container or cup is the negative electrode. The black disc is the positive electrode.

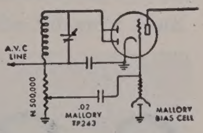
Application



The principal use of Mallory Grid Bias Cells is in the biasing of the first audio amplifier tube in modern high-gain receivers. Diagram of a typical circuit is shown at right. The bias cell does not need to be by passed to ground.

Correspondence is invited regarding the application of Mallory Grid Bias Cells. Special Technical Bulletin No. GBC746 may be obtained on request.

Characteristics



The no-current potential of Mallory Grid Bias Cells is within plus or minus 10% of their rated voltage.

Current—The cell is strictly a potential or voltage cell for biasing class "A" amplifier tubes and should not be used for biasing power tubes or oscillators; or for any circuit where direct current may flow through, or be drawn from, the cell.

Temperature—The cells may be used at temperatures from 0°F to 140°F. The voltage of the cell remains reasonably constant throughout this wide temperature range. It is recommended, however, that wherever possible the bias cell be placed in the coolest location.

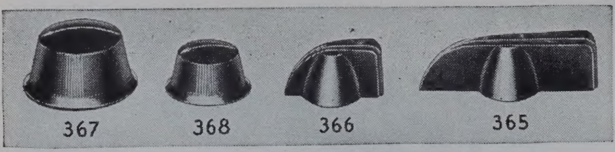
Humidity—The cell exhibits no change in characteristics when exposed to a relative humidity of 90% at 120°F.

Impedance—Mallory Grid Bias Cells are non-reactive at audio frequencies. The DC resistance of the cell ranges between 10,000 and 40,000 ohms.

Noise—The cells do not cause noise.

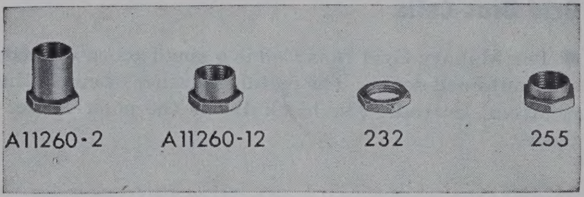
Cat. No.	Description
BC-2	1¼-volt Grid Bias Cell (packed 10 to box)
GB11A	Cell Holder, 1-cell capacity
GB11B	Cell Holder, 1-cell capacity
GB12	Cell Holder, 2-cell capacity
GB13	Cell Holder, 3-cell capacity
GB14	Cell Holder, 4-cell capacity
GB15	Cell Clip, 1-cell capacity
GB16	Cell Clip, 2-cell capacity

MALLORY SPECIAL COMPONENTS AND MISCELLANEOUS ITEMS



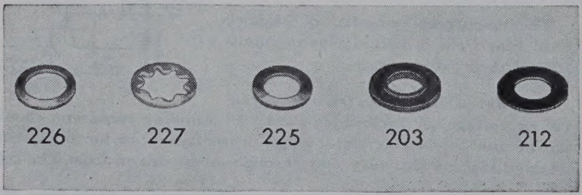
Knobs

Cat. No.	Description
365-1	2¼″ Bar Type Knob, Black
365-R-1	2¼″ Bar Type Knob, Red
366-1	1¼″ Bar Type Knob, Black
366-R-1	1¼″ Bar Type Knob, Red
367-1	1½″ Dia. Round Knob, Black
368-1	1⅛″ Dia. Round Knob, Black



Mounting Nuts

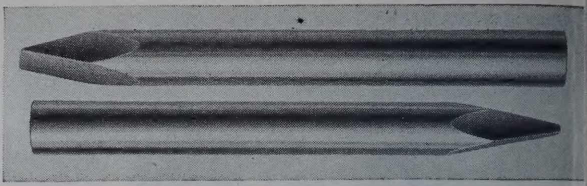
Cat. No.	Description	Thread	Dimension
232	Flat Hex Mounting Nut.	⅜-32	½ x 3/32
255	Hex Mounting Nut.....	⅜-32	½ x 7/64 x 7/64 shoulder nut
A-11260-2	Hex Mounting Nut.....	⅜-32	½ x 7/64 x 15/32 shoulder nut
A-11260-12	Hex Mounting Nut.....	⅜-32	½ x 7/64 x 7/32 shoulder nut



Washers

Catalog No.	Description and Dimensions
203	Extruded Washer—Fiber—¾″ O.D. x ⅜″ I.D. x 1/16″; Extruded ½″ x 1/32″ For Set See No. 212 Flat Washer.
212	Flat Washer—¾″ O.D. x ⅜″ I.D. x 1/32″; Bakelite
225	Metal Washer—Nickel Finish—⅝″ O.D. x ⅜″ I.D. .040 Brass
226	Metal Washer—Nickel Finish—⅝″ O.D. x 7/16″ I.D. .040 Brass
227	Lock Washer—Cadmium Plated Steel—1 1/16″ O.D. x 25/64 I.D.

P R MALLORY & CO Inc
MALLORY
RADIO SERVICE ENCYCLOPEDIA
Page after page of replacement information for all pre-war and post-war receivers.



Soldering Iron Tips

No. 311—Replacement tip for soldering irons that are turned o for short periods only. Heats quicker than No. 312, but is not a long wearing. Made of a special Mallory copper alloy long in use as welding tip material. Nickel plated to resist corrosion. Size—⅜ diameter, 4″ length. Plunger style with "screw driver" point.

No. 312—Replacement tip for soldering irons that are used continuously for long periods of time. Made of a special Mallory copper allo of great hardness and high electrical conductivity. Nickel plated t resist corrosion. Size—⅜″ diameter, 4″ length. Plunger style, wit "screw driver" point.

Dial Plates

For Mallory Circuit Selector, Tap and All-Wave Switches. (Plates to match rotation of Mallory Adjustable Resistors on page 33.)

OFF
1
2
3
4
5
6
MALLORY
INDIANAPOLIS
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
MALLORY
INDIANAPOLIS

Neat-appearing Dial plates with easy-to-read aluminum figures clearl etched on solid black background. Dimensions are 1 13/16″ in diamete with 7/16″ hole, with figures 7/64″ high. .020″ aluminum stock.

For all types 3100J, 3200J Switches with 1 1/16″ base. 20 degree spacing between numerals.	For all Switch types 1200L, 1300L and 1¼″ base 3100J, 3200J. 30 degree spacing between numerals.	Marking
Cat. No.	Cat. No.	
	372	1 to 2
453	373	1 to 3
454	374	1 to 4
455	375	1 to 5
456	376	1 to 6
457	377	1 to 7
458	378	1 to 8
459	379	1 to 9
460	380	1 to 10
461	381	1 to 11
462	382	1 to 12
463		1 to 13
464		1 to 14
465		1 to 15
466		1 to 16
467		1 to 17
468		1 to 18
472		Off 1 to 2
473	383	Off 1 to 3
474	384	Off 1 to 4
475	385	Off 1 to 5
476	386	Off 1 to 6
477	387	Off 1 to 7
478	388	Off 1 to 8
479	389	Off 1 to 9
480	390	Off 1 to 10
481		Off 1 to 11
482		Off 1 to 12
483		Off 1 to 13
484		Off 1 to 14
485		Off 1 to 15
486		Off 1 to 16
	*394 Special	1 to 24
	†487 Special	1 to 5
	‡488 Special	1 to 4

*15° Spacing Between Numerals
†60° Spacing Between Numerals
‡90° Spacing Between Numerals

ATR · VIBRATORS · ATR
AMERICAN TELEVISION & RADIO CO.

ATR *AUTO RADIO* VIBRATORS

ATR
VIBRATOR
REPLACEMENT
TYPE 524
ATR
REPLACEMENT
A QUALITY PRODUCT
ATR VIBRATORS
FULLY GUARANTEED
THE BEST BY TEST
ATR
VIBRATOR
TYPE 524
Serial 44705
For use only as recommended on approved 6 Volt D.C. Circuits. See directions.
PATENTS PENDING

ATR Manufactures a Complete Line of Auto Radio Replacement Vibrators

Ask your ATR Distributor for your Free Copy of the Latest ATR Vibrator Guide

ATR VIBRATORS

feature Ceramic Stack Spacers, and are proven units of the highest quality, engineered to perfection. They are backed by more than 17 years of vibrator design and research, development and manufacturing — ATR *Pioneered in the Vibrator Field.*

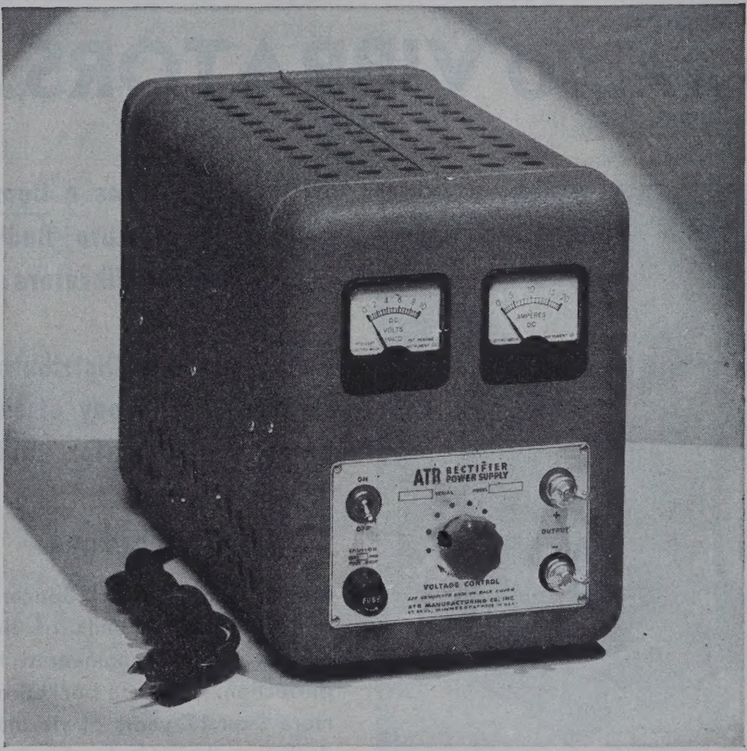
ATR VIBRATOR EQUIVALENT CHART

ATR	TYPE	SIZE	ATR LIST PRICE	E-L	MALLORY	RADIART
324	Int.	1 ½″ x 3 ⅛″	$4.10	1703	294	5300
328	Int.	1 ½″ x 3 ⅛″	4.10	2090	854	5331
335	Int.	1 ½″ x 3 ⅛″	4.10	2088	852	5303
340	Int.	1 ½″ x 2 ⅞″	4.10	2605	859	5301
508	Syn.	1 15/16″ x 4 ½″	7.65	2682	273C	5425
520	Syn.	1 ½″ x 3 ⅛″	6.90	2688	245	5409
522	Syn.	1 ½″ x 3 ⅛″	6.90	2089	246	5411
524	Syn.	1 ½″ x 3 ⅛″	6.90	2107	248	5400
525	Syn.	1 ½″ x 3 ⅛″	6.90	2687	249	5406
547	Syn.	1 15/16″ x 3 ½″	6.90	2092	716	5426

THESE 10 POPULAR ATR VIBRATORS MEET 90% OF YOUR SERVICE NEEDS

ATR • ELIMINATORS • ATR

AMERICAN TELEVISION & RADIO CO.



Illustrates Heavy Duty "A" Battery Eliminator, Type 620C-ELIP, Equipped with Voltmeter, Ammeter and Voltage Control.

ATR "A" BATTERY ELIMINATORS

Specially Designed for Testing and Operating Auto Radios and D. C. Electrical Apparatus on Regular A. C. Lines, 105-125 Volts 50-60 Cycles.

- Fully Automatic and Fool-Proof.
- Eliminates Storage Batteries and Battery Chargers.
- Operates the Equipment at Maximum Efficiency at all Times.
- Delivers Filtered Direct Current at the Correct Voltage for Proper Operation.

SUGGESTED USES:

As a power supply for radio sets, aircraft instruments, relays, motors and other electrical and electronic equipments. In the laboratory, for supplying various low D. C. voltages.

Battery Eliminators may be treated as batteries in the sense that they can be connected in series for higher voltages at the same current output per unit or in parallel for the same output voltage per unit at higher currents.

Equipped with Full-Wave Dry Disc Type Rectifier, Assuring Noiseless, Interference-Free Operation and Extreme Long Life and Reliability.

TYPE 610 ELIB—Rated output 6 volts at 10 amperes. Size 6½" x 9⅛" x 8½"; shipping weight, 22 lbs. Code word, "SELIB".

Net Price........ **$29.70**

TYPE 620C ELIP—Uses dual rectifiers. Size 6½" x 12⅞" x 8½". Shipping weight, 33 lbs. Code word, "HELIN".

Rated Output: 6 volts at 18 amperes or 12 volts at 9 amperes. Either output obtainable by means of simple output terminal switching arrangement.

Net Price........ **$45.90**

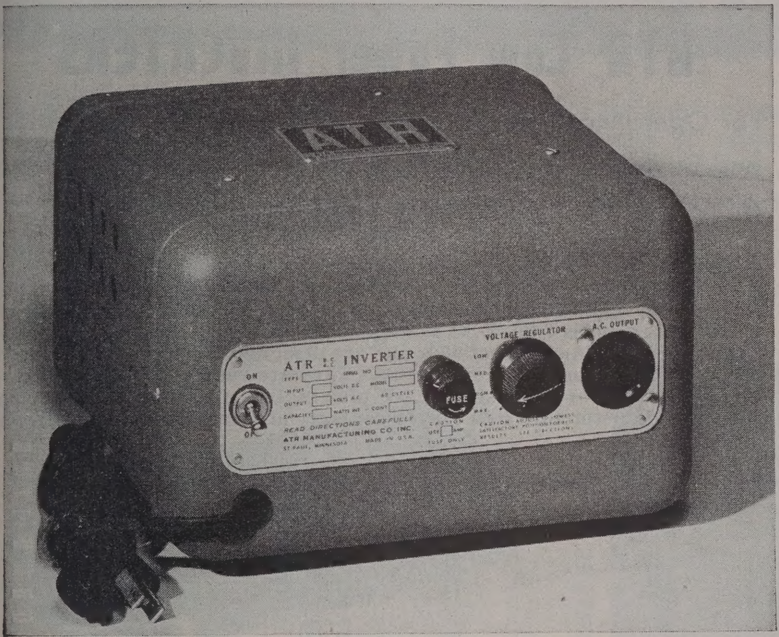
All ATR Eliminators have as standard equipment: On-Off Switch, Voltage Control, Meter(s), Fuse Protection, Rubber Mounting Feet, 6-Ft. All-Rubber Cord Set, and Cabinet of heavy gauge metal having attractive grey-wrinkled finish.

ATR RECTIFIER POWER SUPPLY

Illustrating Standard "A" Battery Eliminator, Type 610 ELIB, Equipped with Voltmeter and Voltage Control.

ATR • INVERTERS • ATR

AMERICAN TELEVISION & RADIO CO.



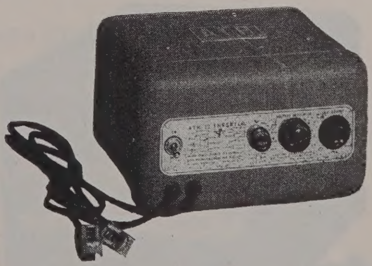
Illustrates all Standard ATR Radio Inverters except types 6 and 12 RSB.

ATR STANDARD AND HEAVY DUTY RADIO INVERTERS

Specially Designed for Operating A. C. Radios, Public Address Systems, Television Sets, Amplifiers, Intercall Systems, and Radio Test Equipment from D. C. Voltages in Vehicles, Ships, Trains, Planes, and in D. C. Districts.

This group of ATR Inverters is specially recommended for use with A. C. radios, amplifiers, and similar electronic equipment, being exceptionally well filtered to insure interference-free radio reception. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet, long-life radio operation. All models indicated are equipped with an ATR ten-contact plug-in Inverter Vibrator of new design and construction having dual arms and utilizing eight ¼″ diameter tungsten power contacts and two silver alloy driver contacts, insuring increased long life and reliable service. These Inverters also come equipped with four point voltage regulators, which make possible the correct output voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal; the operating efficiency is in excess of 85%.

Type	Input D.C. Volts	A.C. Output 60 Cycles	Output Wattage		Code Word	List Price
			Intermittent	Continuous		
6 RSC	6	110 volts	85	75	ARSCD	$44.00
12 RSC	12	110	125	100	BRSCE	44.00
24 RSC	24	110	125	100	NRSCQ	48.50
32 RSC	32	110	150	100	CRSCF	45.50
32B-RHC	32	110	200	180	DRHCG	69.50
50 RSC	50	110	150	100	ERSCH	57.00
110 RSC	110	110	250	150	GRSCJ	45.50
110A-RHC	110	110	325	225	HRHCK	65.00
110B-RHC	110	110	500	350	IRHCL	75.00
110C-RSC	110	110/220	250	150	JRSCM	57.00
220 RSC	220	110	250	150	LRSCO	48.50
220A-RSC	220	110/220	250	150	MRSCP	57.00



Illustrates Types 6 and 12 RSB Standard Radio and Industrial Inverters only.

Radio frequency interference completely suppressed.

Any of the above type Inverters are available with 220 volt A.C. output at prices 25% higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word "T"; that is, if a 110 volt D. C. Inverter having a 220 volt A. C. output is desired, this would be ordered as Type 110S covered by code word, "GRSCT".

ATR Standard and Heavy Duty Radio Inverters are housed in attractively finished grey-wrinkled metal cabinets.

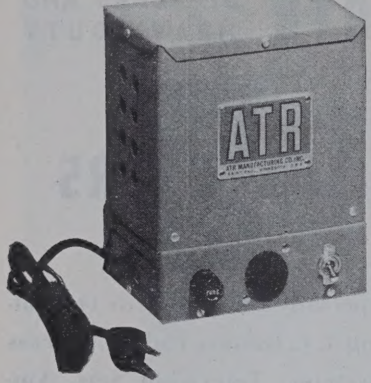
Dimensions of Standard Model Radio Inverters, 8⅜″ x 9″ x 5¼″; Shipping weight, 19 lbs.

Dimensions of Heavy Duty Model Radio Inverters, 6½″ x 11⅛″ x 8½″; Shipping weight, 30 lbs.

For correct replacement vibrator, consult Inverter Vibrator Guide.

ATR • INVERTERS • ATR

AMERICAN TELEVISION & RADIO CO.



Illustrating all Types LID Inverters except Types 6 and 12.

ATR Low Power INVERTERS

For Operating Small A. C. Motors, Electric Razors, Radios, and Devices of Approximately 35 watts Consumption from 6, 12, 24, 32, 110, and 220 volt D. C. Lines.

This line of ATR Low Power Inverters was specially brought out to meet the insistent demand for a good, low power, inexpensive portable Inverter for operating phonograph and other A. C. motors and a host of small A. C. devices from D. C. voltage sources. These Inverters operate at an efficiency in excess of 90% and are designed for operation of loads having a power factor as low as 60%. They are ruggedly built and powered by a special ATR six-contact plug-in Inverter Vibrator utilizing four ¼″ diameter tungsten power contacts and two silver alloy driver contacts.

Type	Input D. C. volts	A.C. Output 60 cycles	Wattage		Code Word	List Price
			Intermittent	Continuous		
6 LID	6	110 volts	40	35	ALIDM	$29.50
12 LID	12	110	50	35	BLIDN	29.50
24 LID	24	110	50	35	FLIDR	32.50
32 LID	32	110	50	35	CLIDO	32.50
110 LID	110	110	75	50	DLIDP	29.50
220 LID	220	110	75	50	ELIDQ	32.50

Radio frequency interference suppressed.

Any of the above type Low Power Inverters are available with 220 volt A. C. output at prices 25% higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word "T"; that is, if a 110 volt D. C. Low Power Inverter having a 220 volt A. C. output is desired, this would be ordered as Type 110S covered by code word, "DLIDT".

Dimensions, 5⅜″ x 4″ x 6⅝″; shipping weight, 7 lbs.

Replacement Vibrators for any of the above Low Power Inverters are available. Be sure to mention the type number as well as model number when ordering. Consult Inverter Vibrator Guide.

ATR STANDARD AND HEAVY DUTY INDUSTRIAL INVERTERS

For Operating A. C. Motors, Electronic Apparatus, Electrical Testing Equipment, and A. C. Electrical Appliances from D. C. Lines.

These units are specially designed for applications as indicated, permitting the use of standard A. C. equipment on D. C. lines. These Inverters operate at an efficiency in excess of 80% and are carefully built and equipped to give the longest possible life and operating satisfaction. All Inverters indicated utilize ATR ten contact plug-in vibrators, and are also equipped with four point voltage regulators as fully described above. These Industrial Inverters are recommended for use with loads having power factors as low as 60%, and as low as 50% for the "P" Inverters indicated. These Inverters should not be used with Neon signs.

Illustrating Heavy Duty Models Radio and Industrial Inverters except types 6 and 12. Types 6 and 12 Industrial Inverters are illustrated by small cut on page M-23.

Type	Input D.C. volts	A.C. Output 60 cycles	Output Wattage		Code Word	List Price
			Intermittent	Continuous		
6 ISP	6	110 volts	85	75	AISPD	$44.00
12 ISP	12	110	125	100	BISPE	44.00
24 ISP	24	110	125	100	LISPN	48.50
32 ISP	32	110	150	100	CISPE	45.50
32P*-ISP	32	110	150	125	DISPF	57.00
32B-IHP	32	110	200	180	EIHPG	69.50
110 ISP	110	110	250	150	FISPH	45.50
110P*-ISP	110	110	250	150	GISPI	57.00
110A-IHP	110	110	325	225	HIHPJ	65.00
110B-IHP	110	110	500	350	IIHPK	75.00
220 ISP	220	110	250	150	JISPL	48.50
220P*-ISP	220	110	300	150	KISPM	57.00

Radio frequency interference not suppressed.

Any of the above type Inverters are available with 220 volt A. C. output at slightly higher prices. In ordering, follow similar directions given above.

ATR Standard and Heavy Duty Industrial Inverters are housed in attractively finished grey-wrinkled metal cabinets.

Dimensions of Standard Model Industrial Inverters, 8⅜″ x 9″ x 5¼″. Shipping weight, 19 lbs.

Dimensions of Heavy Duty Industrial Inverters, 6½″ x 11⅛″ x 8½″; shipping weight, 30 lbs.

For correct replacement vibrator, consult Inverter Vibrator Guide.

*"P" Inverters are corrected for loads having power factors as low as 50%.

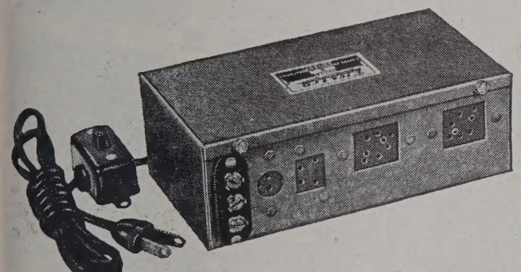
Built-in filter, $10.00 additional.

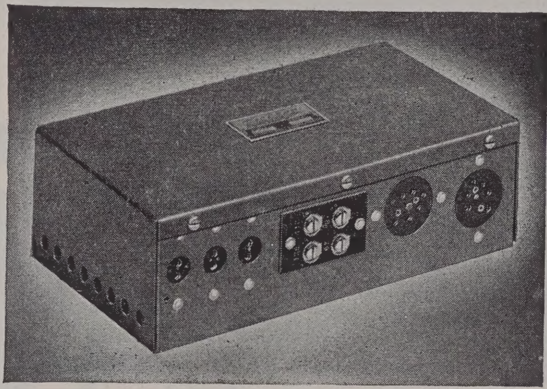
Electro ELECTRICAL AND RADIO EQUIPMENT BATTERY ELIMINATORS *of Distinction*

ELECTRIFY *with* ELECTRO

ow battery radio reception can be enjoyed at its est without the usual grief and expense incurred hen using batteries. Radio can be used for unimited periods without fading. Costs but a few cents er hundred hours of operation.

OUR TYPICAL MODELS are shown on this and the following page. These are ruggedly constituted units of unusually long life—easy to install—no liquids to spill—no moving parts to get out of order and wear out—operate in any position. Completely filtered, hum free and silent in operation. Universal plugs and sockets are provided to accommodate any radio. All units durably finished in blue hammerloid.





MODEL "S" COMPACT
With Selenium Rectifier

perates Any 1.4 Volt — 4, 5 or 6 Tube Battery Radio from 115 Volt, 60 Cycle Source

esigned for sets using 1A7, 1E4, 1N5G, 1Q5G, tubes convert battery radio to an efficient AC receiver ith low operating cost. Fits in battery compartment most radios. Ideal for use in home, hotel, camp or ny place where normal AC is available.

Technical Data

A" Supply Output

5-6 tubes (average)	1.4 V. @ 320 ma.
4 tubes	1.4 V. @ 250 ma.
4 tubes	1.4 V. @ 200 ma.

B" Supply Output

90 Volts DC @ 12 ma. max.

rimary

115 Volts AC @ 60 cycles.

pecifications

Six foot cord and plug — switch in cord.
Size: 2⅜" x 3½" x 6¾".
Weight packed: 3½ pounds.

n and Off switch for permanent mounting — becomes rt of the radio.

LIST PRICE $16.75

MODEL "P" COMPACT

Same as MODEL "S" except has tube rectifier. Also available for 220 Volt operation.

LIST PRICE $15.00

MODEL "F" COMPACT

Operates Any 2 Volt — 4, 5, 6 or 7 Tube Battery Radio from 115 Volt, 60 Cycle Source

For receivers using 1A4, 1C7, 1D5, 1E5, 1F5, 1F7, 1H4G, etc., tubes to change radio into an all-electric set. Inexpensive to operate.

Technical Data

"A" Supply Output

7 tubes	2 V. @ 480 Ma. — 500 ma. max.
6 tubes	2 V. @ 420 ma.
4-5 tubes (average)	2 V. @ 325 ma.

"B" Supply Output

67, 90, 112, 135 Volts DC @ 18 ma.

Primary

115 Volts AC @ 60 Cycles. Also available for 220 Volt Operation.

Specifications

Six foot cord and plug, switch in cord.
Size: 2⅜" x 4½" x 8¼".
Weight packed: 5½ pounds.

LIST PRICE $17.95

MODEL "R" SYNCRO POWER

Same as Model "F" but operates from 6 Volt DC source. Supplied with cord and battery clips. On and Off switch in eliminator turns power on.

LIST PRICE $20.75

ELECTRO PRODUCTS LABORATORIES

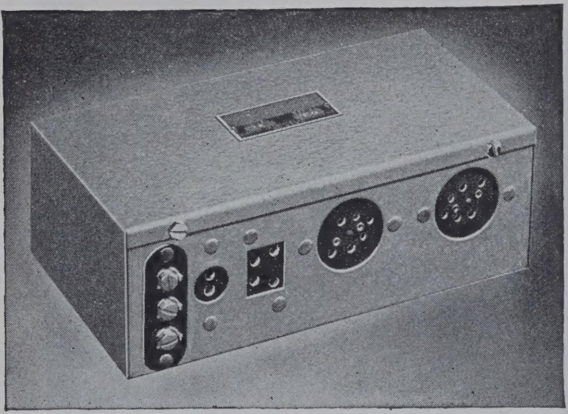
Electro
ELECTRICAL AND RADIO EQUIPMENT

BATTERY ELIMINATORS of Distinction

ELECTRIFY *with* ELECTRO

Now battery radio reception can be enjoyed at its best without the usual grief and expense incurred when using batteries. Radio can be used for unlimited periods without fading. Costs but a few cents per hundred hours of operation.

FOUR TYPICAL MODELS are shown on this and the preceding page. These are ruggedly constituted units of unusually long life—easy to install—no liquids to spill—no moving parts to get out of order and wear out—operate in any position. Completely filtered, hum free and silent in operation. Universal plugs and sockets are provided to accommodate any radio. All units durably finished in blue hammerloid.



MODEL "Q" SYNCRO POWER

Operates Any 1.4 Volt — 4, 5, or 6 Tube Battery Radio from 6 Volt DC Source

This Eliminator is to be used where 115 Volt AC lines are not available. Will provide all "A" and "B" voltages more efficiently and at lower cost from 6 Volt battery. Will operate a 4-tube radio three weeks at 3 hours a day on a single storage battery (100 A.H.) charge.

Technical Data

"A" Supply Output

5-6 tubes (average) .... 1.4 V. @ 320 ma.
4 tubes .... 1.4 V. @ 250 ma.
4 tubes .... 1.4 V. @ 200 ma.

"B" Supply Output

90 Volts DC @ 12 ma. max.

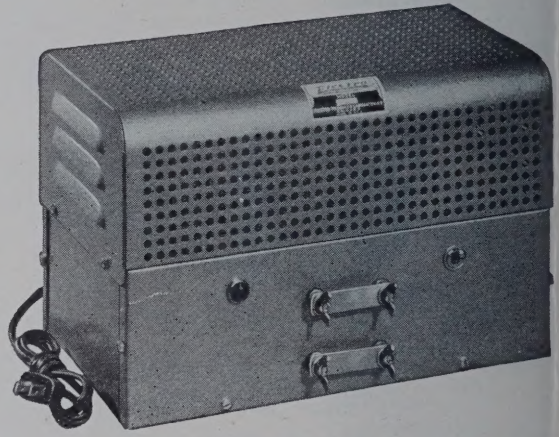
Primary

6 Volts DC @ 0.8 Amp. (for 4-tube radio).

Specifications

Cord and battery clips on primary.
On and Off switch in Eliminator turns power on.
Size: 2⅜" x 3½" x 6¾".
Weight packed: 3½ pounds.

LIST PRICE $18.00



MODEL "A" POWER SUPPLY

Operates latest type auto radios with solenoid tuning and tone controls — also 12 Volt marine and aircraft radios from 115 Volt, 60 Cycle Source. In parallel supplies 6 Volts at 15 Amps. In series 12 Volts at 7½ Amps.

Separately, 6 Volts at 7½ Amps.

Designed especially to do away with the bother of old-fashioned storage batteries. Ideal for the radio service man. Two separately filtered DC output sources are provided for convenience. Heavy duty transformer and chokes; and two large capacity condensers provide excellent voltage regulation.

Technical Data

Output

6 Volts — 15 Amps. continuous.
6 Volts — 25 Amps. max. instantaneous.
12 Volts — 7½ Amps. continuous.
6 Volts — 7½ Amps. two sections continuous.

Primary

Taps on transformers for 105, 115, 125 Volts, 60 cycle AC. Each completely filtered section is separately fused for heavy overloads.

Specifications

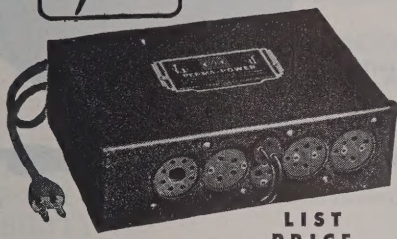
Six foot rubber cord and plug.
Size: 7¾" x 7¾" x 11¾".
Weight packed: 31 pounds.
Electrostatic shield with R.F. line filter.
Large capacity bridge type rectifiers.
Two 2,000 M.F.D. condensers.
Terminals on front of panel with wing nuts.

LIST PRICE $67.50

ELECTRO PRODUCTS LABORATORIES

PERMA-POWER

BATTERY ELIMINATORS



MODEL "A"

for 1½ volt radios with 4, 5, or 6 tubes. Model A has a circuit designed for optimum voltage regulation and changes in line voltages. It maintains practically constant voltage control under varying tube loads, with universal sockets for all battery plugs. Model A will fit all farm battery radios as well as the battery compartments of practically all portables.

LIST PRICE $14.95

Size: 2⅞" x 4½" x 6¾"
Shipping weight: 4 lbs.

PROVIDES

"A" — 1.5v at 200 m.a.
1.35v at 250 m.a.
1.55v at 300 m.a.
1.35v at 350 m.a.

"B" — 90v at 13 m.a.
101v at 8.5 m.a.

MODEL "B"
BATTERY ELIMINATOR

for 6-volt radios, twin-powered. Model B will convert most 6-volt battery radios. Operates on 105-125 volt 50-60 cycle lines supplying "A" and "B" power. Vibrator disturbance eliminated and high fidelity performance assured by sensational new design having two isolated sources; one for the vibrator and one for the filaments. It provides two sources of 6 volts at 1½ amps., or when connected in parallel —3 amps. Screw type terminals.

LIST PRICE $19.95

Size: 3⅝" x 6⅛" x 5½"

Shipping weight: approx. 7 lbs.

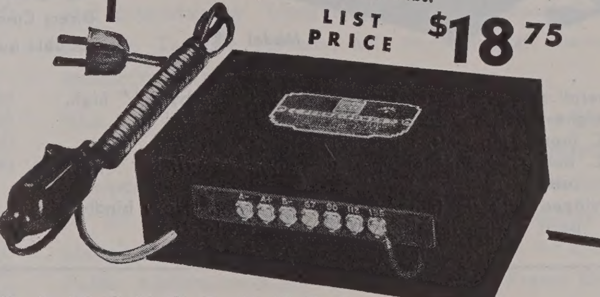
MODEL "E"
BATTERY ELIMINATOR

for 2-volt radios with 4, 5, 6, 7 or 8 tubes. Model "E" has both A and B circuits designed for optimum voltage regulation and changes in line voltage. No distortion or "motor boating."

Model "E" will fit all farm battery radio compartments.

PROVIDES: "A" — 2v at 750 m.a.
"B" — 135v at 25 m.a. tapped at 112v, 90v, and 67v. Screw type terminals.
Size: 2¼" x 4⅞" x 6 13/16"
Shipping weight: approx. 4 lbs.

LIST PRICE $18.75



STEP DOWN TRANSFORMERS

For quick, easy conversion of all standard radios and electrical appliances to 220 volt 50-60 cycle operation. Designed for continuous and reliable performance. 100% safety factor for momentary overloads. Vacuum pressure wax impregnation. Primary connected to U. L. approved 6-ft. cord and plug . . . secondary to female receptacle.

Part No.	Wattage	Overall Dimensions	Mtg. Centers	Weight Net Lbs.	LIST
8M182	80	2⅝" x 3" x 3 1/16"	2 x 2	4½	**$ 7.30**
8M183	150	3⅜" x 3⅝" x 4⅛"	2⅛ x 2⅞	6	**9.55**
8M184*	300	3 15/16" x 4 3/16" x 4⅝"	3 x 3¼	9½	**12.15**
8M185*	500	3 15/16" x 4 11/16" x 4⅝"	3½ x 3¼	12	**18.25**
8M186*	1000	4½" x 4⅜" x 5⅜"	3 15/16 x 4½	20½	**35.50**

PRIMARY 235 VOLTS — SECONDARY 117 VOLTS
*Primary has 3 taps at 200, 220 and 240 volts; Secondary 117 volts.

GENERAL TRANSFORMER CORPORATION

MAKERS OF BETTER ELECTRICAL PRODUCTS FOR 20 YEARS

ELECTROX *"Master"* BATTERY ELIMINATOR

Model AR-2

Today's Outstanding D.C. Power Supply Unit, the ELECTROX, Model AR-2, provides the ultimate in humless Direct Current for all-around servicing and demonstrating automobile radios and for all similar applications.

It will operate practically any type or size of automobile radio—whether push button or manually tuned.

It delivers 6 volts of Direct Current free of hum; (less than 3% ripple).

Its D.C. output is adjustable—smooth, humless Direct Current, at the correct voltage is delivered to the individual radio being operated.

Turning the rheostat adjusts the output to 6 volts for any load current between 3 and 15 amperes. This is indicated by the easily read voltmeter located on top of the case. Made by instrument craftsmen to give dependable, trouble-free service.

Overall Dimensions—11½" long, 7¼" wide, 6⅝" high.

Weight—20 pounds.

A.C. Input—115 volts, 1 phase, 60 cycle.

D.C. Output—6 volts, at from 3 to 10 amperes, continuous rating; and from 10 to 15 amperes, intermittent; selectively determined. Negligible hum level, (less than 3% ripple).

Voltmeter—accurate; mounted on top of case for visibility.

Cartridge-type Fuse—easily accessible from outside of case.

Toggle Switch—for A.C. current supply.

Long-life Selenium Rectifier; Condenser; Transformer; Filter Choke.

6 ft. A.C. cord and plug. Wing nut binding posts for connecting DC. leads. Rubber feet.

Steel case—attractive, metallic-brown finish.

Model AR-1

ELECTROX *"Standard"* BATTERY ELIMINATOR

ELECTROX, Model AR-1, is a practical, low-cost D.C. power-supply unit for servicing and demonstrating automobile radios. It is an exceptionally high-grade battery eliminator—compact, rugged, dependable. It delivers Direct Current with very low ripple component, but does not have the adjustable output features embodied in the ELECTROX "Master", Model AR-2.

Overall dimensions—11½" long by 7¼" wide by 6⅝" high.

Weight—20 pounds.

A.C. input—115 volts, 1 phase, 60 cycle.

D.C. output—6 volts at approximately 15 amps, low ripple component.

Equipped with six foot A.C. cord and plug. Heavy binding posts are provided for connecting D.C. leads.

Toggle switch for "ON and OFF."

Cartridge type fuse—easily accessible from outside of case.

Equipment—Condenser, transformer, filter choke, Selenium rectifiers, rubber feet.

Finish—Attractive, well ventilated steel case.

ELECTROX BATTERY BOOSTERS

Designed for safely recharging single storage batteries—small, compact, light in weight but strong. Can be set on floor, shelf or counter or hung on wall. Under ordinary conditions, will recharge battery overnight.

Rectifiers are rugged, long-life Selenium. Ammeter is located in front of case and is easily read. A circuit breaker is supplied to protect against shorts and overloads, having a reset button conveniently located in the front of the case. Complete with 6 ft. A.C. cord and plug, and 5 ft. cord with battery clips for easy connection to batteries. Size: 6¼" x 6" x 7¼".

MODEL BX ELECTROX BATTERY BOOSTER, capacity 6 amperes.

MODEL CX ELECTROX BATTERY BOOSTER, capacity 10 amperes.

MODEL CX has 2/3 more charging capacity than the Model BX at less than 1/3 higher cost.

Model BX

RECTIFIER DIVISION

THE SCHAUER MACHINE CO. •

Carter Genemotor

The oldest name in Rotary Power Supplies for Mobile Radio

THE ORIGINAL CARTER GENEMOTOR FOR POLICE-TAXICAB-MARINE AND SMALL AIRCRAFT MOBILE COMMUNICATIONS

OUTSTANDING FEATURES

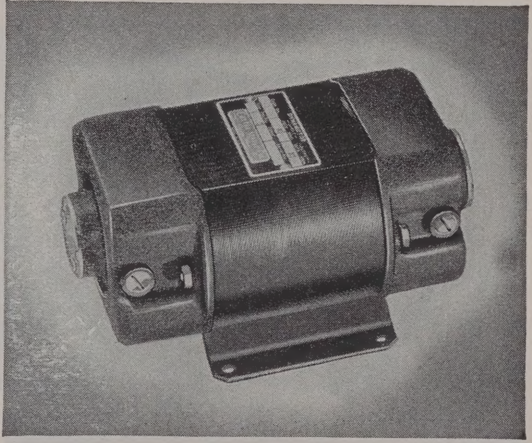
SMALL SIZE—
Simplicity of design permits minimum mounting space.

RELIABILITY—
Designed to deliver over 100,000 ten second transmissions without servicing for most mobile applications.

INSTANT POWER—
Full output in less than 3/10 seconds. No loss of messages due to Dynamotor slugishness.

ARMATURE—
Finest design incorporates transformer laminations, triple insulated wire. Static and dynamically balanced. Diamond-Finished commutators.

VERSATILE—
Carter Genemotor available in *any* input voltage from 5.5 to 115 volt DC.



3″ FRAME GENEMOTOR—7⅛″ LONG, 4⅛″ WIDE, 3½″ HIGH, WEIGHT 10 LBS.

SPECIFICATIONS

Code No.	DC Input Volts	DC Input Amps	DC Output Volts	DC Output MA	Duty	List Price
1½″ Frame Genemotor— 5-9/16″ long, 4⅛″ wide, 3½″ high, weight 7 lbs.						
210A	6	6	200	100	Con.	$44.00
251A	6	7.9	250	100	Con.	$47.00
351A	6	10.9	350	100	Con.	$49.00
2″ Frame Genemotor— 6⅛″ long, 4⅛″ wide, 3½″ high, weight 8 lbs.						
355V	5.5	18.0	350	150	Con.	$54.50
355A	6.0	16.4	350	150	Con.	$52.00
415V	5.5	20.0	400	150	Con.	$56.50
415A	6.0	18.2	400	150	Con.	$54.00
3″ Frame Genemotor (illustrated)— 7⅛″ long, 4⅛″ wide, 3½″ high, weight 10 lbs.						
420A	6.0	23.4	400	200	Con.	$57.50
420V	5.5	25	400	200	Con.	$60.00
425BS	12.0	12.8	400	225	Int.	$59.50
450AS	6.0	28	400	250	Int.	$58.00
4037AS	6.0	41	400	375	Int.	$68.00
4228VS	5.5	35	420	280	Int.	$64.50
520AS	6.0	28	500	200	Int.	$59.00
520VS	5.5	31	500	200	Int.	$61.50
5925AS	6.0	42	590	250	Int.	$70.00
617V	5.5	30	600	170	Int.	$60.00
620AS	6.0	29.5	600	200	Int.	$64.50
624VS	5.5	46	600	240	Int.	$67.80
650AS	6.0	39.0	600	250	Int.	$67.80

The Carter Original Genemotor is the result of over 15 years continuous improvement of design, performance and dependability. Unequalled power for most Police, Marine, Taxicab, Forestry, and small aircraft two-way mobile radio equipment.

The 1½″ Frame Genemotors are the lowest cost Dynamotors available for mobile radio receiver operation. Equipped with oil-less bronze sleeve bearings, lubricated for the life of the unit. The 2″ Frame Genemotors are also sleeve bearing equipped and are designed for mobile Public Address amplifier operation. The 3″ Frame Genemotors fulfill the majority of mobile transmitter requirements. Ball bearing equipped, this model furnishes dependable power to more mobile equipment than any other Dynamotor Power Supply.

Average efficiency 60%, voltage regulation load to no load 25%, ripple 1% unfiltered.

FILTERS—STARTING RELAYS

FILTERS—
Any of the above Carter Genemotors can be furnished with complete filter mounted in metal box mounted below unit. Add "X" to end of code number and following prices. 1½″ and 2″ Frame Genemotor models, $24.00 list, 3″ Frame Genemotor models, $25.00 list.

STARTING RELAYS—
Heavy Duty solenoid contactor starting relays are available for 5.5, 6, 12, 24, 28, 32 and 115 volt DC input. Add "R" to end of code number and $8.00 to list price (Relay draws 1.3 amps at 6 volts).

DUTY RATINGS—
Intermittent duty shall be considered 10 seconds on 20 seconds off. Continuous duty is considered 24 hours per day.

INPUT VOLTAGES—
Any Carter Genemotor can be supplied for special input voltages other than 6 volts. For 5.5, 12, 24, 28, 32 or 64 volt input add $2.50 to list. For 115 volt DC input add $3.50 to list.

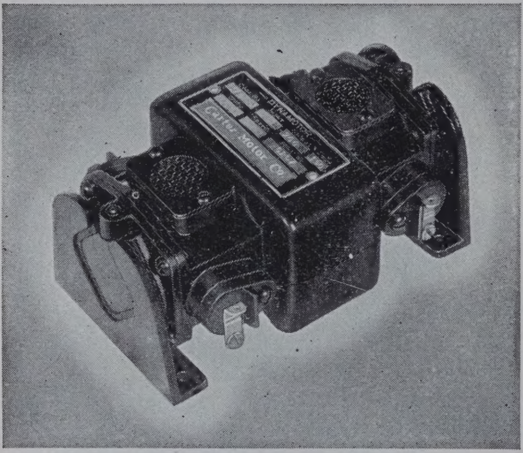
MARINE IMPREGNATION—
Special Marine Impregnation available on all Genemotor models upon request, add $2.00 to list price.

See replacement parts reference chart page for other special models, parts and prices.

Carter *Magmotor*

The oldest name in Rotary Power Supplies for Mobile Radio

THE CARTER MAGMOTOR FOR POLICE - TAXICAB - MARINE AND AIRCRAFT RADIO RECEIVERS-GEOPHYSICAL AND RESEARCH ELECTRONIC EQUIPMENT



Carter Magmotor—5⅝″ Long, 3-11/16″ Wide, 2½″ High, Weight 4¾ lbs.

OUTSTANDING FEATURES

ALNICO FIELDS —

Eliminates field coils and increases efficiency.

SMALL SIZE —

Compact design permits minimum mounting space.

MOUNTING —

Rigid mounting furnished. Rubber shock mounting as illustrated available upon request at no extra cost.

FLEXIBILITY —

Extended shafts available for small power take off. Also available as an AC or DC external driven Generator.

Carter Magmotor is the ideal Rotary Power Supply for Police and Taxicab receivers. PM fields reduce size and increase efficiency. Normal brush life of 2000 to 3000 continuous running hours on models up to 25 watts output. Intermittent duty models are designed for transmitter operation as well as geophysical and research applications. Ball bearing equipped. Average efficiency of receiver types 50%, transmitter types to 65%. Output voltage regulation 20%. AC ripple 1% unfiltered. The Magmotor is also available on special order in extended shaft models as AC or DC generators for 30 watt continuous duty and 50 watt intermittent duty. Special Geophysical models possess high humidity impregnation at no extra cost.

CARTER MAGMOTOR

5⅝″ long, 3-11/16″ wide, 2½″ high, weight 4¾ lbs.

Code No.	DC Input		DC Output		Duty	List Price
	Volts	Amps	Volts	MA		
MV1865	5.5	5	180	65	Con.	$46.00
MA250	6	4.3	250	50	Con.	$48.50
MV280	5.5	5.8	200	80	Con.	$48.00
MA265	6	5.4	250	65	Con.	$49.00
MA251	6	8	250	100	Con.	$50.50
MB251	12	3.8	250	100	Con.	$53.00
MA301	6	9.5	300	100	Con.	$51.00
MB301	12	4.6	300	100	Con.	$53.50
MA351	6	10.3	350	100	Con.	$52.00
MAS355	6	15	350	150	Int.	$53.00
MAS320	6	19	300	200	Int.	$55.00
MVS415	5.5	19	400	150	Int.	$57.50
MBS415	12	8.5	400	150	Int.	$57.50

AC AND DC GENERATORS —

The Magmotor is available on special order for AC output up to 220 volts at 120 cycles. DC output up to 400 volts 30 watts continuous, 50 intermittent, depending upon armature speed.

EXTENDED SHAFTS —

Available on all Magmotor models add "S" to end of code number and $5.00 to list.

FILTERS —

Available on all Magmotor models, Add "X" to code number and $24.00 to list.

STARTING RELAYS —

Low power models seldom require starting relays because of low drain consumed. Heavy Duty solenoid contactor relays recommended on high output models. Add "R" to code number and $8.00 to list for 6, 12, 24, 28, 32 or 115 volt DC relay. (6 volt relay draws 1.3 amps.)

INPUT VOLTAGES —

All Magmotors can be supplied for special input voltages other than 6 volts. For 5.5, 12, 24, 28, 32, 64 volt input add $2.50 to list. For 115 volt DC input, add $3.50 to list.

DUTY RATINGS —

Intermittent duty shall be considered 10 seconds on 20 seconds off. Continuous duty, 24 hours per day.

MARINE IMPREGNATION —

Available on all Magmotors upon request, add $2.00 to list. Furnished on Geophysical models as standard feature.

MOUNTINGS —

Rigid type mountings furnished as standard base. Rubber shock mounts available upon request at no extra cost.

Carter *Super Dynamotor*

The oldest name in Rotary Power Supplies for Mobile Radio

THE CARTER SUPER DYNAMOTOR FOR AIRCRAFT, MARINE, POLICE AND RAILROAD COMMUNICATIONS

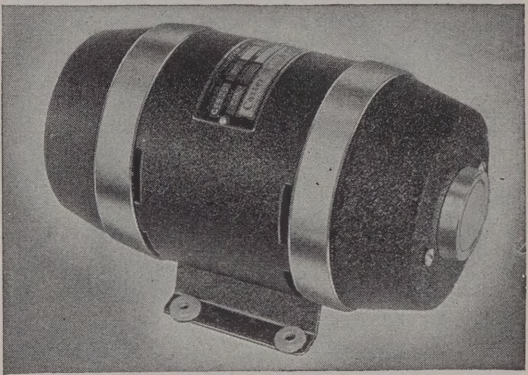
OUTSTANDING FEATURES

ARMATURE —
Triple insulated windings. Additional silk insulation on models over 600 volts. Transformer grade laminations. Static & Dynamically balanced.

ONE PIECE FRAME —
Exclusive cast frame simplifies construction and reduces losses.

COMMUTATORS —
Hard drawn silver alloy copper segments, diamond finished.

BRUSHES —
Engineered for long brush and commutator life, beryllium springs.



Super Dynamotor—8¼″ Long, 4½″ High, Weight 11¾ lbs.

The Super Dynamotor is designed for larger mobile transmitters requiring 150 to 250 watts of Dynamotor power. Specified by leading Airlines, Marine and Police mobile communication manufacturers. Constructed of finest materials and designed to withstand heavy overloads. Triple insulated and baked to assure dependable operation at high voltages. Triple or Quadruple insulated silk covered windings are used above 600 volts output to afford maximum insulation.
Average efficiency, 65%, voltage regulation 25% or less, 1% AC ripple unfiltered.
Cast aluminum mounting base less grommets supplied.

SUPER DYNAMOTOR

8¼″ long, 4½″ wide, 4¾″ high, weight 11¾ lbs.

Code No.	DC Input Volts	Amps	DC Output Volts	MA	Duty	List Price
AF450	6	27	400	250	Con.	$63.00
CFS550	32	13.5	500	500	Int.	$89.00
CFS5540	32	10.9	550	400	Int.	$89.00
CFS5550	32	14	550	500	Int.	$90.00
DFS5550	115	4	550	500	Int.	$91.00
VFS630	5.5	56	600	300	Int.	$86.50
VFS627	5.5	50	600	270	Int.	$84.00
BFS6530	12	26	650	300	Int.	$88.50
CFS6530	32	9.5	650	300	Int.	$88.50
VFS820	5.5	50	800	200	Int.	$90.00
CFS820	32	9	800	200	Int.	$90.00

HIGH VOLTAGE SUPER DYNAMOTOR

10¼″ long, 4½″ wide, 4¾″ high, weight 18 lbs.

Code No.	DC Input Volts	Amps	DC Output Volts	MA	Duty	List Price
CS7550	32	18	750	500	Int.	$118.00
DS7550	115	6	750	500	Int.	$119.00
BS1150	12	19	1000	150	Int.	$100.00

FILTERS —
Available on all Super Dynamotors. Add "X" to Code Number and $30.00 to list.

STARTING RELAYS —
Heavy duty solenoid contactor relays available for 12, 24, 28 and 32 and 115 volt DC input. Add "R" to Code Number and $8.00 to list.

INPUT VOLTAGES—
Super Dynamotors available in 6 volt (if current drain permits) and 12, 24, 28, 32, 64 volt. Add $2.50 to list. Add $3.50 to list for 115 volt DC input.

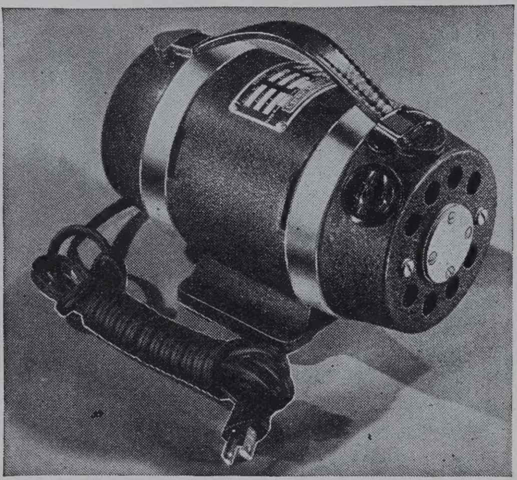
DUTY RATINGS —
Intermittent duty shall be considered 10 seconds on, 20 seconds off. Continuous duty, 24 hours per day.

MARINE IMPREGNATION —
Available on all Super Dynamotors upon request, add $2.00 to list. Furnished on Marine models as standard feature.

Carter Super Converter

The oldest name in Rotary Power Supplies for Mobile Radio

CARTER SUPER CONVERTER—Changes DC to AC for Amplifiers - Radios - High Power Factor equipment



Carter Super Converter, Less Filter, 8¼" Long, 4½" Wide, 5" High, Weight 13 lbs.

Wherever DC to AC Conversion is necessary, the Carter Super Converter provides an efficient and reliable source of AC power. Standard models are designed for high power factor, non-inductive AC loads such as amplifiers, radio receivers, (requires filtered converter), etc. Ball bearing equipped, 3600 RPM. CAUTION: Standard Super Converters will not satisfactorily operate inductive loads such as AC motors, low power factor transformers, etc.

Manually operated frequency controlled Converters available on special order. Maintain 60 cycle output with a + or — 10% input voltage fluctuation.

Special custom-matched Converters are also available for Wire and Tape Recorders, Sound Projectors, 7" Television Receivers, etc. See Carter Selector Chart on next page.

Overall efficiency 60% AC voltage regulation 15%.

HEAVY DUTY SUPER CONVERTER

10¼" long, 4½" wide, 5" high, weight 19 lbs.

Code No.	DC Input Volts	DC Input Amps	AC Output 60 cy. Volts	AC Output 60 cy. (Watts)	Type Duty	List Price
D1020C	115	2.6	114	200	Con.	$74.00
D1025C	115	3.2	115	250	Con.	79.00
H1020C	64	4.8	115	200	Con.	76.50
H1025C	64	5.3	115	250	Con.	81.50
C1020C	32	10	115	200	Con.	76.50
C1025C	32	12	115	250	Con.	81.50
J1020C	28	12	115	200	Con.	76.50
J1025C	28	14	115	250	Con.	81.50
E1020C	24	15	115	200	Con.	76.50
E1025C	24	19	115	250	Con.	81.50
B1020C	12	30	115	200	Con.	76.50
B1025C	12	34	115	250	Con.	81.50

OUTSTANDING FEATURES

SMALL SIZE
Smallest Rotary Converter. Lightweight.

CARRYING HANDLE
Easier to carry, no more "juggling" with a hot unit.

OUTPUT RECEPTACLE
Convenient plug in AC outlet.

ARMATURE
Double wound, insulated ungrounded winding. Built-in cooling fan.

BALL BEARINGS
Sealed ball bearings require no lubrication or attention for life of unit.

SPECIFICATIONS

Carter Super Converter, 40 to 150 watt models 8¼" long, 4½" wide, 5" high, weight 13 lbs. High power factor, 85 to 100%. Less filter.

Code No.	DC Input Volts	DC Input Amps.	AC Output 60 cy. Volts	AC Output 60 cy. Volt-Amps (Watts)	Type Duty	List Price
D1040C	115	.7	115	40	Con.	$58.00
D1060C	115	1	115	60	Con.	58.50
D1080C	115	1.1	115	80	Con.	59.00
D1010C	115	1.7	115	100	Con.	60.00
D1015C	115	2.0	115	150	Con.	65.00
H1040C	64	1.5	115	40	Con.	60.50
H1060C	64	2	115	60	Con.	61.00
H1080C	64	2.2	115	80	Con.	61.50
H1010C	64	2.5	115	100	Con.	62.50
H1015C	64	3.4	115	150	Con.	67.50
C1040C	32	3	115	40	Con.	60.50
C1060C	32	4	115	60	Con.	61.00
C1080C	32	5	115	80	Con.	61.50
C1010C	32	5.5	115	100	Con.	62.50
C1015C	32	7.4	115	150	Con.	67.50
J1040C	28	3	115	40	Con.	60.50
J1060C	28	4	115	60	Con.	61.00
J1080C	28	5.2	115	80	Con.	61.50
J1010C	28	7	115	100	Con.	62.50
J1015C	28	9	115	150	Con.	67.50
E1040C	24	3.5	115	40	Con.	60.50
E1060C	24	4.3	115	60	Con.	61.00
E1080C	24	6	115	80	Con.	61.50
E1010C	24	8.3	115	100	Con.	62.50
E1015C	24	10	115	150	Con.	67.50
B1040C	12	8	115	40	Con.	60.50
B1060C	12	10	115	60	Con.	61.00
B1080C	12	14	115	80	Con.	61.50
B1010C	12	15	115	100	Con.	62.50
B1015C	12	23	115	150	Con.	67.50
A1040C	6	15	115	40	Con.	60.50
A1060C	6	19	115	60	Con.	61.00
A1080C	6	25	115	80	Con.	61.50
A1010C	6	27	115	100	Con.	62.50
A1015C	6	40	115	150	Con.	67.50

FILTERS—Available on all Super Converters. Eliminates Converter noise on most frequencies from 560 KC to 54 MC. Filter mounted in cast aluminum housing below Converter. Add "X" to Code Number and $25.00 to list.

FREQUENCY CONTROL—Manually operated frequency control available on all models. Complete with vibrating reed meter, and rheostat control in aluminum housing. Add $60.00 to list.

VOLTAGE-FREQUENCY—220 volt output or 50 cycle available on special order. Add $5.00 to list for each.

See Carter Selector Chart for Wire and Tape recorder, 7" Television receivers, etc., custom-matched Converters.

Carter Selector Chart

The oldest name in Rotary Power Supplies for Mobile Radio

Whenever DC to AC Rotary Converters are used to power wire or tape recorders and other similar recording equipment, output frequency must be perfectly matched to assure proper playback performance. All of the equipment listed has been laboratory-tested and Carter Converters custom-designed for each model. Use this Chart to select the Converter designed for each model. Prices of Selector Chart Converters are the same as standard models of similar code number.

Code letter "W" indicates a recorder type Converter.

Average efficiency 60%. Voltage regulation 15%. 70% Power Factor on wire and tape recorder models. Converters require NO FILTER, except when recorders have radio receivers.

FOR WIRE AND TAPE RECORDERS

Equipment Make & Model	*Super Converter DC Input & Price* 6 Volt	12 V.	115 V.	*Size Weight*
AirKing #750 Crescent C1000A Harrison Webster #7-78-178 Webster #80-180 Wilcox Gay Recordio #8U12 WireWay	A1060CW $61.00	B1060CW $61.00	D1060CW $58.50	8¼" x 4½" x 5" Weight 13 lbs.
Soundscriber	A1060C $61.00	B1060C $61.00	D1060C $58.50	8¼" x 4½" x 7½" Weight 15 lbs.
Pentron Astrasonic #748 Wiretone MR-6	A1060CWX With filter $86.00	B1060CWX With filter $86.00	D1060CWX With filter $83.50	8¼" x 4½" x 7½" Weight 15 lbs.
Brush BK411-414 Crestwood CP201 Peirce #55B, 260, 265, 270 RCA	A1080CW $61.50	B1080CW $61.50	D1080CW $59.00	8¼" x 4½" x 5" Weight 13 lbs.

HEAVY DUTY SUPER CONVERTER

Brush BK401 Brush BK403 Magnecord PT6-A-PT6P PT6-PS Webster-Racine Ekotape	A1010CW4 $70.00	B1010CW4 $70.00	D1010CW $60.00 D1012CW $60.50	6 & 12 volt 10¼" x 4½" x 5" Weight 19 lbs. 115 volt 8¼" x 4½" x 5" Weight 13 lbs.

16 MM SOUND PROJECTORS

Ampro Premier 20 Bell & Howell #179 DeVry Super #16 Victor Liteweight Victor Triumph 60			D1015C $65.00	8¼" x 4½" x 5" Weight 13 lbs.

PORTABLE TRANSCRIPTION PLAYERS

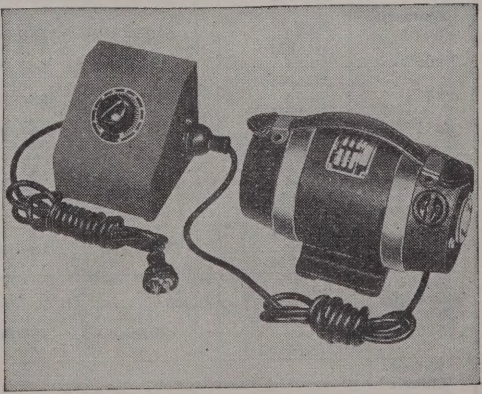
Optron MC364D Victor Sonomaster			D1060C $58.50 D1015C $65.00	8¼" x 4½" x 5" Weight 13 lbs.

FOR 7" TELEVISION RECEIVERS

Popular 7" TV Receivers can now be operated from 6-12 or 115 Volt DC input with the new Carter TV Converter, designed especially for TV operation. Exclusive "Picture Control" assures steady "wave-free" reception from 110 to 135 volts DC input on 115 volt models. Clean Converter AC wave form requires NO filtering. Equal to AC reception.

SPECIFICATIONS

TV Receiver Make & Model	*Carter Converter DC Input* 6 V.	12 V.	115 V.
Admiral Hallicrafters T-54-505 T-55-507 Motorola VT71, VT73 National TV-7-TV-7W and other similar 7" models 125 watt or less	A1010CT $72.00	B1010CT $72.00	D1010CT $69.50



Carter Super Converter Model D1010CT with Picture Control, 8¼" Long, 4½" Wide, 5" High. Weight 15 lbs.

Carter *Replacement Parts Reference Chart*

The oldest name in Rotary Power Supplies for Mobile Radio

REPLACEMENT PARTS REFERENCE CHART

Use this handy chart for ordering the correct CARTER Replacement Dynamotor or Replacement parts. All parts guaranteed to conform to original manufacturer's specifications.

Mfg. Model No.	*Frequency*	*Carter Model No.*	*List Price*	*Carter Armature No.*	*Armature List Price*	*Input Brushes & List Per Set*	*Output Brushes & List Per Set*	*Ball Bearings & List Per Each*
Doolittle								
PFY-2 PFY-2A PFY-3 PFY-3A	30-40 MC-FM	4726VS	$62.50	233-2	$30.00	No. 7 $1.20	No. 2 80c	37KVL $2.50
PFY-12	152-162 MC-FM	4726VS	$62.50	233-2	$30.00	No. 7 $1.20	No. 2 80c	
Federal								
FT-125-B-25AZ	152-162 MC-FM	4037AS	$68.00	179-2	$30.00	No. 7 $1.20	No. 2 80c	
FT-110-25AZ	30-44 MC-FM	5915AS	$60.00	252-2	$30.00	No. 7 $1.20	No. 2 80c	37KVL $2.50
FT-110-50AZ	30-44 MC-FM	5925AS	$70.00	261-2	$30.00	No. 7 $1.20	No. 2 80c	
General Electric								
MC202	152-162 MC-FM	MVS415 Transmitter	$57.50	360-4	$27.25	No. 18 $1.20	No. 9 80c	
		MA251 Receiver	$50.50	300-6	$26.00	No. 23 $1.20	No. 9 80c	37KVL $2.50
MC-1 MC-2	30-44 MC-FM	617V	$60.00	279-2	$30.00	No. 7 $1.20	No. 2 80c	
MC-3	30-44 MC-FM	624VS	$67.80	309-2	$30.00	No. 7 $1.20	No. 2 80c	
Harvey								
505 506	30-44 MC-FM	620VS	$67.00	307-2	$30.00	No. 7 $1.20	No. 2 80c	
542	152-162 MC-FM	620VS	$67.00	307-2	$30.00	No. 7 $1.20	No. 2 80c	37KVL $2.50
Kaar								
FM50X	30-44 MC-FM	6175VS early model	$62.00	278-2	$30.00	No. 7 $1.20	No. 2 80c	37KVL $2.50
		530VS late model	$65.00					
FM100X	1600-6000 KC	VSF820	$90.00	360-2	$40.00	No. 30 $1.20	No. 14 80c	38KVL $2.50
PTL-46X		VSF820	$90.00	360-2	$40.00	No. 30 $1.20	No. 14 80c	
FM-175X	152-162 MC-FM	4232VS	$66.50	231-2	$30.00	No. 7 $1.20	No. 2 80c	37KVL $2.50
Mobile Communi-cations (Taxi-Talkie)								
MFM-25-150	150-170 MC-FM	450AS	$58.00	175-2	$30.00	No. 7 $1.20	No. 2 80c	37KVL $2.50
MFM-25-150B	150-170 MC-FM	520AS	$59.00	208-2	$30.00	No. 7 $1.20	No. 2 80c	
Motorola								
P8050	30-44 MC-FM	617V	$60.00	279-2	$30.00	No. 7 $1.20	No. 2 80c	37KVL $2.50
P8051	30-44 MC-FM	624VS	$67.80	309-2	$30.00	No. 7 $1.20	No. 2 80c	
P8051	30-44 MC-FM	VSF630	$86.50	276-2	$40.00	No. 30 $1.20	No. 14 80c	38KVL $2.50
P8317	152-162 MC-FM	4228VS	$64.50	207-2	$30.00	No. 7 $1.20	No. 2 80c	37KVL $2.50
RCA								
M1-7771A	30-44 MC-FM	6175VS	$62.00	278-2	$30.00	No. 7 $1.20	No. 2 80c	37KVL $2.50
M1-31514	152-162 MC-FM	3732VS	$66.00	176-2	$30.00	No. 7 $1.20	No. 2 80c	
M1-7772A	30-44 MC-FM	VSF627	$84.00	274-2	$40.00	No. 30 $1.20	No. 14 80c	38KVL $2.50
Radio Specialties Mfg. Co.								
1096-1-1		520AS	$59.00	208-2	$30.00	No. 7 $1.20	No. 2 80c	37KVL $2.50
Wilcox Electric								
358A	152-162 MC-FM	4228VS	$64.50	207-2	$30.00	No. 7 $1.20	No. 2 80c	37KVL $2.50

Above Prices Subject to Distributor's Discount.

RADIART VIBRATORS

RADIART AERIALS

RADIART VIPOWERS

RADIART VIBRATOR
TYPE 5300
INPUT 6 VOLTS
BASE DIAGRAM &
THE RADIART CORP.
MADE IN U.S.A.
M-2

LIST PRICES
CURRENT RADIART VIBRATORS

Showing vibrator numbers formerly specified for these applications

RADIART VIPOWER

300 SERIES vibrator types are Standard Automotive and Household Non-Synchronous units. They are stocked by all RADIART Distributors who carry a complete line.

5400 SERIES vibrator types are Standard Automotive and Household Synchronous units. They are stocked by all RADIART Distributors who carry a complete line.

Light face numbers are discontinued types replaced by current models indicated. See your RADIART REPLACEMENT GUIDE for most complete listing published. Ask your jobbber for your free copy!

Type No.	Price
5300 5341M	$4.45
5300-32 3395	6.50
5301 5327P	4.45
5303 5339	4.45
5304 3786	5.75
5307	4.45
5308	5.75
5309	4.45
5314	$4.45
5320P 3417	4.45
5321	4.45
5323P 3320, 5322P	3.75
5326P 5325P	3.75
5328P-32 4319	8.30
5331	4.45
5333	4.45
5335 5334	$4.45
5342M 5340M	3.75
5343M 3815	5.75
5363 2819, 2867, 3227, 3313, 3375, 3442	5.75
5366 3223, 3226, 3263, 3356, 4320, 5312	5.75
5367-32 3503, 4314	7.00
5400 3850, 4501	$7.00
5404	7.00
5406 4255H, 4414	7.00
5407	7.00
5408	7.00
5409	7.00
5409-4	7.00
5410	7.00
5411 5420P, 5428	7.00
5413	$7.00
5413-4 5415	7.00
5416 3283, 4502	8.30
5421	7.00
5422 4608	7.75
5425 3461, 4613, 4614	8.30
5426	7.00
5429 4504, 4611	$8.30
5431	7.75
5434	7.00
5435 4318	7.00
5435-4 5427	7.00
5436 5433	7.00
5437	7.00
5438	7.00
5440 3883	7.75
5443 3789	$7.00
5443-32 4404	7.75
5454	7.00
5463 3308, 3315, 3317, 3848, 4415, 4500	8.30
5464 3319	8.30
5468	9.70
5469	8.90

500 SERIES vibrator types are Special Application Non-Synchronous units. These are stocked by RADIART Distributors in accordance with local requirements. They are available for immediate shipment from the Factory. Order through your local distributor.

5600 SERIES vibrator types are Special Application Synchronous units. These are stocked by RADIART Distributors in accordance with local requirements. They are available for immediate shipment from the Factory. Order through your local distributor.

Light face numbers are discontinued types replaced by current models indicated. See your RADIART REPLACEMENT GUIDE for most complete listing published. Ask your jobbber for your free copy!

Type No.	Price
5503-12 4253-12, 4256-12, 5300-12	$7.00
5503-32 4253-32, 4256-32	7.00
5504P 5324P	5.75
5506 4256	$6.50
5510	6.50
5511-12	7.00
5513-12	7.00
5514-4	7.00
5515 4253, 5313, 5500, 5503	$6.25
5516 4251H, 5501	6.25
5517-12	7.00
5518	6.25
5604 4505	$8.30
5605 4255, 4258	7.75
5605-12 4255-12, 4258-12, 5406-12	9.05
5605-32 4255-32, 4258-32	$9.05
5607 4257	7.75
5607-12 4257-12	9.05
5607-32 4257-32	$9.05
5609-12 5409-12	9.05
5610 5365, 5439	7.00
5610-12 5439-12	7.75
5614-12 5454-12	$7.75
5615-12	7.75
5615-24	7.75
5616	7.75
5616-12	9.05
5620	7.00

CURRENT RADIART VIPOWERS

RADIART Engineering "KNOW HOW" and RADIART Dependability in ah unique line of vibrator-power units. Completely Filtered—R.F. and A.F. Output lines filtered to a hum level of 50 mv or less. Within the range of 160 KC to 20 MC. R.F. hash is held below 50 microvolts, even less at higher frequencies.

VIPOWER MODEL	INPUT VOLTS D.C. (Nominal)	OUTPUT VOLTS D.C. (Nominal)	OUTPUT MILLIAMPS.	TYPE
451	6.0 or 12.0	250 or 180	60 40	Synchronous
452	6.0	300*	100	Synchronous
452-12	12.0	300*	100	Synchronous
453	6.0	300*	100	Non-Synchronous
453-12	12.0	300*	100	Non-Synchronous
454	6.0	300	200	Non-Synchronous
454-12	12.0	300	200	Non-Synchronous
455	6.0	400	150	Non-Synchronous
455-12	12.0	400	150	Non-Synchronous
456	6.0 or 110 V.A.C. 60 Cycle	300*	100	Non-Synchronous
457	6.0	150	40	Synchronous
4201-B2	6.0	250	50	Non-Synchronous

* NOTE:—Tapped at 275V, 250V, 225V.

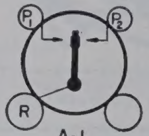
RADIART VIBRATORS

RADIART AERIALS

VIBRATOR BASE DIAGRAM CROSS INDEX

Symbols Used in Vibrator Base Diagrams

A —A hot line into vibrator.
B —By-pass for driving point.
C —External coil lead in shunt vibrator.
P_1—Primary contact, usually, but not necessarily connected to the magnet coil in shunt vibrators.
PP_1—Dual primary contact, closed when P_1 is closed.
P_2—Primary contact, may be the magnet coil connection instead of P_1.
PP_2—Dual primary contact, closed when P_2 is closed.
R —Vibrating reed in single-reed vibrators.
RP—Primary vibrating reed in split-reed vibrators.
RS—Secondary vibrating reed in split-reed vibrators.
S_1 —Secondary contact, closed when P_1 is closed.
S_2 —Secondary contact, closed when P_2 is closed.
* All dimensions given are in inches.
† For further information as to Identifying Characteristics, see information given on each Vibrator type in **Radiart Replacement Guide.**



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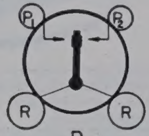

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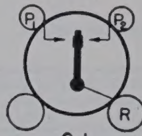

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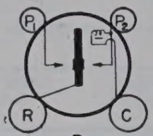

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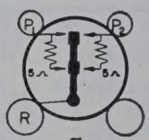

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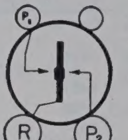

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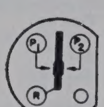

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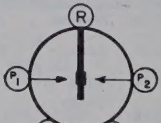

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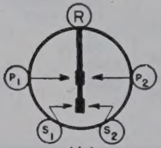

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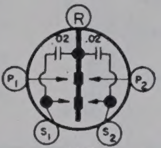
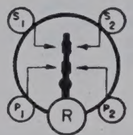
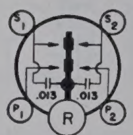
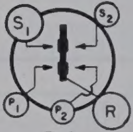

R
.02
.02
P1
P2
S1
S2
K-2

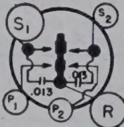


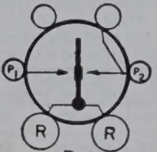
O-1


S1
S2
.013
.013
P1
R
P2
O-2



P-1


S1
S2
.013
P1
P2
R
P-3



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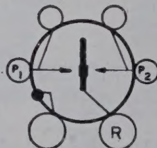

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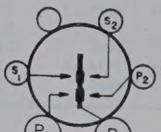

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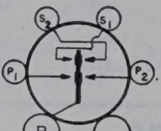

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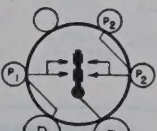

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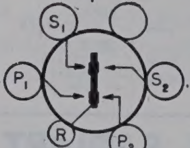

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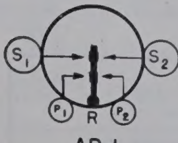
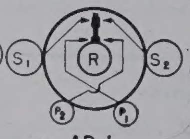


AB-1



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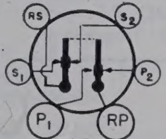
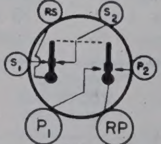
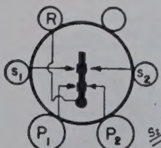

RS
S2
S1
P2
P1
RP
AE-1


RS
S2
S1
P2
P1
RP
AG



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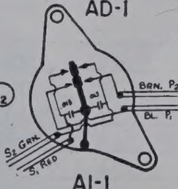
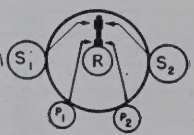

BRN. P2
BL. P1
S2 GRN.
S1 RED
AI-1



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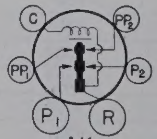
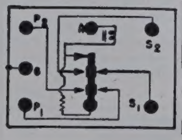

C
PP2
PP1
P2
P1
R
AK



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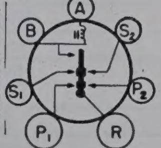
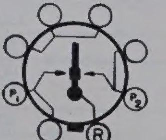

A
B
S2
S1
P2
P1
R
AN



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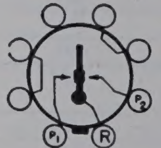
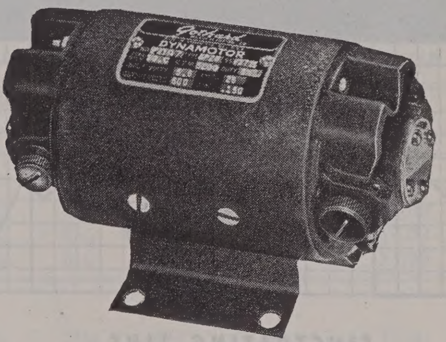


OB-1

RADIART VIPOWERS

Radiart Type No.	Base Diagram	Voltage	Frequency	Max. Load	Dia.*	Height
5300	A-1	6	115	6	1½	3⅛
5300-32	A-1	32	115	1.4	1½	3⅛
5301	A-1	6	115	6	1½	2⅞
5303	F-1	6	115	6	1⅝	3 9/16
5304	I	6	115	6	1¼	3⅛
5307	A-1	6	150	6	1½	3⅛
5308	E	6	115	6	1½	3⅛
5309	C-1	6	115	6	1½	2½
5314	A-1	6	115	6	1¼	2⅜
5320P	A-1	6	115	6	1 15/16	3½
5321	A-1	6	115	6	1⅝	3 9/16
5323P	A-1	6	115	6	1⅝	4¾
5326P	A-1	6	115	6	1½	2⅞
5328P32	H-1	32	115	1.4	1⅝	3½
5331	C-1	6	115	6	1½	3⅛
5333	F-1	6	115	6	1½	3⅛
5335	F-1	6	115	6	1½	2⅞
5342M	A-1	6	115	6	1½	2⅞
5343M	B	6	115	6	1 15/16	4½
5363	LEADS	6	115	4	—	—
5366	R-1	6	115	6	1½	2⅞
5367-32	T	32	115	1.4	1½	3⅛
5400	AB-1	6	115	6	1½	3⅛
5404	AH-1	6	130	6	1½	3⅛
5406	AD-1	6	115	6	1½	3⅛
5407	AB-1	6	180	5	1½	3⅛
5408	AB-1	6	140	6	1½	2⅞
5409	K-1	6	115	6	1½	3⅛
5409-4	K-1	4	115	6	1½	3⅛
5410	O-1	6	115	6	1½	3⅛
5411	V-1	6	115	6	1½	3⅛
5413	K-1	6	115	6	1 15/16	3¼
5413-4	K-1	4	115	6	1 15/16	3½
5416	K-2	6	115	6	1 15/16	4½
5421	V-1	6	115	6	1 15/16	3½
5422	•AE-1	6	115	5	1½	3⅛
5425	O-2	6	115	6	1 15/16	4½
5426	P-1	6	115	6	1 15/16	3½
5429	P-3	6	115	6	1 15/16	4½
5431	AG	4	115	5	1½	3⅛
5434	W-1	6	115	6	1 15/16	3½
5435	V-1	6	115	6	1⅜	3⅛
5435-4	V-1	4	115	6	1⅜	3⅛
5436	V-1	6	180	5	1½	2⅞
5437	AB-1	6	180	5	1⅜	2⅞
5438	AB-1	6	140	6	1½	3⅛
5440	AB-1	6	115	6	1 15/16	4½
5443	AA-1	6	115	6	1½	3⅛
5443-32	AA-1	32	115	1.4	1½	3⅛
5454	AD-1	6	115	6	1½	2⅞
5463	LEADS	6	115	6	—	—
5464	AI-1	6	115	6	1 15/16	4½
5468	AM	2	115	2	1½ sq.	2⅛
5469	AN	2	115	2	1 5/16	2⅛
5503-12	A-1	12	115	6	1½	3⅛
5503-32	A-1	32	115	2.5	1½	3⅛
5504P	Y-1	6	115	6	1 15/16	3½
5506	D	6	115	10	1½	3⅛
5510	OA-1	6	115	10	1½	3⅛
5511-12	OB-1	12	115	6	1½	3⅛
5513-12	AK	12	180	3	1½	3⅛
5514-4	A-1	4	180	5	1½	2⅞
5515	A-1	6	115	10	1½	3⅛
5516	A-1	6	115	10	1½	3⅛
5517-12	V-1	12	180	3	1½	3⅛
5518	V-1	6	115	10	1½	2⅞
5604	K-2	6	115	6	1 15/16	4½
5605	AD-1	6	115	10	1½	3⅛
5605-12	AD-1	12	115	6	1½	3⅛
5605-32	AD-1	32	115	2.5	1½	3⅛
5607	AJ	6	180	5	1⅜	2¾
5607-12	AJ	12	180	3	1⅜	2¾
5607-32	AJ	32	180	1.4	1⅜	2¾
5609-12	K-1	12	115	3	1½	3⅛
5610	V-1	6	115	6	1¼	3⅛
5610-12	V-1	12	115	3	1¼	3⅛
5614-12	AD-1	12	115	4	1½	2⅞
5615-12	V-1	12	180	3	1½	2⅝
5615-24	V-1	24	180	1.4	1½	2⅝
5616	AJ	6	180	5	1½	2⅞
5616-12	AJ	12	180	3	1½	2⅞
5620	AB-1	6	115	6	1½	2⅞

DYNAMOTORS Gothard CONVERTERS



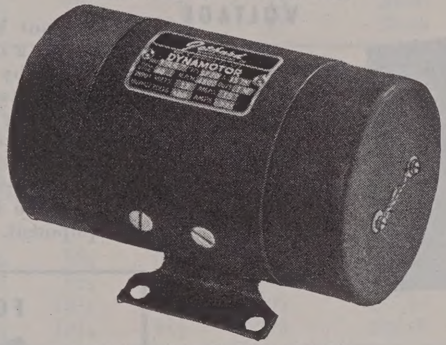
MODEL "GP-26" DYNAMOTOR

GOTHARD DYNAMOTORS

The GOTHARD Model "GP-26" is especially designed and built for Mobile Transmitter applications, intermittent duty. Length 7¼", Diam. 3½", Height 4", Weight 8¼ lbs.

INPUT		OUTPUT			Approx.	App.	List
Volts	Amps.	Volts	MA	Watts	Effic.	Reg.	Price
5.6	24	400	200	80	60%	17%	$77.00
5.6	26	600	150	90	61%	18%	79.50
5.6	29	400	250	100	61%	19%	79.50
5.6	31	620	170	105	61%	20%	79.50
5.6	33	500	225	112	61%	21%	79.50
5.6	34	420	280	118	62%	22%	79.50
6.0	40	400	375	150	63%	25%	82.00

Also supplied for 12, 14, 24, 28, or 32 Volt input
For continuous duty applications, Models GP-12, GP-17 and GP-26 cover wattage ratings from 20 to 80 Watts. Input voltages 6, 12, 24, or 32.
GP-12: Length 5¾", Diam. 3½", Height 4", Weight 5¼ lbs.
GP-17: Length 6¼", Diam. 3½", Height 4", Weight 6 lbs.
GP Models have steel mounting bases; width 4$\frac{5}{16}$".

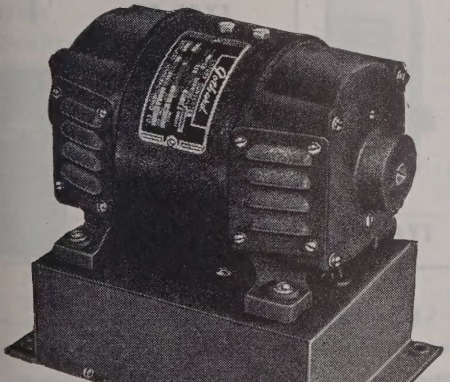


MODEL "SF-20" DYNAMOTOR

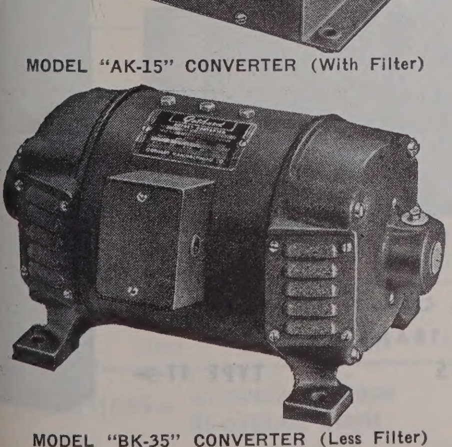
GOTHARD AIRCRAFT DYNAMOTORS

Frame	INPUT		OUTPUT		List			
Size	Volts	Amps.	Volts	MA	Price	Length	Diam.	Weight
DS-12	12	2.6	250	60	$64.00	4¾"	2¾"	2⅞"
DS-17	12	3.6	250	90	71.50	5¼"	2¾"	3⅞"
SP-12	12	4.0	250	100	80.00	6"	3½"	4¾"
SP-17	12	5.2	300	125	87.00	6½"	3½"	5⅝"
SP-22	12	6.4	400	125	91.50	7"	3½"	6½"
SF-20	12	8.4	400	150	104.00	6¾"	4"	8½"
SF-25	12	10.	500	150	123.00	7¼"	4"	9¾"

Above ratings are continuous duty with temperature of 40°C.
Also supplied for 6, 14, 24, 28, or 32 Volt input. "SP" and "SF" dynamotors may be supplied in fan-ventilated construction as types "SPF" and "SFF". Prices upon request.



MODEL "AK-15" CONVERTER (With Filter)



MODEL "BK-35" CONVERTER (Less Filter)

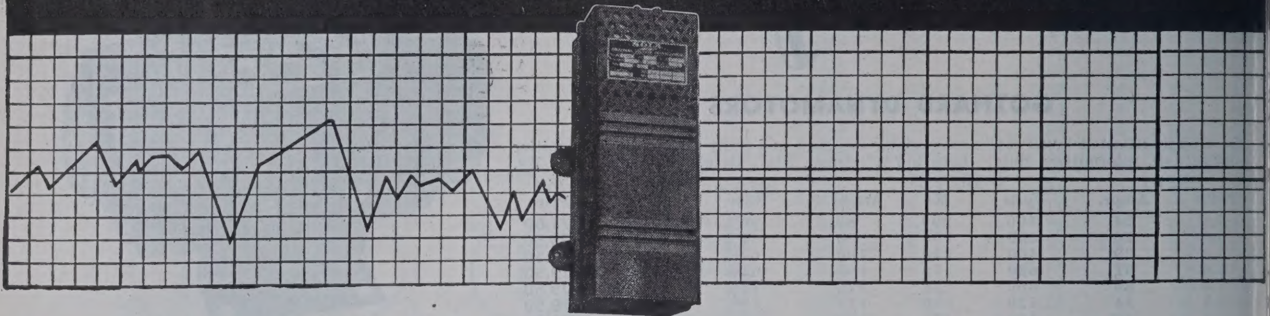
GOTHARD ROTARY CONVERTERS

TYPE "K" 3600 RPM (60 Cycle) • 3000 RPM (50 Cycle)

				OUTPUT at 90% P.F.			App. Net Wt.		List Price	
Type No.	Frame Size	INPUT Volts	Amps.	A.C. Volts	VA at 60 cy.	VA at 50 cy.	Conv. only	Add for Filter	Less Filter	With Filter
6K11	**AK-15**	6	36	110	110	90	24#	6#	**$79.00**	**$96.50**
12K11	**AK-15**	12	18	110	110	90	24#	6#	**79.00**	**96.50**
12K16	**AK-25**	12	24	110	160	125	29#	6#	**106.00**	**125.00**
24K11	**AK-15**	24	9	110	110	90	24#	6#	**79.00**	**96.50**
24K20	**AK-25**	24	14	110	200	160	29#	6#	**106.00**	**125.00**
24K30	**BK-22**	24	19.4	110	300	250	38#	6#	**137.50**	**154.50**
24K50	**BK-35**	24	30.4	110	500.	400	45#	6#	**159.50**	**174.50**
3K11	**AK-15**	32	6.2	110	110	90	24#	6#	**79.00**	**96.50**
3K20	**AK-25**	32	10.4	110	200	160	29#	6#	**106.00**	**125.00**
3K30	**BK-22**	32	14.5	110	300	250	38#	6#	**137.50**	**154.50**
3K50	**BK-35**	32	22.0	110	500	400	45#	6#	**159.50**	**174.50**
3K75	**CK-35**	32	34	110	750	600	68#	7#	**193.00**	**213.00**
4K11	**AK-15**	48	4.4	110	110	90	24#	6#	**79.00**	**96.50**
4K20	**AK-25**	48	7.0	110	200	160	29#	6#	**106.00**	**125.00**
4K30	**BK-22**	48	9.7	110	300	250	38#	6#	**137.50**	**154.50**
4K50	**BK-35**	48	15.2	110	500	400	45#	6#	**159.50**	**174.50**
4K75	**CK-35**	48	22.7	110	750	600	68#	7#	**193.00**	**213.00**
1K11	**AK-15**	115	1.8	110	110	90	24#	6#	**79.00**	**96.50**
1K20	**AK-25**	115	3.0	110	200	160	29#	6#	**106.00**	**125.00**
1K30	**BK-22**	115	4.2	110	300	250	38#	6#	**137.50**	**154.50**
1K50	**BK-35**	115	6.6	110	500	400	45#	6#	**159.50**	**174.50**
1K75	**CK-35**	115	9.4	110	750	600	68#	7#	**193.00**	**213.00**
1K100	**CK-45**	115	12.4	110	1000	800	80#	7#	**249.00**	**269.00**
2K11	**AK-15**	230	.9	110	110	90	24#	6#	**82.00**	**100.00**
2K20	**AK-25**	230	1.5	110	200	160	29#	6#	**109.00**	**128.00**
2K30	**BK-22**	230	2.1	110	300	250	38#	6#	**141.00**	**157.50**
2K50	**BK-35**	230	3.3	110	500	400	45#	6#	**163.00**	**179.50**
2K75	**CK-35**	230	4.7	110	750	600	68#	7#	**196.50**	**216.50**
2K100	**CK-45**	230	6.2	110	1000	800	80#	7#	**252.00**	**272.00**

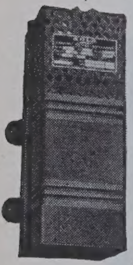
Also supplied for Marine Type Filter, 220 Volt A.C. Output, and automatic frequency control. Prices upon request.

SOLA Constant Voltage Transformers



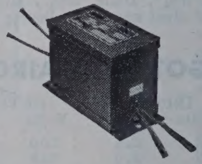
FLUCTUATING LINE VOLTAGE

CONSTANT OUTPUT VOLTAGE



SOLA CONSTANT VOLTAGE TRANSFORMER TYPE 3

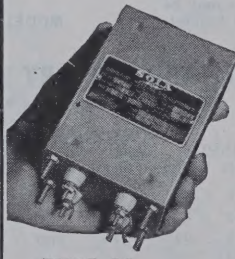
Constant Voltage Transformers are designed to provide a constant output voltage which is unaffected by changes in input voltage. Stabilization is instantaneous and automatic and there are no moving parts. Constant Voltage Transformers also provide isolation between input and output circuits. Low output voltage wave distortion and small size make these transformers especially attractive for use with all types of electronic equipment.



SOLA CONSTANT VOLTAGE TRANSFORMER TYPE 1

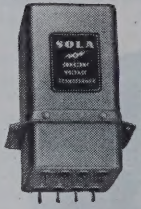
SOLA CONSTANT VOLTAGE TRANSFORMER TYPE 21

FOR CHASSIS MOUNTING



TYPE 11

Output capacities up to 15 VA, with output at either 6.3 volts or 115 volts. Both types are immersion proof and capable of tropical service. Type 12 furnished with separate condenser. Prices include condenser.



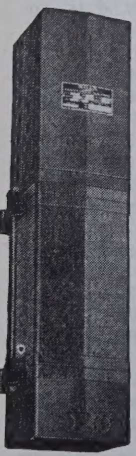
TYPE 12

SOLA CONSTANT VOLTAGE TRANSFORMER TYPE 2

SOLA CONSTANT VOLTAGE TRANSFORMER TYPE 22

FOR COMPLETE CATALOG INFORMATION SEE OPPOSITE PAGE →

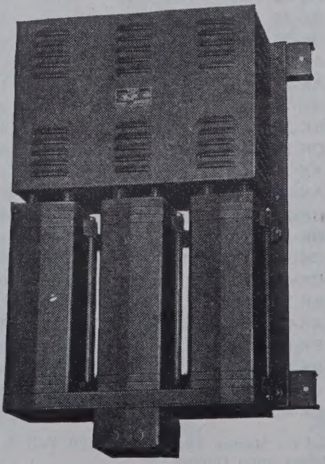
For complete operational data write for Bulletin 13CV-102

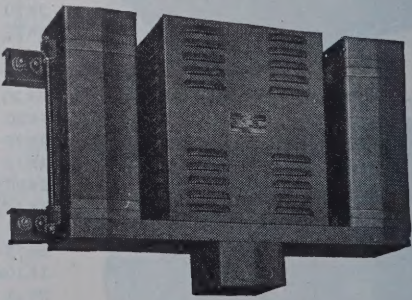


SOLA CONSTANT VOLTAGE TRANSFORMER

← TYPE 4

TYPE 6 →

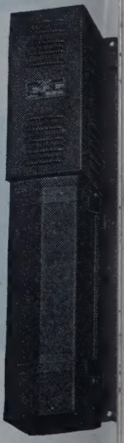




SOLA CONSTANT VOLTAGE TRANSFORMERS

↑ TYPE 5

TYPE 41 →



SOLA ELECTRIC COMPANY • 4633 WEST 16th STREET, CHICAGO 50, ILLINOI

SOLA Constant Voltage Transformers

ELECTRICAL AND MECHANICAL SPECIFICATIONS **60 CYCLE**

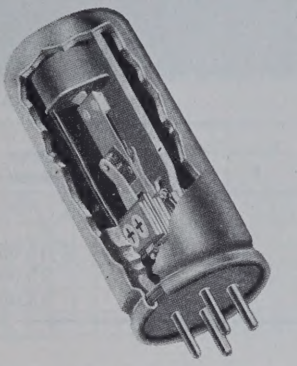
Catalog Number	Output Capacity in VA	Input Volts	Output Volts	Dimensions in Inches A	B	C	E	F	Approx. Shipping Weight	Price Each
TYPE 1										
30488	15	95-125	6.0	5 11/16	2 5/8	3 7/16	5 1/16	....	6	$ 15.00
30492	15	95-125	6.3	5 11/16	2 5/8	3 7/16	5 1/16	....	6	15.00
30498	15	95-125	115.0	5 11/16	2 5/8	3 7/16	5 1/16	....	6	15.00
TYPE 2										
30804	30	95-125	115.0	8 9/16	4 3/16	4 3/8	7 13/16	2 3/8	12	17.00
30805	60	95-125	115.0	8 13/16	4 3/16	4 3/8	8 1/16	2 3/8	13	24.00
30806	120	95-125	115.0	9 11/16	4 3/16	4 3/8	8 15/16	2 3/8	17	32.00
TYPE 3										
30807	250	95-125	115.0	11 5/8	6 15/16	5 5/8	3 1/4	6 1/8	30	52.00
30M807	250	190-250	115.0	11 5/8	6 15/16	5 5/8	3 1/4	6 1/8	30	52.00
30808	500	95-125	115.0	14 1/2	6 15/16	5 5/8	5	6 1/8	40	75.00
30M808	500	190-250	115.0	14 1/2	6 15/16	5 5/8	5	6 1/8	40	75.00
TYPE 4										
30809	1000	95-125	115.0	19 1/8	9 1/2	7 7/8	6 3/4	8 1/2	115	125.00
30M809	1000	190-250	115.0	19 1/8	9 1/2	7 7/8	6 3/4	8 1/2	115	125.00
30811	2000	95-125	115.0	31 1/8	9 1/2	7 7/8	12 1/4	8 1/2	205	225.00
30M811	2000	190-250	115.0	31 1/8	9 1/2	7 7/8	12 1/4	8 1/2	205	225.00
TYPE 5										
30M814	4000	95 /190-125 /250	115.0	21 5/8	42 3/4	9 7/16	12 1/4	40 1/4	520	380.00
30M815	5000	95 /190-125 /250	115.0	24 1/8	42 3/4	9 7/16	14 3/4	40 1/4	570	475.00
30M816	5000	95 /190-125 /250	230.0	24 1/8	42 3/4	9 7/16	14 3/4	40 1/4	570	475.00
TYPE 6										
30M817	10,000	190 /380-250 /500	115.0	48	35 1/4	9 5/8	38 7/8	33 1/4	1025	930.00
30M818	10,000	190 /380-250 /500	230.0	48	35 1/4	9 5/8	38 7/8	33 1/4	1025	930.00
TYPE 11										
30785	17	95-125	6.3	5 13/16	3 21/32	2 19/32	3	2	5 1/2	20.00
30955	17	95-125	115.0	5 13/16	3 21/32	2 19/32	3	2	5 1/2	20.00
TYPE 12										
301002	15	95-125	6.3	5 5/16	3 1/2	2 1/4	3	1 1/2	2 1/2	18.50
301003	15	95-125	115.0	5 5/16	3 1/2	2 1/4	3	1 1/2	2 1/2	18.50
TYPE 21										
30801	25	95-125	6.0	8 7/16	4 3/16	4 3/8	7 1/16	2 3/8	12	16.00
30881	25	95-125	6.3	8 7/16	4 3/16	4 3/8	7 1/16	2 3/8	12	16.00
30802	50	95-125	6.0	8 13/16	4 3/16	4 3/8	8 1/16	2 3/8	13	22.00
30882	50	95-125	6.3	8 13/16	4 3/16	4 3/8	8 1/16	2 3/8	13	22.00
TYPE 22										
30885	60	95-125	115.0	10 5/16	4 3/16	4 3/8	9 9/16	2 3/8	13	24.00
30886	120	95-125	115.0	11 3/16	4 3/16	4 3/8	10 7/16	2 3/8	19	32.00
TYPE 41										
30M813	3000	95 /190-125 /250	115.0	44 11/16	10	9 3/8	42 5/8	8 1/2	325	300.00

DIMENSIONS— **A:** OVERALL LENGTH
B: OVERALL WIDTH
C: OVERALL HEIGHT
E&F: MOUNTING DIMENSIONS

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

SOLA ELECTRIC COMPANY • 4633 WEST 16th STREET, CHICAGO 50, ILLINOIS

CORNELL-DUBILIER VIBRATORS



FEATURES

- C-D designed electronic micrometric equipment removes guesswork in contact point setting and assures consistent high quality.
- Exclusive C-D pole piece design and armature weight results in a perfectly-balanced unit with greater efficiency.
- Exclusive C-D base mounting results in a full floating unit. That's why C-D vibrators last longer.
- Unit completely enclosed in new floating sock—an exclusive with C-D vibrators. Eliminates usual difficulties found in other vibrators.
- New stack design will take peak voltages of even 4,200 volts with no damage to vibrator.

C = NON-SYNCHRONOUS

Type No.	List Price	Net Price
C00	$4.45	$2.67
C00-32	6.50	3.90
C01	4.45	2.67
C03	4.45	2.67
C04	5.75	3.45
C07	4.45	2.67
C08	5.75	3.45
C09	4.45	2.67
C14	4.45	2.67
C20P	4.45	2.67
C21	4.45	2.67
C23P	3.75	2.25
C26P	3.75	2.25
C28P-32	8.30	4.98
C31	4.45	2.67
C33	4.45	2.67
C35	4.45	2.67
C42M	3.75	2.25
C43M	5.75	3.45
C63	5.75	3.45
C66	5.75	3.45
C67-32	7.00	4.20

CS = NON-SYNCHRONOUS SPECIAL

Type No.	List Price	Net Price
CS03-12	$7.00	$4.20
CS03-32	7.00	4.20
CS04P	5.75	3.45
CS06	6.50	3.90
CS10	6.50	3.90
CS11-12	7.00	4.20
CS15	6.25	3.75

DS = SYNCHRONOUS SPECIAL

Type No.	List Price	Net Price
DS04	$8.30	$4.98
DS05	7.75	4.65
DS05-12	9.05	5.43
DS05-32	9.05	5.43
DS07	7.75	4.65
DS07-12	9.05	5.43
DS07-32	9.05	5.43
DS09-12	9.05	5.43
DS10	7.00	4.20
DS10-12	7.75	4.65
DS14-12	7.75	4.65
DS15-12	7.75	4.65
DS15-24	7.75	4.65
DS16	7.75	4.65
DS16-12	9.05	5.43
DS20	7.00	4.20

D = SYNCHRONOUS

Type No.	List Price	Net Price
D00	$7.00	$4.20
D04	7.00	4.20
D06	7.00	4.20
D07	7.00	4.20
D08	7.00	4.20
D09	7.00	4.20
D09-4	7.00	4.20
D10	7.00	4.20
D11	7.00	4.20
D13	7.00	4.20
D13-4	7.00	4.20
D16	8.30	4.98
D21	7.00	4.20
D22	7.75	4.65
D25	8.30	4.98
D26	7.00	4.20
D29	8.30	4.98
D31	7.75	4.65
D34	7.00	4.20
D35	7.00	4.20
D35-4	7.00	4.20
D36	7.00	4.20
D37	7.00	4.20
D38	7.00	4.20
D40	7.75	4.65
D43	7.00	4.20
D43-32	7.75	4.65
D54	7.00	4.20
D63	8.30	4.98
D64	8.30	4.98

Mr. Serviceman: Never be out of these popular numbers. They constitute 88% of all your demand in the ratio shown.

C00	22%	C23P	4%	D00	3%
C01	5%	C26P	11%	D25	3%
C03	5%	C35	9%	D26	7%
C14	4%	C42	10%	D06	2%
C20P	3%				

Type No.	Voltage	Frequency	Maximum Load, Amps.	Diameter	Height in inches	Identifying Characteristic
C 00	6	115	6	1½	3⅛	Std. 4 pr.
C 00-32	32	115	1.4	1½	3⅛	32 v. std. duty.
C 01	6	115	6	1½	2⅞	Std. for low headroom.
C 07	6	150	6	1½	3⅛	Spl. 150 cycles.
C 14	6	115	6	1¼	2⅜	Spl. for some late model Zenith sets.
C 20P	6	115	6	1 15/16	3½	Philco dup repl.
C 21	6	115	6	1⅝	3½	Delco dup repl.
C 23P	6	115	6	1⅝	4¾	Philco dup repl.
C 26P	6	115	6	1½	2⅞	Spl. for Philco.
C 42M	6	115	6	1½	2⅞	Spl. for Motorola.
CS 15	6	115	10	1½	3⅛	For high input current.
CS 16	6	115	10	1½	3⅛	With handle, for Pol. Vipowers.
CS 03-12	12	115	6	1½	3⅛	12 v. hvy.-duty.
CS 03-32	32	115	2.5	1½	3⅛	32 v. hvy.-duty.
C 43M	6	115	6	1 15/16	4½	Ears to hold vibrator down. Motorola spl.
C 09	6	115	6	1½	2½	For low headroom.
C 31	6	115	6	1½	3⅛	For normal applications.
CS 06	6	115	10	1½	3⅛	For certain Vipowers.
C 08	6	115	6	1½	3⅛	Spl. 5 ohm resistors.
C 03	6	115	6	1⅝	3½	Dup. repl. 1⅝" diam.
C 33	6	115	6	1½	3⅛	Dup. repl. with handle puller.
C 35	6	115	6	1½	2⅞	Replaces 1½" dia. vibrators.
C 28P-32	32	115	1.4	1⅝	3½	Spl. plug on leads.
C 04	6	115	6	1¼	3⅛	For Setchell-Carlson Sets.
D 09	6	115	4	1½	3⅛	Std. 6 v. size.
D 09-4	4	115	4	1½	3⅛	Std. 4 v. size.
D 13	6	115	4	1 15/16	3¼	Lge, for low vib.
D 13-4	4	115	4	1 15/16	3½	Lge, for low vib.
DS 09-12	12	120	3	1½	3⅛	Aviation spl.
DS 04	6	115	6	1 15/16	4½	Motorcycle pol. 2x.02 mfd con.
D 16	6	115	6	1 15/16	4½	Contains 2x.02 mfd. cond.
D 10	6	115	4	1½	3⅛	Standard size.
D 25	6	115	6	1 15/16	4½	Contains 2x.013 mfd. cond.
D 26	6	115	6	1 15/16	3½	Handle on top.
D 29	6	115	6	1 15/16	4½	Contains 2x.013 mfd. cond.
C 66	6	115	6	1½	2⅞	Used in 3 similar 1935 sets.
C 67-32	32	115	1.4	1½	3⅛	For certain farm sets.
D 11	6	115	4	1½	3⅛	For general use.
D 21	6	115	4	1 15/16	3½	Large for low vib.
D 35	6	115	4	1⅜	3⅛	Small diam., spl. use.
D 35-4	4	115	4	1⅜	3⅛	For 4 v. circuits.
D 36	6	180	5	1½	2⅞	For high freq. circuits.
DS 10	6	115	6	1¼	3⅛	For motorcycle police duty
DS 10-12	12	115	3	1¼	3⅛	Aviation spl.
DS 15-12	12	180	3	1½	2⅝	Aviation spl.
DS 15-24	24	180	1.5	1½	2⅝	Aviation spl.
D 34	6	115	4	1 15/16	3½	For certain 6 v. home sets.
CS 04P	6	115	6	1 15/16	3½	For certain Philco Police sets
D 43	6	115	6	1½	3⅛	Special base.
D 43-32	32	115	1.4	1½	3⅛	Special base.
D 00	6	115	6	1½	3⅛	Std. type rev. sync.
D 07	6	180	5	1½	3⅛	180 cycles, normal size.
D 08	6	140	6	1½	2⅞	140 cycles, short.
D 37	6	180	5	1⅜	2⅞	180 cycles, small.
D 38	6	140	6	1½	3⅛	140 cycles, normal size.
D 40	6	115	6	1 15/16	4½	Large size.
D 06	6	115	6	1½	3⅛	Std. type rev. sync.
D 54	6	115	6	1½	2⅞	For low headroom.
DS 05	6	115	10	1½	3⅛	For heavy input current.
DS 05-12	12	115	6	1½	3⅛	For heavy duty.
DS 05-32	32	115	2.5	1½	3⅛	For heavy duty.
DS 14-12	12	115	4	1½	2⅞	Aviation special.
D 22	6	115	4	1½	3⅛	Split-reed type.
D 31	4	115	4	1½	3⅛	4 v. split-reed.
D 04	6	130	6	1½	3⅛	Spl. base wiring.
D 64	6	115	6	1 15/16	4½	Contains 2x.013 mfd. cond
DS 07	6	180	6	1⅜	3⅛	180 cycles.
DS 07-12	12	180	4	1⅜	3⅛	180 cycles.
DS 07-32	32	180	2	1⅜	3⅛	180 cycles.
CS 13-12	12	180	4	1½	3⅛	Aviation spl.
CS 10	6	115	10	1½	3⅛	Spl. base wiring.
CS 11-12	12	115	6	1½	3⅛	Spl. base wiring.

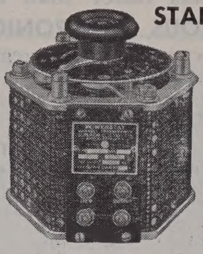
WARNING: Always check the Buffer Capacitors before installing a new vibrator: Failure to do so will void the guarantee. Always use C-D Buffer Capacitors for replacement.

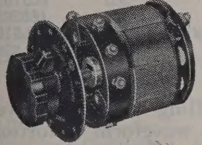
There's a
POWERSTAT
VARIABLE TRANSFORMER
for *Your* application

PROTECT THE INVESTMENT IN YOUR EQUIPMENT

Recent advances in the electrical field have made more critical the need for precise voltage control equipment designed to protect and to operate highly sensitive and expensive apparatus. Whether the application involves the control of light, heat, sound, power or electronic equipment, there's a POWERSTAT variable transformer to suit every requirement.

TYPE 116


TYPE 1126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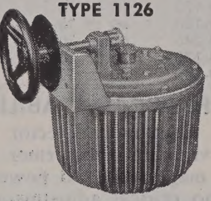
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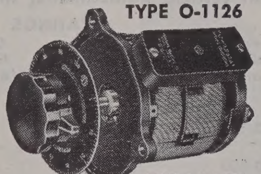
TYPE 2PF1126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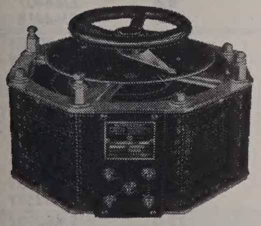
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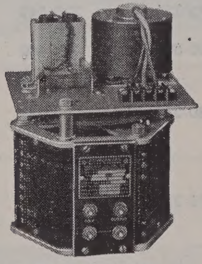
TYPE MZ1126

STANDARD POWERSTAT VARIABLE TRANSFORMERS

Line Voltage	Output Voltage	Maximum Output Amperes	Output KVA	Frequency	Type
Single Phase					
115	0-135	3.0	0.4	*60	20
	0-135	7.5	1.0	50/60	116
	0-135	15.0	2.0	50/60	1126
	0-135	30.0	4.0	50/60	1126-2P
	0-135	45.0	6.1	50/60	1156
	0-135	90.0	12.1	50/60	1156-2P
	0-135	135.0	18.2	50/60	1156-3P
	0-135	180.0	24.3	50/60	1156-4P
	0-135	270.0	36.4	50/60	1156-6P
	0-270	3.0	0.35	50/60	216
	0-270	9.0	1.05	50/60	1226
	0-270	28.0	3.27	50/60	1256
230	0-270	3.0	0.81	50/60	216
	0-270	7.5	2.0	50/60	116-2S
	0-270	9.0	2.4	50/60	1226
	0-270	15.0	4.0	50/60	1126-2S
	0-270	28.0	7.5	50/60	1256
	0-270	45.0	12.1	50/60	1156-2S
	0-270	56.0	15.1	50/60	1256-2P
	0-270	84.0	22.7	50/60	1256-3P
	0-270	112.0	30.2	50/60	1256-4P
	0-270	168.0	45.0	50/60	1256-6P
	0-540	3.0	0.7	50/60	216-2S
	0-540	9.0	2.1	50/60	1226-2S
	0-540	28.0	6.5	50/60	1256-2S
440	0-515	3.0	1.5	50/60	216-2S
	0-515	9.0	4.6	50/60	1226-2S
	0-515	28.0	14.4	50/60	1256-2S
	0-515	56.0	28.8	50/60	1256-4PS
	0-515	84.0	43.2	50/60	1256-6PS
Three Phase					
115	0-135	3.0	0.7	*60	20-2D
	0-135	7.5	1.8	50/60	116-2D
	0-135	15.0	3.5	50/60	1126-2D
	0-135	45.0	10.5	50/60	1156-2D
	0-135	90.0	21.0	50/60	1156-4D
	0-135	135.0	31.6	50/60	1156-6D
	0-270	3.0	0.6	50/60	216-2D
	0-270	9.0	1.8	50/60	1226-2D
	0-270	28.0	5.7	50/60	1256-2D
230	0-230	3.0	1.2	60	20L-3Y
	0-270	3.0	1.4	50/60	216-2D
	0-270	7.5	3.5	*60	116-3Y
	0-270	9.0	4.2	50/60	1226-2D
	0-270	15.0	7.0	*60	1126-3Y
	0-270	28.0	13.1	50/60	1256-2D
	0-230	45.0	17.9	50/60	1156L-3Y
	0-270	56.0	26.2	50/60	1256-4D
	0-270	84.0	39.3	50/60	1256-6D
	0-230	90.0	35.8	50/60	1156L-6Y
	0-540	3.0	1.2	*60	216-3Y
	0-540	9.0	3.6	*60	1226-3Y
	0-540	28.0	11.3	*60	1256-3Y
440	0-515	3.0	2.7	*60	216-3Y
	0-515	9.0	8.0	*60	1226-3Y
	0-515	28.0	25.0	*60	1256-3Y
	0-515	56.0	50.0	*60	1256-6Y

OIL-COOLED POWERSTATS

Line Voltage	Output Voltage	Maximum Output Amperes	Output KVA	Frequency	Type
115	135	15.0	2.0	50/60	0-116
		30.0	4.0	50/60	0-1126
230	270	6.0	1.6	50/60	0-216
		18.0	4.8	50/60	0-1226

*When these POWERSTATS are "L" connected so that output does not exceed applied voltage, frequency range is 50/60 cycles.

POWERSTAT Variable Transformers are auto-transformers of toroidal core design, with a movable brush-tap which rotates to deliver a continuously-adjustable output voltage from a-c power lines. Into each POWERSTAT are incorporated superior qualities of top electrical performance, rugged mechanical construction, compact design and durability. POWERSTATS feature zero waveform distortion, excellent regulation, conservative ratings, standard mountings, smooth control and high efficiency. POWERSTATS are available with motor drives for pushbutton remote control, or for use with automatic controllers. A variety of motor speeds is offered.

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THE SUPERIOR ELECTRIC CO.
BRISTOL, CONNECTICUT

POWERSTAT VARIABLE TRANSFORMERS • VOLTBOX A-C POWER SUPPLIES • STABILINE VOLTAGE REGULATORS

STABILINE AUTOMATIC VOLTAGE REGULATORS

DELIVER CONSTANT OUTPUT VOLTAGE REGARDLESS OF VARIATIONS IN INPUT VOLTAGE OR LOAD CURRENT

Two types of automatic voltage regulators are built by The Superior Electric Company, designed to maintain constant output voltage to large loads or as a means of obtaining a constant output voltage with zero waveform distortion. Type IE (instantaneous electronic) gives instant correction; Type EM (electromechanical), while not instantaneous, corrects faster than most types of constant voltage regulators.

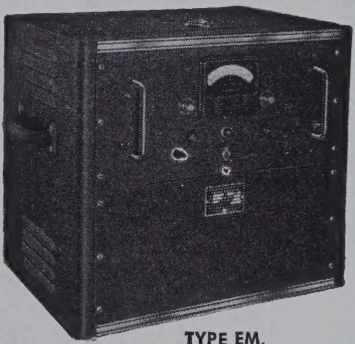
TYPE IE51002
(Portable)

INSTANTANEOUS ELECTRONIC STABILINES

Completely electronic voltage regulators, instantaneous in action; no moving parts; waveform distortion *never* exceeds 3% output voltage is stable within ± .1 of 1% for wide line variations. Available in cabinet, portable or rack-mounting models.

RATINGS

Input Voltage Range	Output Voltage Range	Frequency in Cycles	Load Range in Amperes	Load Power Factor Range	Rated Output KVA	Type
95-135	110-120	60 ± 10%	0-2.2		0.25	IE51002
95-135	110-120	60 ± 10%	0-4.4	.5 lagging	0.5	IE51005
95-135	110-120	60 ± 10%	0-8.5		1.0	IE5101
95-135	110-120	60 ± 10%	0-43.5	to	5.0	IE5105
195-255	220-240	60 ± 10%	0-11.0		2.5	IE5202
95-135	110-120	50 ± 10%	0-8.5	.9 leading	1.0	IEL5101
195-255	220-240	50 ± 10%	0-4.5		1.0	IEL5201



TYPE EM,

ELECTROMECHANICAL STABILINES

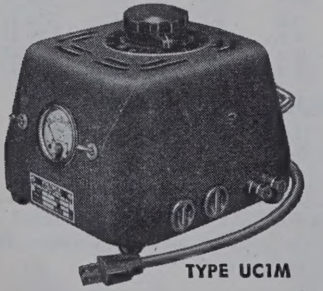
Consist of an electronic detector circuit controlling a motor-driven POWERSTAT variable transformer. Features: zero waveform distortion, insensitivity to magnitude and power factor of load, no effect on system power factor, no critical adjustments, high efficiency, adjustable output voltage.

RATINGS

Nominal Output Voltage	Input Voltage Range	Output Voltage Range	Output Current (Amperes)	Output KVA	Type
Single Phase 115	95-135	110-120	20.0	2.3	EM4102
			52.0	6.0	EM4106
			130.0	15.0	EM4115
208	180-230	200-215	32.5	6.7	EM8207
			120.0	25.0	EM8228
230	195-255	220-240	32.5	7.5	EM4207
			120.0	27.5	EM4228
440	380-500	420-460	15.0	6.6	EM4407
			40.0	17.6	EM4418
Three Phase 208	180-230	200-215	25.0	9.0	EM8210Y
			38.0	13.5	EM8215Y
			50.0	18.0	EM8220Y
			113.0	40.0	EM8245Y
			145.0	52.0	EM8258Y
230	195-255	220-240	25.0	10.0	EM6210Y
			38.0	15.0	EM6215Y
			50.0	20.0	EM6220Y
			113.0	45.0	EM6245Y
			145.0	58.0	EM6258Y
440	380-500	420-460	16.0	12.0	EM6412Y
			22.0	17.0	EM6417Y
			33.0	25.0	EM6425Y
			66.0	50.0	EM6450Y
			100.0	75.0	EM6475Y
	400-480	420-460	131.0	100.0	EM64100Y

Because of differences in basic design, it's possible to order a STABILINE voltage regulator to meet the requirements of any problem in voltage regulation. If you have a particular problem, write The Superior Electric Company. Our staff of voltage control engineers is available for consultation — at no obligation to you. It's through this engineering service that we can best serve you; that we can design and build voltage control equipment second to none in the electrical industry.

VOLTBOX A-C POWER SUPPLIES: Compact, portable sources of variable a-c voltage for use in laboratory, inspection and maintenance sections and in transmitter workrooms. Two types available: **UC1M** — 115V, 50/60 cycle, 1 phase, output 0-135V, 7.5 amps, 1KVA, **UC2M**—230V, 50/60 cyce, 1 phase, output 0-270V, 3.0 amps, 810VA.

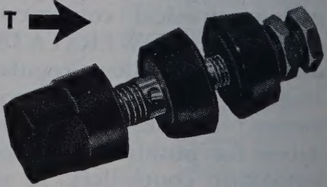


TYPE UC1M

NEW 5-WAY BINDING POST ➡

5 methods of connection. Complete insulation, 30 amp. current capacity, 1000V working voltage. Captive head for convenience. Red or black color. 5 connections:

1. PERMANENT CLAMPING. 2. SPADE LUG. 3. PLUG-IN FOR BANANA PLUG. 4. LOOPING AND CLAMPING. 5. CLIP-LEAD.



THE SUPERIOR ELECTRIC CO.
BRISTOL, CONNECTICUT

POWERSTAT VARIABLE TRANSFORMERS • VOLTBOX A-C POWER SUPPLIES • STABILINE VOLTAGE REGULATORS

TRANSFORMERS

For Electronic Equipment

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and Hermetic
Construction

for

Radio
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and Similar Equipment,
Both Receiver and
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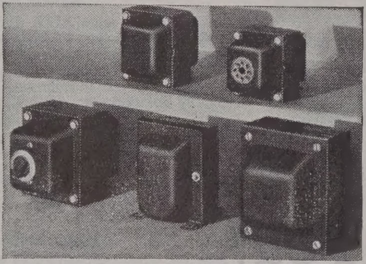
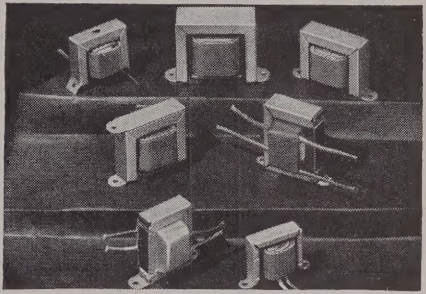
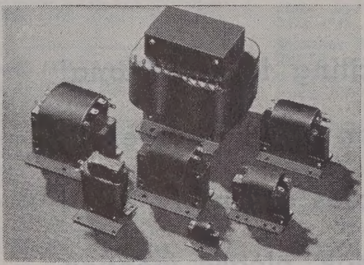


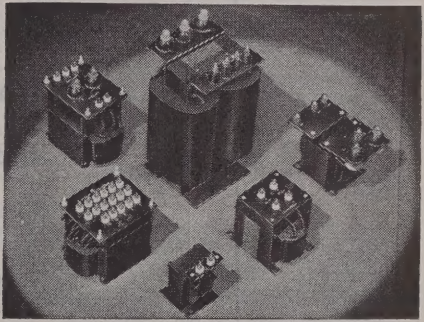
Radio receiver power transformer



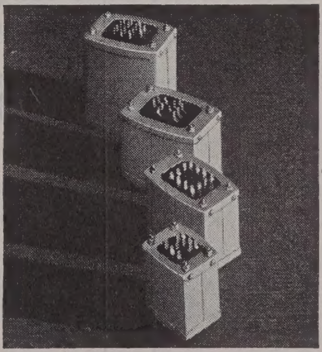
Output transformers and filter chokes



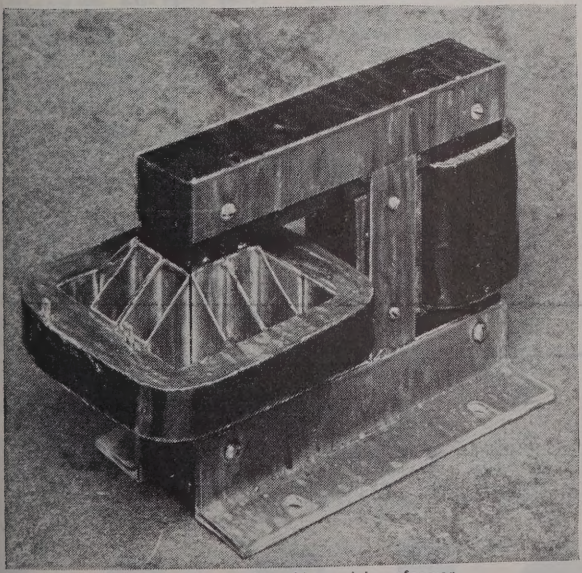
Permafil Type transformer



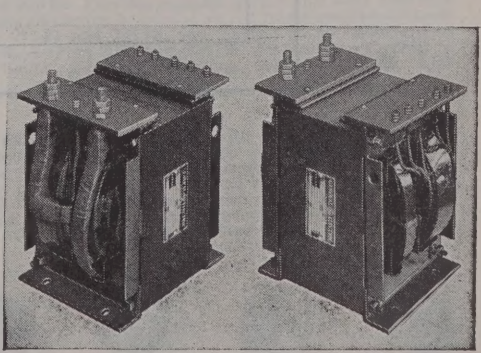
Core and coil type units



Standard compound filled transformers



Special magnetron filament transformer



Heavy duty, high reactance filament transformers

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Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

TRANSFORMERS

REACTORS POWER PACKS TRANSMITTERS

STANCOR

The Stancor units listed on the following pages are representative of the most complete stock in the industry available for 48 hour delivery from Stancor distributors. In addition to maintaining the Stancor stock line of more than 400 part numbers, a large part of Stancor's modern production facilities is devoted to the fabrication of special design components for leading manufacturers of radio, television and other electronic equipment. Your inquiries are invited. Quotations will be furnished promptly.

STANCOR TELEVISION COMPONENTS

VERTICAL DEFLECTION OUTPUT TRANSFORMER

Stancor No. A-8115. Interchangeable with RCA type 204T2. Designed for use in typical vertical deflection circuits to couple the vertical output tube to the deflection yoke. May be used in conjunction with RCA type 201D1 yoke and kinescopes such as RCA types 10BP4, 7DP4 and 5TP4. Type N mounting. Dimensions: 3$\frac{1}{16}$″ H x 2½″ W x 2½″ D. Mtg. ctrs., 1$\frac{19}{32}$″ x 2″. Shpg. wt., 2.5 lbs. **List Price $6.00.**

Stancor No. A-8116. Interchangeable with RCA type 204T9. Designed to couple the vertical output tube to the deflection yoke in typical deflection circuits. For use in conjunction with RCA type 201D1 deflection yoke and kinescopes such as RCA types 10BP4 and 16AP4. Type A mounting. Dimensions: 3$\frac{1}{16}$″ H x 2½″ W x 2¼″ D. Mtg. ctrs., 1$\frac{19}{32}$″ x 1¾″. Shpg. wt., 2.2 lbs. **List Price $4.40.**

VERTICAL BLOCKING-OSCILLATOR TRANSFORMER

Stancor No. A-8111. For use in vertical blocking-oscillator circuits for generation of 60 cps. required to drive grids of vertical discharge tubes. Type A mounting. Dimensions: 1½″ H x 2½″ W x 1½″ D. Mtg. ctrs., 2″. Shpg. wt., 0.4 lbs. **List Price $2.50.**

Stancor No. A-8121. Interchangeable with RCA type 208T2. For use in vertical blocking-oscillator circuits for generation of 60 cps. required to drive grids of vertical discharge tubes. Type TD mounting. Dimensions: 1¾″ H x 2$\frac{5}{16}$″ W x 1½″ D. Mtg. ctrs., 1$\frac{15}{16}$″. Shpg. wt., 0.4 lbs. **List Price $3.20.**

HORIZONTAL DEFLECTION OUTPUT AND HV TRANSFORMER

Stancor No. A-8117. For replacement of RCA type 211T1. For use with RCA type 201D1 deflection yoke and kinescopes such as RCA types 7DP4 and 10BP4. Used with one 6BG6-G deflection amplifier, one 6AS7-G or one 5V4-G scanning booster and one 1B3-GT/8016 pulse rectifier (may require filament resistor, adjusted for proper voltage). Auto-transformer primary provides voltage for pulse rectifier supplying kinescope anode potential. Filament winding for pulse rectifier included. Tap on secondary permits connection of width control. Powdered iron core. Max. current rating (RMS): Pri. (1–2), 80 ma; Sec. (4–6), 250 ma. DC resistance @ 25° C (Approx): Pri. (1–2), 107 ohms; (2–3), 200 ohms; Sec. (4–6), 10.1 ohms. Turns: Pri. (1–2), 1,000; (2–3), 600; Sec. (4–6), 315; (5–6), 15. Type HT mounting. Dimensions: 4$\frac{11}{32}$″ W x 3¾″ D x 2$\frac{3}{32}$″ H. Shpg. wt., 1.7 lbs. **List Price $10.10.**

Stancor No. A-8118. For use with one 6BG6-G deflection amplifier, one 6AS7-G or one 5V4-G scanning booster and one 1B3-GT/8016 pulse rectifier (may require filament resistor, adjusted for proper voltage). Use with Stancor DY-1 deflection yoke or equivalent and direct viewing kinescopes, such as RCA types 7DP4 and 10BP4. Max. current rating (RMS): Pri. (1–2), 100 ma; Sec. (4–6), 250 ma. DC resistance @ 25° C (Approx.): Pri. (1–2), 160 ohms; (2–3), 130 ohms; Sec. (4–6), 12.5 ohms. Turns: Pri. (1–2), 1100; (2–3), 660; Sec. (4–6), 345; (5–6), 15. Type HO mounting. Dimensions: 3″ W x 3¾″ H x 2$\frac{1}{64}$″ D. Shpg. wt., 1.2 lbs. **List Price $9.75.**

HORIZONTAL BLOCKING-OSCILLATOR TRANSFORMER

Stancor No. A-8110. Interchangeable with RCA type 208T3. Vacuum wax impregnation for quiet operation. Type A mounting. Dimensions: 1½″ H x 2½″ W x 1½″ D. Mtg. ctrs., 2″. Shpg. wt., 0.4 lbs. **List Price $2.75.**

Stancor No. A-8120. Interchangeable with RCA type 208T1. Generates 15,750 cps. pulse required to drive grids of horizontal discharge tubes. Type TD mounting. Dimensions: 1¾″ H x 2$\frac{5}{16}$″ W x 1½″ D. Mtg. ctrs., 1$\frac{15}{16}$″. Shpg. wt., 0.4 lbs. **List Price $3.90.**

PLATE AND FILAMENT TRANSFORMER

Stancor No. P-8150. For use with type 2X2 rectifier tubes in a conventional half-wave circuit to obtain high voltage supply. Contains filament winding for the rectifier tube. H.V. Secondary: AC volts, 1550; DC ma., 1.5. Rec. filament: 2.5 v—1.75 amp. Type TD mounting. Dimensions: 3$\frac{1}{16}$″ H x 3″ W x 2½″ D. Mtg. ctrs., 2⅜″ x 1½″. Shpg. wt., 1.8 lbs. **List Price $9.75.**

Stancor No. P-8151. For use with type 2X2 rectifier tube in a conventional half-wave circuit to obtain high voltage supply. Contains an extra 2.5 volt filament winding. H.V. Secondary: AC volts, 2400; DC ma., 5.0. Rec. filament: 2.5 v—2 amp. Filament # 2: 2.5 v—2 amp. Type C mounting. Dimensions: 4$\frac{5}{16}$″ H x 3$\frac{9}{16}$″ W x 3⅞″D. Mtg. ctrs., 2¾″ x 2$\frac{11}{16}$″. Shpg. wt., 6.4 lbs. **List Price $14.80.**

Stancor No. P-8152. For replacement of RCA type 201T6, used in RCA model 630TS receiver. High voltage winding designed to deliver 405 volts DC at 295 ma into an 80 mfd condenser input filter following two type 5U4-G tubes in a full-wave rectifier circuit. Copper shorting band reduces image distortion to a minimum by cutting down external magnetic field. Plate supply: AC volts, 365–0–365: DC ma, 295. Rectifier filament: 5.0 v—6.0 amp. Auxiliary filaments: 5.0 v—2.0 amp., 12.6 v CT—5.0 amp. Type M mounting. Dimensions: 3⅞″ W x 4⅝″ L x 6$\frac{1}{16}$″ H. Mtg. ctrs., 3$\frac{3}{16}$″ x 4$\frac{1}{16}$″. Shpg. wt., 16.5 lbs. **List Price $26.25.**

Stancor No. P-8153. For replacement in RCA model 721TS receiver. High voltage winding delivers 360 volts at 250 ma into an 80 mfd condenser input filter following a type 5U4-G tube in a full-wave rectifier circuit. Copper shorting band around core minimizes image distortion by reduction of external magnetic field. Plate supply: AC volts, 365–0–365; DC ma, 250. Rectifier filament: 5.0 v—3.0 amp. Auxiliary filaments; 6.3 v—6.0 amp, 6.3 v—.8 amp, 5.0 v—2.0 amp. Type M mounting. Dimensions: 3⅞″ W x 4⅝″ L x 5″ H. Mtg. ctrs., 3$\frac{3}{16}$″ x 4$\frac{1}{16}$″. Shpg. wt., 12.5 lbs. **List Price $22.00.**

These two transformers are designed to work together as a more economical power supply than is possible with one unit.

Stancor No. P-8154. Plate supply: AC volts, 375–0–375; DC ma, 205. Rectifier filament: 5.0 v—3 amp. Auxiliary filaments: 5.0 v—2 amp, 6.3 v—5.6 amp. Type M mounting. Dimensions: 3¾″ W x 4½″ L x 4¼″ H. Mtg. ctrs., 3¾″ x 3″. Shpg. wt., 9.1 lbs. **List Price $15.20.**

Stancor No. P-8155. Plate supply: AC volts, 225–0–225; DC ma, 90. Rectifier filament: 5.0 v—2 amp. Auxiliary filament: 6.3 v—5.15 amp. Type M mounting. Dimensions: 2$\frac{13}{16}$″ W x 3⅜″ L x 3¾″ H. Mtg. ctrs., 2$\frac{13}{16}$″ x 2¼″. Shpg. wt., 4.5 lbs. **List Price $8.90.**

Stancor No. P-8156. Exact duplicate replacement for RCA type 201T6 used in RCA model 630TS receiver. High voltage winding designed to deliver 405 volts DC at 295 ma into an 80 mfd condenser input filter following two type 5U4-G tubes in a full-wave rectifier circuit. Copper shorting band around core minimizes image distortion by reduction of external magnetic field. Plate supply: AC volts, 365–0–365; DC ma, 295. Rectifier filament: 5.0 v—6.0 amp. Auxiliary filaments: 5.0 v—2.0 amp, 12.5 v CT—5.0 amp. Type M mounting. Dimensions: 3$\frac{13}{16}$″ W x 4¾″ L x 6⅝″ H. Mtg. ctrs., 3$\frac{3}{16}$″ x 4$\frac{1}{16}$″. Shpg. wt., 16.5 lbs. **List Price $25.50.**

Stancor No. P-8157. Exact duplicate replacement for Motorola part number 25C484095 used in models VK106, VT105 and VT107. Designed for use with dual full-wave rectifiers and filters to supply two outputs simultaneously: 5U4-G (395 volts DC at 195 ma across 40 mfd input) and 5Y3-GT (212 volts DC at 105 ma across 40 mfd input). Plate supply #1: AC volts, 385–0–385; DC ma, 195. Rectifier filament: 5.0 v—3.0 amp. Plate supply #2: AC volts, 235–0–235; DC ma, 105. Rectifier filament: 5.0 v—2.0 amp. Auxiliary filaments: 6.3 v—7.65 amp, 6.3 v—0.6 amp, 5.0 v—2.0 amp Type M mounting. Dimensions: 3¾″ W x 4½″ L x 4¾″ H. Mtg. ctrs., 3″ x 3¾″. Shpg. wt., 11.1 lbs. **List Price $21.00.**

OUTPUT TRANSFORMER

Stancor No. A-8114. Matches single type 6K6 tube (7,600 ohms—32 ma) to a 3.2 ohm voice coil. Type A mounting. Dimensions: 1⅜″ H x 2⅜″ W x 1⅜″ D. Mtg. ctrs., 2″. Shpg. wt., 0.4 lbs. **List Price $1.65.**

FILTER CHOKE

Stancor No. C-2325. Rated inductance, 2 hy. (min.). Rated DC, 200 ma. DC resistance, 60 ohms. Test volts, 1500 RMS. Core, ⅞″ x ⅞″. Type A mounting. Dimensions: 2¼″ H x 3¾″ W x 2¼″ D. Mtg. ctrs., 3⅛″. Shpg. wt., 1.8 lbs. **List Price $2.90.**

Stancor No. C-2326. Rated inductance, 1 hy. (min.). Rated DC, 300 ma. DC resistance, 43 ohms. Test volts, 1500 RMS. Core, ⅞″ x ¾″. Type A mounting. Dimensions: 2¼″ H x 3¾″ W x 2¼″ D. Mtg. ctrs., 3$\frac{5}{16}$″. Shpg. wt., 1.7 lbs. **List Price $2.90.**

DEFLECTION YOKE

Stancor No. DY-1. Replaces RCA type 201D1. For use with direct viewing kinescopes requiring 50° magnetic deflection, such as RCA types 7DP4 and 10BP4. Provides required retrace time when used with deflection circuits employing horizontal output transformers equivalent to RCA types 211T1 and 211T3, and vertical output transformers equivalent to RCA types 204T2 or 204T9. Performance checked to close linearity limits. Type DY mounting. Shpg. wt., 1.2 lbs. **List Price $7.50.**

FOCUS COIL

Stancor No. FC-10. Interchangeable with RCA type 202D1. Designed for magnetically focused kinescopes with deflection angles up to 50°, such as RCA type 10BP4. The large center hole of the coil provides ample clearance between core and kinescope neck, allowing for tipping and displacing axis when necessary. For best performance, a rheostat adjustment of the operating current should be used. Type FC mounting. Shpg. wt., 2 lbs. **List Price $7.50.**

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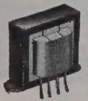
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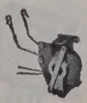
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TRANSFORMERS

REACTORS POWER PACKS TRANSMITTERS

Stancor's Universal Power Transformers represent the last word in efficient transformer construction. They are designed for compactness without sacrificing efficiency.

Four universal brackets permit their being mounted in either vertical or horizontal position. Transformers equipped with 8″ flexible RMA color coded leads and static shields.

Power Transformers—Universal Type

Stancor Number	No. of Tubes	Plate V.C.T.	Plate Ma.	Fil. No. 1 V.	Fil. No. 1 A.	Fil. No. 2 V.	Fil. No. 2 A.	Fil. No. 3 V.	Fil. No. 3 A.	Mtg. Type	Mtg. Area	Mtg. Ctrs.	Wgt. in Ctn.	List Price
UNIVERSAL TYPE—2.5 VOLT														
P-6001	4-5	650	40	5.0-C.T.	2.0	2.5-C.T.	4.0	....	....	M	2½″ x3″	2″ x2½″	3.3	**$6.0**
P-6002	5-6	700	50	5.0-C.T.	2.0	2.5-C.T.	7.25	....	....	M	2½″ x3″	2″ x2½″	3.3	**7.0**
P-6009	6-7	550	70	5.0-C.T.	2.0	5.0-C.T.	0.5	2.5-C.T.	10.5	M	2 13/16″x3⅜″	2¼″ x2 13/16″	4.2	**9.0**
P-6005	6-7	700	70	5.0-C.T.	2.0	2.5-C.T.	9.0	2.5-C.T.	3.5	M	2 13/16″x3⅜″	2¼″ x2 13/16″	5.4	**7.75**
P-6003	6-7	700	70	5.0-C.T.	2.0	2.5-C.T.	9.0	....	....	M	2 13/16″x3⅜″	2¼″ x2 13/16″	3.8	**8.35**
P-6004	8-9	700	90	5.0-C.T.	2.0	2.5-C.T.	12.5	....	....	M	3⅛″ x3¾″	2½″ x3⅛″	5.4	**7.75**
P-6007	10-12	800	110	5.0-C.T.	3.0	2.5-C.T.	15.0	2.5-C.T.	3.5	M	3⅛″ x3¾″	2½″ x3⅛″	6.3	**10.25**
P-6006	11-13	700	120	5.0-C.T.	3.0	2.5-C.T.	12.5	2.5-C.T.	3.5	M	3⅛″ x3¾″	2½″ x3⅛″	5.9	**10.6**
UNIVERSAL TYPE—6.3 VOLT														
P-6289	6-5	420	40	5.0-C.T.	2.0	6.3-C.T.	2.0	....	....	M	2½″ x3″	2″ x2½″	3.1	**$7.0**
P-6297	4-5	480	40	5.0-C.T.	2.0	6.3-C.T.	2.0	....	....	M	2½″ x3″	2″ x2½″	3.2	**6.75**
P-6010	4-5	650	40	5.0-C.T.	2.0	6.3-C.T.	2.0	....	....	M	2½″ x3″	2″ x2½″	3,3	**5.75**
P-6119	6-7	600	55	5.0-C.T.	2.0	6.3-C.T.	2.7	....	....	M	2½″ x3″	2″ x2½″	3.5	**6.9**
P-6120	7-9	630	70	5.0-C.T.	2.0	6.3-C.T.	3.5	....	....	M	2 13/16″x3⅜″	2¼″ x2 13/16″	5.2	**7.7**
P-6011	6-7	700	70	5.0-C.T.	2.0	6.3-C.T.	2.5	....	....	M	2½″ x3″	2″ x2½″	3.3	**7.3**
P-6312	7-8	580	90	5.0-C.T.	2.0	6.3-C.T.	2.8	....	....	M	3⅜″ x2 13/16″	2 13/16″x2¼″	5.4	**8.4**
P-6012	8-9	700	90	5.0-C.T.	2.0	6.3-C.T.	3.5	....	....	M	2 13/16″x3⅜″	2¼″ x2 13/16″	5.2	**7.7**
P-6013	11-13	700	120	5.0-C.T.	3.0	6.3-C.T.	4.7	....	....	M	3⅛″ x3¾″	2½″ x3⅛″	5.3	**8.5**
P-6313	11-13	580	125	5.0-C.T.	3.0	6.3-C.T.	4.5	....	....	M	4⅛″ x3 7/16″	3 9/16″ x2¾″	6.4	**9.5**
P-6014	13-15	750	150	5.0-C.T.	3.0	6.3-C.T.	5.0	....	....	M	3⅛″ x3¾″	2½″ x3⅛″	5.8	**10.5**
P-6165	14-16	800	200	5.0-C.T.	4.0	6.3-C.T.	5.5	....	....	M	3¾″ x4½″	3″ x3¾″	6.5	**12.5**
P-6314	14-16	700	200	5.0-C.T.	3.0	6.3-C.T.	5.5	....	....	M	4½″ x3¾″	3¾″ x3″	7.7	**12.3**
P-6315	16-18	740	275	5.0-C.T.	3.0	6.3-C.T.	7.0	....	....	M	4½″ x3¾″	3¾″ x3″	8.5	**16.0**
UNIVERSAL TYPE—6.3 AND 2.5 VOLT COMBINATION														
P-6293	6-7	600	60	5.0-C.T.	2.0	6.3-C.T.	2.5	2.5-C.T.	7.5	M	2 13/16″x3⅜″	2¼″ x2 13/16″	4.0	**$8.2**
P-6295	8-9	700	90	5.0-C.T.	2.0	6.3, 2.5 C.T.	3.5	2.5-C.T.	9.0	M	3⅛″ x3¾″	2½″ x3⅛″	5.7	**10.2**
P-6234	11-13	660	90	5.0-C.T.	2.0	2.5-C.T.	12.0	6.3, 5.0, 2.5-C.T.	4.0	M	3⅛″ x3¾″	2½″ x3⅛″	5.9	**12.5**
Has an additional 2.5 V. at 1.75 A.C.T. winding														
P-6008	14-16	750	180	5.0-C.T.	3.0	6.3-C.T.	3.3	2.5-C.T.	6.0	M	3 7/16″ x4⅛″	2¾″ x3 7/16″	6.5	**11.6**
UNIVERSAL TYPE—WITH MOTOR TUNING WINDINGS														
P-6290	11-13	700	120	5.0-C.T.	3.0	6.3-C.T.	4.7	50-24-18		M	3¾″ x3⅛″	2½″ x3⅛″	5.4	**$10.7**
P-6291	13-15	750	150	5.0-C.T.	3.0	6.3-C.T.	5.0	50-24-18		M	3¾″ x3⅛″	3⅛″ x2½″	5.9	**11.6**

Power Transformers—Half Shell Type

Stancor No.	No. of Tubes	Plate V.C.T.	Plate Ma.	Filament 1 V.	Filament 1 A.	Filament 2 V.	Filament 2 A.	Filament 3 V.	Filament 3 A.	Mounting Type	Mounting Area	Mtg. Ctrs.	Wgt. in Ctn.	List Price
HALF SHELL WITH LUGS—2.5 VOLTS														
P-2770	4-5	650	40	5.0	2.0	2.5-C.T.	4.5	...	...	G	2½″ x3″	2″ x2½″	2.5	**7.2**
P-2860	8-9	700	90	5.0	2.0	2.5-C.T.	3.5	2.5	9.0	G	3 7/16″ x4⅛″	2¾″ x3 7/16″	5.2	**10.0**
HALF SHELL WITH LUGS—6.3 VOLTS														
P-2751	4	650	40	5.0	2.0	6.3-C.T.	1.6	...	...	G	2½″ x3″	2″ x2½″	2.2	**$7.0**
P-2771	4-5	650	40	5.0	2.0	6.3-C.T.	2.0	...	...	G	2½″ x3″	2″ x2½″	2.5	**7.0**
P-947	4-5	700	50	5.0	2.0	6.3-C.T.	2.0	...	...	G	2 13/16″x3⅜″	2¼″ x2 13/16″	3.3	**6.3**
P-948	5-6	675	70	5.0	2.0	6.3-C.T.	2.5	...	...	G	3⅛″ x3¾″	2½″ x3⅛″	4.7	**7.8**
P-949	7-10	700	120	5.0	3.0	6.3-C.T.	3.0	...	...	G	3 7/16″ x4⅛″	2¾″ x3 7/16″	5.5	**9.0**
P-6336	6-8	600	150	5.0	3.0	6.3-C.T.	3.0	...	...	G	2⅞″ x3⅜″	2¼″ x2⅞″	4.2	**9.5**
P-955	11-14	800	160	5.0	3.0	6.3-C.T.	4.5	...	...	G	3¾″ x4½″	3″ x3¾″	6.5	**10.7**

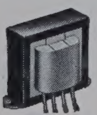
All of the above transformers are for operation on 117 volts, 60 cycles.
Other voltage and frequency combinations available on special order. Write for quotations.

Tube Checker Transformer

Especially designed for use in modernizing older types of tube checkers. Ideal for other testing equipment and laboratory. Packed with wiring instructions giving color coding of leads.

Stancor No.	Primary Volts	Primary Cycles	Secondary Volts	Type Mounting	Dimensions H	Dimensions W	Dimensions D	Weight in Carton	Lis Pric
P-1834-3	105, 115, 125	50-60	1.1, 1.4, 1.5, 2.0, 2.5, 3.0, 3.3, 5.0, 6.3, 7.0, 7.5, 12, 25, 30, 35, 50, 70, 85, 110, 117	A	2⅝″	4 1/16″	2″	2.6	**$12.0**

All of the above power transformers are for operation on 117 volts, 60 cycles.
Other voltage and frequency combinations available on special order. Write for quotations.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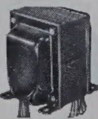
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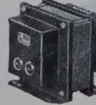
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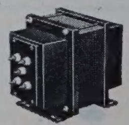
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TRANSFORMERS

REACTORS POWER PACKS TRANSMITTERS

STANCOR

Power Transformers—Fully Cased

FULLY SHIELDED WITH LEADS—2.5 VOLTS

Stancor No.	No. of Tubes	Plate		Fil. No. 1		Fil. No. 2		Fil. No. 3		Mtg. Type	Mtg. Area	Mtg. Ctrs.	Wgt. in Ctn.	List Price
		V.C.T.	Ma.	V.C.T.	A.	V.C.T.	A.	V.C.T.	A.					
P-4042	6-7	700	70	5.0	2.0	2.5-C.T.	3.5	2.5	7.5	C	3¼″x3″	2½″ x1⅞″	3.7	**$8.75**
P-4043	8-9	700	90	5.0	2.0	2.5-C.T.	3.5	2.5	9.0	C	3 9/16″x3⅜″	2 11/16″x2½″	4.5	**10.00**
P-4044	10-12	700	110	5.0	3.0	2.5-C.T.	3.5	2.5	14.0	C	3½″x3⅝″	2 11/16″x2½″	4.7	**11.00**

FULLY SHIELDED WITH LEADS—6.3 VOLTS

Stancor No.	No. of Tubes	Plate		Fil. No. 1		Fil. No. 2		Fil. No. 3		Mtg. Type	Mtg. Area	Mtg. Ctrs.	Wgt. in Ctn.	List Price
		V.C.T.	Ma.	V.C.T.	A.	V.C.T.	A.	V.C.T.	A.					
P-4076	4-5	650	40	5.0	2.0	6.3-C.T.	2.0	.....	...	C	2½″x2½″	2 1/16″x1¾″	2.7	**$6.57**
P-4077	5-6	700	50	5.0	2.0	6.3-C.T.	2.6	.....	...	C	3″ x2¾″	2¼″x1⅞″	3.2	**7.50**
P-4078	6-7	700	70	5.0	2.0	6.3-C.T.	3.0	.....	...	C	3¼″x3″	2½″x1⅞″	4.0	**8.50**
P-4079	8-9	700	90	5.0	2.0	6.3-C.T.	3.5	.....	...	C	3 9/16″x3⅜″	2¾″x2¼″	4.9	**9.50**
P-4080	10-12	700	110	5.0	3.0	6.3-C.T.	4.5	.....	...	C	3⅞″x3⅜″	3″ x2¼″	5.4	**10.00**
P-6143	8-9	880	130	5.0	3.0	6.3-C.T.	3.5	.....	...	C	3⅝″x4″	2¾″x3″	5.0	**12.25**
P-4081	11-14	800	160	5.0	3.0	6.3-C.T.	4.5	.....	...	C	3⅞″x3⅛″	3″ x2½″	5.0	**12.00**
P-4004*	11-14	800	175	5.0	3.0	6.3-C.T.	2.5	6.3-C.T.	2.5	C	3⅞″x4⅛″	3″ x2¾″	11.0	**13.50**
P-5059	11-14	675	200	5.0	3.0	6.3-C.T.	5.0	.....	...	C	3⅞″x4⅜″	3″ x3 5/16″	10.0	**13.75**
P-6170	....	1200	200	5.0	3.0	6.3-C.T.	3.0	6.3-C.T.	4.0	C	3⅞″x4⅜″	3″ x3 5/16″	13.3	**13.50**

FULLY SHIELDED WITH LEADS—2.5 AND 6.3 OR 7.5 VOLT COMBINATION

Stancor No.	No. of Tubes	Plate		Fil. No. 1		Fil. No. 2		Fil. No. 3		Mtg. Type	Mtg. Area	Mtg. Ctrs.	Wgt. in Ctn.	List Price
		V.C.T.	Ma.	V.C.T.	A.	V.C.T.	A.	V.C.T.	A.					
P-4047	6-7	700	70	5.0	2.0	2.5-C.T.	9.0	6.3	3.0	C	3¼″x3″	2½″x1⅞″	3.7	**9.00**
P-4048	8-9	700	90	5.0	2.0	2.5-C.T.	10.0	6.3	3.5	C	3 9/16″x3½″	2¾″x2⅝″	5.0	**10.50**
P-4049	10-12	700	110	5.0	3.0	2.5-C.T.	14.0	6.3	4.5	C	3⅞″x3⅜″	3″ x2⅜″	5.3	**11.75**
P-3005†	10-12	720	125	5.0	3.0	2.5-C.T.	10.0	6.3-C.T.	4.0	C	3⅞″x3⅞″	3″ x2¾″	5.5	**13.50**
P-4050*	11-14	800	160	5.0	3.0	2.5-C.T.	14.0	6.3	4.5	C	3⅞″x3¾″	3″ x2¾″	6.2	**13.75**

* Has 80 V. bias tap and extra 2.5 V. 1.75A filament. † Has 80 V. bias tap and extra 5 V. 2A filament.

FULLY SHIELDED WITH LEADS—1.5, 2.5 AND 5 VOLT COMBINATION

Stancor No.	Plate		Rectifier Filament		Filaments No. 1, 2		Filaments No. 3, 4		Mounting Type	Mounting Area	Mounting Ctrs.	Wgt. in Ctn.	List Price
	V.C.T.	Ma.	V.	A.	V.	A.	V.	A.					
P-1501	600	60	5.0	2.0	1.5-C.T. 2.5-C.T.	1.0 4.0	1.5 5.0	4 0.5	C	3½″x3⅜″	2½″x2½″	5.0	**$10.50**
P-1503	700	120	5.0	3.0	1.5-C.T. 2.5-C.T.	1.0 4.0	1.5 2.5-C.T.	5 3.5	C	4″ x3¾″	3⅛x3⅛″	7.5	**13.75**
P-1505	700	120	5.0	3.0	2.5-C.T. 2.5-C.T.	4.0 3.5	2.5-C.T.	9	C	4″ x3¾″	3″ x3″	7.5	**13.50**

Vibrator Transformers—Six Volt Universal

Stancor No.	Secondary		Type Mounting	Dimensions			Weight in Carton	List Price
	D.C. Volts to	Filter Ma.		H	W	D		
P-6301	150	40	S	2 5/16″	2⅞″	1¾″	1.3	**$4.50**
P-4060	225	40	N	3⅛″	2½″	3″	2.2	**4.90**
P-4061	250	50	N	3⅛″	2½″	3″	2.3	**5.25**
P-4062	260	65	N	3⅛″	2½″	3″	2.6	**5.75**
P-4063	285	75	N	3⅛″	2½″	3¼″	3.0	**6.50**
P-6131	330	100	N	3½″	2 13/16″	3¼″	3.5	**7.00**
P-6166	350 V @ Fil. 6.3 V.C.T.	135 Ma. @ 2.25 A	C	4⅝″	3⅞″	4″	9.0	**12.65**

Automobile Radio Vibrator Transformers—Exact Duplicate Replacements

Stancor No.	Trade Name	Manufacturers Part Number	Manufacturers Service Number	Description	Year	List Price
P-4064	United Motors (Delco)	7240519	....	Buick	1946–47	**$9.00**
P-4065	United Motors (Delco)	7255881	....	Cadillac, Chev., Olds., Pontiac	1946–47	**8.50**
P-6470	Regal (5-tube Univ. Series)	140-111	....	140 V. @ 50 Ma. 2 11/16″ H. x 2 11/16″ W. x 2 3/32″ D.	1946–47	**6.00**
P-6471	Motorola (408, 508, 608)	25B472533	....	6 tube Ford	1946–47	**6.25**
P-6472	Colonial-Detrola #8072 Colonial-Bendix M1 Colonial-Motorola Motorola 405, 505, 605, 705	D 71014 C 217020 C 71014 25B70950	G 141-0004 H 141-0004 J 141-0004	Ford 8A-18805-A Ford 8A-18805-A Ford-FD6, Nash Standard	1947–48 1947–48 1947–48 1947–48	**6.25**
P-6473	Zenith	95-1073	....	Ford, Mercury, Lincoln 8-tube	1947–48	**7.00**
P-6474	Zenith	95-1066	....	Hudson	1947–48	**7.00**
P-6476	Colonial-Detrola #7070 Colonial-Motorola—Detrola #8030	D 70267 C 70267	G 141-0001 J 141-0001	Ford #51A-18805-B2 Willys #67077	1947–48 1947–48	**6.25**

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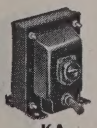

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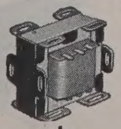

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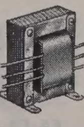

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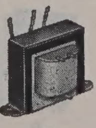

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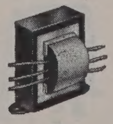

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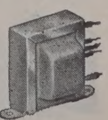

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TRANSFORMERS

REACTORS POWER PACKS TRANSMITTERS

Universal Output Transformers

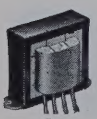
Stancor No.	Output Tubes	Impedance		D.C. Pri. M.A.	Max. Audio Watts	Type Mount-ing	Dimensions			Weight in Carton	List Price
		Primary	Sec.				H	W	D		
A-3856	Single or P.P. Plates	2,000, 4,000, 5,000, 6,000, 8,000, 10,000 C.T.	4, 8, 15	35	. .	Q	1 5/16″	2 3/8″	1 3/8″	0.6	**$2.60**
A-3849	Universal Single Plate	1,500, 2,000, 4,000, 5,000, 7,000, 10,000	4, 8, 15	55	10	Q	1 5/8″	2 7/8″	1 1/2″	0.7	**2.60**
A-3823	Single or P.P. Plates	2,000, 4,000, 5,000, 6,000, 8,000, 10,000 C.T.	4, 8, 15	40	8	Q	2″	2 13/16″	1 1/2″	0.7	**2.75**
A-3850	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	4, 8, 15	40	8	J	2″	2 3/8″	1 1/2″	0.7	**2.95**
A-3852	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	4, 8, 15	40	18	J	2 5/16″	2 7/8″	2″	1.6	**3.55**
A-3870	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	4, 8, 15	50	18	Q	2 7/8″	3 1/4″	2″	1.6	**3.75**
A-3880	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	4, 8, 15	40	15	Q	2 1/4″	3 3/4″	2 1/4″	1.7	**4.90**
A-3830	Single or P.P. Plates	2,000, 4,000, 5,000, 6,000, 8,000, 10,000 C.T.	4, 8, 15	60	20	Q	2 11/16″	3 5/16″	2 1/4″	3.0	**4.90**
A-3890	Single or P.P. Plates	4,000, 7,000, 8,000 10,000, 14,000 C.T.	4, 8, 15	50	15	TD	2 11/16″	2 3/4″	2 3/16″	1.3	**6.50**
A-2855	Single or P.P. Plates	4,000, 7,000, 8,000, 10,000, 14,000 C.T.	4, 8, 15	50	15	L	2 1/4″	2 3/16″	1 3/4″	1.3	**4.20**
A-3841	Universal Single Plate	2,500, 4,000, 5,000, 6,000, 7,000	500	60	10	J	2 11/16″	3 5/16″	2 1/4″	1.8	**6.25**
A-3842	Universal P.P. Plates	8,000, 10,000, 12,000 14,000 C.T.	500	55	10	J	2 11/16	3 5/16″	2 1/4″	1.8	**6.55**

Crystal Recorder Output Transformers

Stancor No.	Output Tubes	Impedance in Ohms		Core Size	Max. Watts Level	Type Mtg.	Dimensions			Mtg. Ctrs.	Wgt. in Ctn.	List Price
		Primary	Secondary				H	W	D			
A-3853	Sgl. 2A5, 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 42	7,000	70,000 or 4-6	3/4″x3/4″	5	A	2″	3 1/4″	1 3/4″	2 13/16″	1.0	**$4.50**
A-3854	Sgl. 2A5, 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 42	7,000	70,000 and 4-6	7/8″x7/8″	10	A	2 1/4″	3 3/4″	2 1/4″	3 1/8″	1.5	**4.75**
A-3859	P.P. 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 42	10,000	70,000 or 4-6	3/4″x3/4″	5	A	2″	3 1/4″	1 3/4″	2 13/16″	1.0	**4.50**
A-3860	P.P. 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 42	10,000	70,000 and 4-6	7/8″x7/8″	10	A	2 1/4″ x	3 3/4″ x	2 1/4″	3 1/8″	1.5	**5.50**
A-3897	500 Ohm Line	500	70,000	7/8″x7/8″	10	W2	3 1/2″ x	2 7/8″ x	3 1/8″	. . . .	3.0	**16.80**

Tube to Line Transformers—Universal

Stancor No.	From	To	Impedance		D.C. Pri. Ma.	Type Mtg.	Dimensions			Wgt. in Ctn.	List Price
			Primary	Secondary			H	W	D		
A-3250	Sgl. or P.P. 27, 30, 12A, 37, 55, 56, 76, 6C5, 6C6	Line	10,000 or 20,000	50, 125, 200, 333, 500	10	Q	2″	3 1/4″	1 3/4″	1.2	**$4.50**
A-3315	Sgl. or P.P. 27, 30, 37, 55, 56, 76, 12A, 6C5, 6C6	Line	10,000 or 20,000	50, 125, 200, 333, 500	35	D	3 1/16″	2 5/8″	3 5/8″	2.6	**10.00**
A-4770	Univ. Single Tube	Line	2,500, 4,000, 5,000, 6,000, 7,000	500	60	J	3 1/8″	2 5/8″	2 5/8″	2.3	**6.00**
A-4771	Univ. P.P. Tubes	Line	8,000, 10,000 12,000, 14,000 C.T.	500	55	A	2 5/8″	4″	2 5/8″	2.3	**6.30**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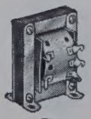
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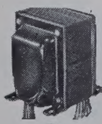
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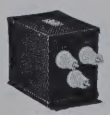
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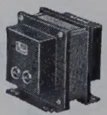
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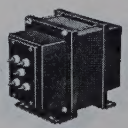
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TRANSFORMERS

REACTORS POWER PACKS TRANSMITTERS

STANCOR

Replacement Output Transformers

Stancor No.	Output Tubes	Class	Impedance in Ohms		D.C. Pri. Ma.	Max. Audio Watts	Type Mtg.	Dimensions			Wgt. in Ctn.	List Price
			Primary	Secondary				H	W	D		
A-3865	Sgl. 48, 25B6, 25L6, 50L6	A	1,500	2, 4, 6	55	5	A	1 3/8″	2 3/8″	1 3/8″	0.5	**$2.35**
A-3876	Sgl. 2A3, 6A3, 6B4, 6W6, 6Y6, 25AC5, 25B5, 25B6, 25L6, 35A5, 35L6, 50L6	A	2,000	4	60	5	A	1 3/8″	2 3/8″	1 5/8″	0.5	**1.75**
A-3825	Sgl. 2A3, 6A3, 6B4, 6L6, 6W6, 6Y6, 25AC5, 25B5, 25L6, 25N6, 35N6, 35L6, 50L6	A	2,500	1, 2, 4	75	8	Q	2″	3 1/4″	1 5/8″	1.0	**3.25**
A-2203	Sgl. 12A5, 25A6, 31, 43, 45, 71, 48	A	4,000	8	40	5	A	1 5/8″	2 7/8″	1 5/8″	0.7	**2.55**
A-3877	Sgl. 2B6, 6V6, 7C5, 12A, 25A6, 31, 43, 59	A	5,000	4	40	5	A	1 3/8″	2 3/8″	1 3/8″	0.5	**1.85**
A-3822	Sgl. 2A5, 6AC5, 6B5, 6F6, 6K6, 6N6, 7B5, 38, 41, 42, 47, 59, 89	A	7,000 10,000	0.7, 1, 1.4 2, 2.8, 4	45	5	Q	1 3/8″	2 3/8″	1 1/2″	0.5	**2.20**
A-3878	Sgl. 2A5, 6AC5, 6B5, 7B5, 6F6, 6K6, 6N6, 20, 31, 33, 42	A	7,000	4	30	5	A	1 3/8″	2 3/8″	1 3/8″	0.5	**1.80**
A-2313	Sgl. 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5, 33, 41, 42, 47, 59, 89	A	7,000	8	40	10	A	2″	3 1/4″	1 3/4″	1.1	**2.70**
A-2201	Sgl. 6A6, 53; P.P. 25A6, 43, 45, 48, 71	A	8,000	6	40	10	A	2″	3 1/4″	1 3/4″	1.0	**3.10**
A-3824	Sgl. 6A6, 6N7, 53; P.P. 46	B	8,000	1, 2, 4	75	8	Q	1 7/8″	3 1/4″	2″	1.4	**4.10**
A-3879	Sgl. 1J6, 6C5, 6A4, 6G6, 6N7, 6R7, 12A, 38	A	10,000	4	30	5	A	1 3/8″	2 3/8″	1 3/8″	0.5	**1.75**
A-3831	Sgl. 1G6, 1J6, 19, 6E6; P.P. 30, 49	B	10,000	2, 4, 8	40	5	A	1 5/8″	2 7/8″	1 1/2″	2.6	**2.70**
A-3496	P.P. 2A5, 6F6, 6K6, 7B5, 33, 41, 42, 47, 49	A	14,000	4	45	5	A	1 3/8″	2 3/8″	1 3/8″	0.7	**2.35**
A-2312	P.P. 2A5, 6F6, 6K6, 7B5, 33, 41, 42, 47, 49	A	14,000	4	40	10	A	2″	3 1/4″	1 3/4″	1.1	**2.80**
A-3881	Sgl. 1D8, 1E7, 1F4, 1F5, 1J5, 1T5, 6V7, 6Y7, 12A7	A	15,000	4	10	5	A	1 3/8″	2 3/8″	1 3/8″	0.5	**1.75**
A-3848	Sgl. 1D8, 1F4, 1F5, 1J5, 1T5, 6R7, 950	A	16,000	1, 2, 4	10	5	Q	1 3/8″	2 3/8″	1 3/8″	0.5	**2.60**
A-3857	Sgl. 1A5, 1E7, 1N6, 6V7; PP. 1F4, 1F5, 1J5, 1T5, 6G6	A	25,000	4	10	5	A	1 3/8″	2 7/16″	1 5/16″	0.7	**2.25**

Heavy Duty Output Transformers to Line or Speaker—High Level

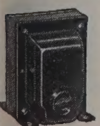
A-3306	P.P. PAR. 48, 25L6 P.P. PAR. 2A3, 45	A AB	2,500	4, 8, 15, 500	100	25	C	3 5/8″	3″	3 1/8″	3.6	**$8.00**
A-3301	PP. 2A3, 6A3, 6B4 P.P. 48, 25L6	AB A	3,000	4, 8, 15, 500	55	30	C	3 5/8″	3″	3 1/8″	3.7	**7.70**
A-3802	P.P. PAR. 6L6 PP. 45, 6L6	AB1 AB2	3,300 3,800	4, 8, 250, 500	250	75	C	4 5/8″	3 7/8″	3 7/8″	8.3	**11.50**
A-5528	P.P. 6Y6, 25L6	A	4,000	4, 8, 15, 500	65	8	C	3 3/16″	2 5/8″	2 3/8″	2.4	**6.60**
A-3851	P.P. 6L6*	AB1	4,400	4, 8, 15, 250, 500	70	30	C	3 5/8″	3″	3 1/8″	3.6	**8.90**
A-3872	P.P. 6L6; P.P. 2A3, 6A3, 45	A	5,000	4, 8, 15	150	18	TD	2 11/16″	2 3/4″	2 3/16″	1.8	**6.00**
A-3310	Sgl. 45, 2B6, 6L6, 6V6, 25A6, 25A7	A	5,000	4, 8, 15, 500	55	20	C	3 3/16″	2 5/8″	2 5/8″	2.5	**6.95**
A-3800	P.P. 6L6 P.P. 2A3, 6A3, 45	A AB	5,000	4, 8, 15, 250, 500	80	30	C	3 5/8″	3″	3 1/8″	3.7	**7.90**
A-3307	P.P. 2A5, 6F6, 42 P.P. 46, 59; P.P. PAR. 6A6, 6N7, 53	AB2 B	6,000	4, 8, 15, 500	100	30	C	3 5/8″	3″	3 1/8″	3.6	**8.40**
A-3801	P.P. 6L6	AB1	6,600	4, 8, 15, 250, 500	150	35	C	3 7/8″	3 1/4″	3 3/8″	5.0	**9.20**
A-3855	Sgl. 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5, 33, 41,42, 47, 59, 89; P.P. 12A5, 45	A	7,000	10, 2,000	40	5	TD	2 11/16″	2 3/4″	2 3/16″	1.7	**5.65**
A-3885	P.P. 6L6	AB1	9,000	4, 8, 15, 250, 500	150	35	C	3 7/8″	3 1/4″	3 3/8″	5.0	**9.20**
A-3304	Sgl. 6A4, 6B5, 6N6; PP. 6V6, 45 Sgl. 6A6, 6N7, 53; P.P. 6AC5	A B	7,000, 7,000 10,000	4, 8, 15, 500	60	25	C	3 3/16″	2 5/8″	2 5/8″	2.6	**7.20**
A-3839	Sgl. 1G6, 1J6, 19; PP. 1H4, 30, 49 Sgl. 1G5, 3C5, 6G6, 6R7, 12A	B A	10,000	4, 8, 15, 2000	30	10	TD	2 11/16″	2 3/4″	2 3/16″	1.7	**6.00**
A-3311	Sgl. 6A6, 6N7, 53; P.P. 6B5, 6N6 P.P. 6F6, 6V6	B AB	10,000	4, 8, 15, 500	70	25	C	3 5/8″	3″	3 1/8″	3.8	**7.50**
A-3303	Sgl. 6Y7, 6Z7, 79 P.P. 2A5, 6F6, 6K6, 7B5, 41, 42, 47, 59, 89	B A	14,000	4, 8, 15, 500	55	20	C	3 3/16″	2 5/8″	2 5/8″	2.6	**7.00**

* 10% Inverse Feedback Winding Used. NOTE: All transformers shown for P.P. operation have C.T.

High Fidelity Output Transformers

Part No.	Pri. Z C.T. Ohms	Sec. Z in Ohms*	Type of Tubes	Class of Operation	Max. Pri. D.C. per Side	Max. Audio Watts	Type of Mounting	Weight in Carton	List Price
A-8050	1500	8, 16	P.P. PAR. 2A3's	AB	80	50	C	6.5	**$14.20**
A-8051	2500	8, 16	P.P. PAR. 6L6's	A	150	50	C	6.5	**14.20**
A-8052	3000	8, 16	P.P. 2A3's	AB	75	25	C	6.5	**12.80**
A-8053	5000	8, 16	P.P. 6L6's or P.P. 2A3's	A	75	25	C	6.5	**12.80**
A-8054	9000	8, 16	P.P. 6L6's	AB1	75	25	C	6.5	**12.80**
A-8060	1500	500	P.P. PAR. 2A3's	AB	80	50	C	6.5	**14.20**
A-8061	2500	500	P.P. PAR. 6L6's	A	150	50	C	6.5	**14.20**
A-8062	3000	500	P.P. 2A3's	AB	75	25	C	6.5	**12.80**
A-8063	5000	500	P.P. 6L6's or P.P. 2A3's	A	75	25	C	6.5	**12.80**
A-8064	9000	500	P.P. 6L6's	AB1	75	25	C	6.5	**12.80**

* Where more than one secondary impedance is shown only one value is to be used at any time.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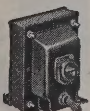
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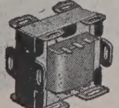
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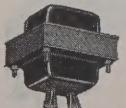
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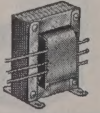
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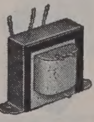
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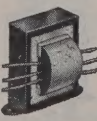
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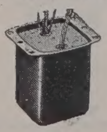
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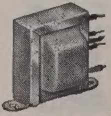
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TRANSFORMERS

REACTORS POWER PACKS TRANSMITTERS

Interstage Transformers

Stancor No.	From	To	Impedance Pri.	Impedance Sec.	Turns Ratio Sec. to Pri.	D.C. Pri. Ma.	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in Ctn.	List Price
A-4205	20,000 ohm plate	Grid	20,000	115,000	2.4:1	15	C	3 3/16″	2⅝″	2⅝″	2.5	**$7.50**
A-53C	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	1 5/16″	2⅜″	1¼″	0.5	**2.45**
A-63C	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	1⅝″	2⅞″	1¾″	0.75	**2.65**
A-73C	10,000 ohm plate	Grid	10,000	90,000	3:1	10	A	2″	3 5/16″	1⅝″	1.0	**3.20**
A-2132	Screen Grid Tube	P.P. Grids	10,000	10,000	1:1	10	S	3⅛″	3⅝″	2¼″	2.4	**6.55**
For coupling screen grid or power detector.												
A-52C	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	A	1⅜″	2⅜″	1⅜″	0.5	**2.45**
A-62C	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	A	1⅝″	2⅞″	1¾″	0.75	**2.65**
A-4741	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	S	2″	2⅜″	1½″	0.8	**2.80**
A-4745	10,000 ohm plate	P.P. Grids	10,000	40,000	2:1	10	TD	2 11/16″	2¾″	2 3/16″	1.5	**6.35**
For super-regenerative detector, static shield between windings.												
A-53C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	1⅜″	2⅜″	1⅜″	0.5	**2.45**
A-63C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	1⅝″	2⅞″	1¾″	0.75	**2.65**
A-73C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	2″	3¼″	1¾″	1.0	**3.20**
A-103C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	2⅝″	4″	2¼″	2.2	**6.45**
A-4155	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	L	2¼″	2 3/16″	1¾″	1.2	**4.75**
A-4719	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	TD	2 11/16″	2¾″	2 3/16″	1.5	**5.85**
A-4750	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	S	2 5/16″	2⅞″	1¾″	1.0	**3.50**
A-4740	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	S	2″	2⅜″	1½″	0.75	**3.00**
A-83C	10,000 ohm plate	P.P. Grids	10,000	90,000	3:1	10	A	2¼″	3¾″	2¼″	1.5	**4.90**
A-4206*	20,000 ohm plate	P.P. Grids	20,000	180,000	3.25:1	15	C	3 3/16″	2⅝″	2⅝″	2.5	**7.50**
A-64C	10,000 phm plate	P.P. Grids	10,000	160,000	4:1	10	S	2″	2⅜″	1¾″	0.75	**3.00**

* Split Secondary.

Stancor No.	From	To	Impedance Pri.	Impedance Sec.	Turns Ratio Sec. to Pri.	D.C. Pri. Ma.	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in Ctn.	List Price
A-4208*	P.P. Plates	P.P. Grids	25,000	13,000	1:1.39	15	C	3 3/16″	2⅝″	2⅝″	2.5	**$6.00**
A-4711	P.P. Plates	P.P. Grids	20,000	20,000	1:1	10	A	1⅝″	2⅞″	1½″	0.8	**3.10**
A-4777*	P.P. Plates	P.P. Grids	20,000	45,000	1.5:1	10	C	3 3/16″	2⅝″	2⅝″	2.5	**6.50**
A-4155	P.P. Plates	P.P. Grids	10,000	90,000	3:1	10	L	2¼″	2 1/16″	1¾″	1.2	**4.75**

* Split Secondary.

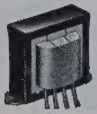
Universal Interstage Transformers—Split Secondaries

Stancor No.	Application	Turns Ratio	D.C. Pri. Ma.	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Mtg. Ctrs.	Wgt. in Ctn.	List Price
A-4773	Universal	3:1	10	TD	2 11/16″	2¾″	2 3/16″	2⅜″	1.5	**$6.00**
A-4774	Universal	3:1	10	S	2 5/16″	2⅞″	1¾″	2⅜″	1.5	**4.05**

May be used as plate to grid; push pull input or push-pull interstage replacement transformers. Have 3:1 over all ratio, however, primary is center-tapped and secondary has split winding, thus permitting ratios of 1:1, 3:1 and 6:1. Transformers may be used in either step-up or step-down applications.

Driver Transformers

Stancor No.	From	To	Class	Pri. Impedance	½ Sec. Impedance	Turns Ratio Pri. to ½ Sec.	D.C. Pri. Ma.	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in Ctn.	List Price
A-4722	1-42, 47 2A5, 6K6	P.P. 42, 2A5, 6F6, 6K6	AB	10,000	2,500	2:1	30	TD	2 11/16″	2¾″	2 3/16″	1.5	**$5.40**
A-4752	1-6G6G, 6F6, 42, 2A5, as Triodes	P.P. Grids 6V6, 6Y6, 6F6, 6L6, 6Z7	AB	10,000	2,500 4,400 10,000	2:1 1.5:1 1:1	35	A	2″	3¼″	1¾″	1.5	**4.00**
May be used from P.P. primary with ratio of 2:1.													
A-4713	1-46, 45, 2A5, 6F6	P.P. Grids 79, 2A5, 6A6, 6F6	AB	10,000	2,500	2:1	30	A	1⅝″	2⅞″	1½″	0.7	**2.60**
A-4292	1-6C5, 30, 49	1-1J6, 19, 2-30, 2-49	B	10,000	1,600	2.5:1	10	A	1⅝″	2⅞″	1½″	0.7	**2.60**
A-4734	1-30, 2A5, 6A6, 1G5, 6F6, 6K6	P.P. Grids 19, 2A5, 6A6, 1J6	B	10,000	1,600	2.5:1	15	S	2 5/16″	2⅞″	1¾″	1.4	**3.40**
A-4723	1-30, 2A5, 6A6, 1G5, 6K6, etc.	P.P. Grids 19, 79, 2A5, 6A6, 6F6, 1J6, 6K6	B	10,000	1,100	3:1	30	A	1⅝″	2⅞″	1½″	0.7	**2.60**
A-4712	P.P. 27, 30, 37, 56, 76, 6C5, 1H4, 6J5	P.P. 19, 53, 6A6, 1J6, 6N7	B	20,000	2,200	3:1	10	A	1⅝″	2⅞″	1½″	0.7	**2.90**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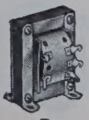
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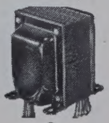
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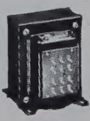
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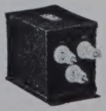
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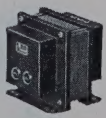
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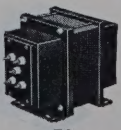
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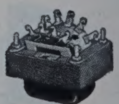
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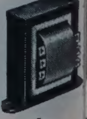
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TRANSFORMERS

REACTORS POWER PACKS TRANSMITTERS

STANCOR

Microphone Pickup or Line to Grid Transformers

Stancor No.	From	To	Impedance Primary	Impedance Secondary	Ratio Overall	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	List Price
A-4742	S.B. Microphone	Sgl. or P.P. Grids	100	400,000 C.T.	1:64	S	2 5/16″	2 7/8″	1 3/4″	1.0	**$3.95**
A-4743	S.B. Microphone Has shield cover which encloses entire coil.	Sgl. or P.P. Grids	100	400,000 C.T.	1:64	S	2 5/16″	2 7/8″	2 1/8″	1.1	**4.30**
A-4707	S.B. Microphone	Single Grid	100	58,500	1:24.2	J	2″	2 3/8″	1 5/8″	0.8	**3.20**
A-4706	S.B. Microphone	Single Grid	100	60,000	1:24.6	A	1 3/8″	2 3/8″	1 1/2″	0.6	**2.40**
A-4708	D.B. Microphone	Single Grid	200 C.T.	57,000	1:17	J	2″	2 3/8″	1 5/8″	0.8	**3.55**
A-4709	Dynamic or Pickup	Single Grid	4, 8, 15, 30	106,000	1:60	TD	2 11/16″	2 3/4″	2 3/16″	1.8	**6.40**
A-4351	S.B. or D.B. Microphone or line	Single Grid	50, 125, 200, 333, 500	89,000	1:13.3	TD	2 11/16″	2 3/4″	2 3/16″	1.0	**5.90**
A-4408	S.B. or D.B. Microphone or line	Single Grid	50, 125, 200, 333, 500	80,000	1:12.5	D	3 1/8″	2 5/8″	3 1/8″	2.6	**9.10**
A-4726	D.B. Microphone and 200 ohm line	P.P. Grids	200 C.T.	100,000	1:22.3	TD	2 11/16″	2 3/4″	2 3/16″	1.8	**6.40**
A-4352	S.B. or D.B. Microphone or line	P.P. Grids	50, 125, 200, 333, 500	89,000	1:13.3	Q	2″	3 1/4″	1 3/4″	1.0	**5.20**
A-4409	S.B. or D.B. Microphone or line	P.P. Grids	50, 125, 200, 333, 500	157,000	1:17.7	D	3 1/8″	2 5/8″	3 1/8″	2.6	**9.50**
A-4705	S.B. Microphone	Single Grid	200 or 70	80,000	1:20	A	1 3/8″	2 3/8″	1 3/8″	0.5	**2.35**
A-4728	1, 2, 3, or 4 Circuit Mixer	Single Grid	50, 100, 150, 200	100,000	1:22.2	TD	2 11/16	2 3/4″	2 3/16″	1.8	**6.95**

Microphone or Line to Line Transformers

A-4350	Sgl. or D.B. microphone	Line	50, 125, 200, 333, 500	50, 125, 200, 333, 500	Q	2″	3 1/4″	1 3/4″	1.0	**$5.60**
A-4407	Sgl. or D.B. microphone	Line	50, 125, 200, 333, 500	50, 125, 200, 333, 500	D	3 3/16″	2 5/8″	3 1/4″	2.6	**9.60**

Line to Voice Coil Transformers

Stancor No.	For Coupling	Primary Impedance	Secondary Impedance	Max. Audio Watts	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	List Price
A-7947	Line to voice coil	500, 1,000, 1,500, 2,000	6 ohms	8	Q	1 5/8″	2 13/16″	1 9/16″	0.8	**$2.90**
A-7949	Line to voice coil	500, 1,000, 1,500, 2,000	6–8 ohms	12	J	2 5/16″	2 7/8″	1 13/16″	0.9	**3.45**
A-3882	Line to voice coil	250, 333, 500	4, 8, 15	25	D	3 3/16″	2 5/8″	3 1/2″	2.6	**7.25**
A-3883	Line to voice coil	500	4, 6, 8, 15	25	J	2 5/16″	2 7/8″	1 3/4″	1.5	**3.90**
A-3818	Line to voice coil	500, 1,000, 1,500	4, 8, 15	25	J	3 1/8″	3 5/8″	2 1/4″	2.6	**4.75**
A-3820	Line to voice coil	500, 1,000, 1,500, 2,000	4, 8, 15	40	D	4 5/16″	3 5/8″	4 1/2″	5.8	**9.95**
A-3838	Line to speakers autoformer	500	250, 166, 125, 100, 84	30	B	3 1/8″	2 1/2″	2 1/4″	2.6	**5.75**
A-3837	Line to voice coil. 1 to 6 can be paralleled across 500 ohm line	500, 1,000, 1,500, 2,000, 2,500, 3,000	.06 to 8 ohm from primary of 500 ohms—12 to 16 from 1,000, etc.	15	J	2 5/16″	2 7/8″	2″	2.0	**5.00**

Input Transformer—Intercommunication

Stancor No.	From	To	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Core Size	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Mtg. Ctrs.	Wgt. in Ctn.	List Price
A-4744	Voice Coil Has shield cover enclosing entire coil.	Sgl. Grid	4	25,000	1/2″x5/8″	VE	1 3/8″	2 3/8″	1 1/2″	2 3/8″	0.5	**$2.45**

Transceiver Transformers

Stancor No.	Application	Impedance in Ohms Pri.	Impedance in Ohms Sec.	Max. Pri. Ma. D.C.	Max. Audio Watts	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Wgt. in Ctn.	List Price
A-3833	Sgl. Button Micro. and Plate to Single Grid.	5,000 200	60,000	60	5	A	1 5/8″	2 7/8″	1 1/2″	0.7	**$3.40**
A-4413	Sgl. Button Micro. and Plate to Single Grid.	10,000 200	90,000	45	10	J	2 5/16″	2 7/8″	1 3/4″	1.5	**4.75**
A-3836	Pentode Plate to Low or High Impedance Phone or Oscillator	10,000	2,000 50	30	5	A	1 5/8″	2 7/8″	1 1/2″	0.7	**3.30**

Tone Control Unit

The necessary components for a dual tone control circuit to provide both bass and treble attentuation when used in conjunction with two dual 250,000 ohm potentiometers. Contained in Hi-Fi-type W-1 cast case for shielding against hum pickup and provided with 12 Flexible Coded Leads for direct connection in the circuit. Dimensions H.3 1/2″ x W.2 3/4″ x L.3 1/16″. Packed with complete instructions for installation and use.

STANCOR No. **C-2332-1**.. List **$8.80**

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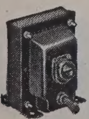
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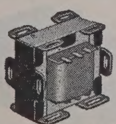
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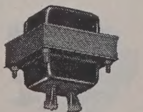
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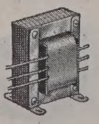
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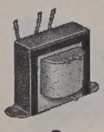
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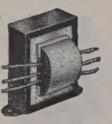
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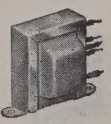
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STANCOR

TRANSFORMERS

REACTORS POWER PACKS TRANSMITTERS

Testing Autoformer

Incorporates a convenient tap switch to permit variable voltages from 90 to 150 volts. Primary equipped with 5 ft. approved cord and plug. Secondary connected to female receptacle. Locking screw mounted on switch.

Stancor No.	Secondary Voltage	Primary Voltage	Output Watts	Type Mounting	Dimensions H	W	D	Wgt. in Ctn.	List Price
P-6299	90, 100, 110, 120, 130, 140, 150, @ 50–60 cy.	115V	150	KA	3⅞"	3¼"	4¾"	8.0	**$14.95**

Step-Down Autoformers

These transformers are excellent units to be used with standard apparatus on 220-250 volt lines. May also be wired to step up 110-125 volts to 220-250 volts for test purposes or other applications.

Stancor No.	Primary		Secondary	Output Watts	Type Mounting	Mounting Dimensions			Wgt. in Ctn.	List Price
	Volts	Cycles	Volts			H	W	D		
P-6287	220–250	50–60	110–125	40	*	4¼"	3"	3"	2.5	**$7.00**
P-5062	220–250	50–60	110–125	80	K	3⅝"	2¹⁵⁄₁₆"	3¼"	4.5	**8.40**
P-5063	220–250	50–60	110–125	100	K	3⅞"	3¼"	3¼"	5.2	**9.65**
P-5064	220–250	50–60	110–125	150	K	4¼"	3½"	3⅝"	6.6	**11.00**
P-5065	220–250	50–60	110–125	250–300	K	4⅝"	3⅞"	4⅛"	9.8	**13.90**
P-6141	220–250	50–60	110–125	500	K	4⅝"	3⅞"	5¼"	14.5	**21.00**
P-6124	220–250	50–60	110–125	1000	F	7⅜"	6"	6⅛"	30.0	**40.00**

* Mounted in special can and equipped with cord, plug and receptacle.

Isolation Transformers

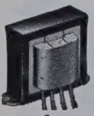
These transformers are designed with an electrostatic shield to isolate line noises and interference from the apparatus being used. They are suitable for screen test booths, electrical therapeutic machines, medical instruments, beauty parlor equipment, electric furnaces, amateur transmitters, etc. Each unit complete with a 6 ft. cord and plug and a female receptacle. Units in first group are straight isolation types; second group are step-down isolation units. Tap switch controls primary voltage, except on Nos. P-6123, P-6125, P-6389 and P-6390.

Stancor No.	Watts	Primary	Secondary	Type Mounting	Mounting Dimensions H	W	D	Weight in Carton	List Price
P-6160	100	125/115/105	115	KA	4⅝"	3⅞"	3⅜"	5.5 lbs.	**$17.25**
P-6161	250	125/115/105	115	KA	4⅝"	3⅞"	5¼"	14.0 lbs.	**34.00**
P-6298	500	125/115/105	115	FK	7⅜"	6"	6¼"	37.0 lbs.	**49.50**
P-6125	1000	125/115/105	115	FK	7½"	7⅛"	6½"	50.0 lbs.	**60.90**
P-6123	1500	125/115/105	115	FK	7½"	7⅛"	7½"	60.0 lbs.	**76.70**
P-6383	100	250/230/210	115	KA	4¾"	4"	3⅝"	7.3 lbs.	**$17.65**
P-6385	250	250/230/210	115	KA	4¾"	4"	5⅜"	14.2 lbs.	**29.80**
P-6387	500	250/230/210	115	FK	7⅝"	6⅛"	7⅛"	29.5 lbs.	**45.95**
P-6389	1000	250/230/210	115	FK	7¾"	7⅜"	6⅞"	34.8 lbs.	**60.90**
P-6390	1500	250/230/210	115	FK	7¾"	7⅜"	8½"	49.8 lbs.	**76.70**

Universal Speaker Field Substitute Choke

Designed for the service department, to take the place of the speaker field on the test bench. Packed with full instructions.

Stancor No.	D.C. Resistance in Ohms	Resistance and Current Rating	Type Mounting	Dimensions H	W	D	Weight in Ctn.	List Price
C-2302	3000 tapped at 2500, 1000 and 750	250, 750, 1000, 1750 ohms—60 Ma. cont. or 75 Ma. Int. Duty 500, 1500, 2000, 2250, 2500, 3000 ohms —40 Ma. cont. or 55 Ma. Int. Duty	B	3⅜"	2⅞"	3"	2.6	**$7.50**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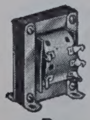
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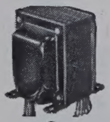
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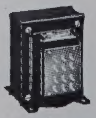
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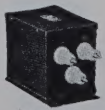
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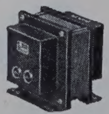
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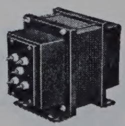
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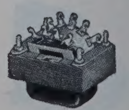
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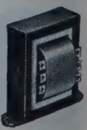
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TRANSFORMERS

REACTORS POWER PACKS TRANSMITTERS

STANCOR

Filter Chokes—Replacement Types

Stancor No.	Rated Inductance in Henries	Maximum Current in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mounting	Mounting Dimensions H	W	D	Weight in Ctn.	List Price
C-1515	20	15	900	1650	A	1⅝″	2⅞″	1¾″	0.7	**$1.80**
C-1706	4.5	50	300	1650	A	1⅜″	2⅜″	1⅜″	0.5	**1.60**
C-1707	7	50	500	1650	A	1⅜″	2⅜″	1⅜″	0.5	**1.60**
C-1003	16	50	580	1650	A	1⅞″	3 5/16″	1⅝″	1.4	**2.15**
C-1708	13	65	460	1650	A	1⅞″	3¼″	2 13/16″	1.1	**2.35**
C-1355	8	75	275	1650	L	2¼″	2 3/16″	1¾″	1.2	**2.50**
C-1002	15	75	400	1650	A	2¼″	3 11/16″	1⅞″	1.7	**2.95**
C-1420	16	80	350	2000	C	3 3/16″	2⅝″	2½″	2.6	**4.30**
C-1709	8	85	250	1650	A	1⅞″	3¼″	2 13/16″	1.5	**2.75**
C-2305	5	100	275	2000	TD	2 11/16″	2¾″	2 3/16″	1.7	**4.00**
C-1001	10.5	110	200	3000	A	2½″	4″	2″	2.4	**3.70**
C-2303	2.5	130	100	2000	A	2″	3⅜″	1⅝″	1.4	**2.50**
C-1421	7	140	160	3000	C	3 3/16″	2⅝″	2½″	2.7	**5.30**
C-2304	2.3	150	65	2000	A	2″	3⅜″	1⅝″	1.4	**2.60**
C-2309	3	150	90	2000	A	2¼″	3 11/16	1⅞″	1.5	**2.80**
C-1710	7	150	200	1650	A	2½″	4″	2 1/16″	2.3	**3.50**

Filter Chokes—Heavy Duty Types

Stancor No.	Rated Inductance in Henries	Maximum Current in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mounting	H	W	D	Weight in Ctn.	List Price
C-1410	4.0	175	100	3000	C	3 3/16″	2⅝″	2½″	2.7	**5.10**
C-1646	5.0	200	70	5000	C	4″	3¼″	3⅜″	4.7	**7.30**
C-1411	4.5	200	80	3000	C	3⅝″	2 13/16″	3¼″	4.0	**6.30**
C-1721	8.5	200	120	3000	N	4″	3⅛″	3¼″	4.5	**6.30**
C-1703	4.0	250	60	3000	B	3½″	2 13/16″	3½″	3.9	**6.95**
C-1412	4.0	250	60	3000	C	3⅝″	2 13/16″	3¼″	4.8	**7.70**
C-1722	8.0	300	80	3000	N	4½″	3¾″	3½″	8.5	**8.50**
C-2308	8.0	300	80	3000	C	4⅝″	3⅞″	3⅞″	9.0	**9.90**
C-1413	8.0	300	80	5000	D	4⅝″	3⅞″	3⅞″	8.5	**11.50**
C-1414	7.5	400	60	5000	D	4⅝″	3⅞″	4⅞″	13.5	**15.85**
C-1415	6.0	500	70	7500	FS	8 5/16″	6″	5¾″	17.0	**32.80**

Swinging Chokes

Stancor No.	Rated Inductance in Henries	Maximum Current in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mounting	H	W	D	Weight in Ctn.	List Price
C-1718	13.5–3.5	150	130	2000	C	3 3/16″	2⅝″	2½″	2.5	**$5.00**
C-1400	12–2	175	100	3000	C	3 3/16″	2⅝″	2½″	2.7	**5.30**
C-1401	12–2	200	80	3000	C	3⅝″	2 13/16″	3⅛″	3.5	**6.50**
C-1645	12–2	200	90	5000	C	3⅞″	3¼″	3⅜″	4.7	**7.30**
C-1719	18–3	200	120	3000	N	3¾″	3⅛″	3¼″	5.0	**6.95**
C-1702	12–2	250	60	3000	B	3½″	2 13/16″	3″	3.9	**6.95**
C-1402	12–2	250	60	3000	C	3⅝″	2 13/16″	3⅛″	4.6	**7.70**
C-1720	20–4	300	80	3000	N	4½″	3¾″	3½″	8.5	**8.80**
C-2307	20–4	300	80	3000	C	4⅝″	3⅞″	3⅞″	9.0	**9.90**
C-1403	20–4	300	80	5000	D	4⅝″	3⅞″	3⅞″	8.4	**11.25**
C-1404	17–3	400	60	5000	D	4⅝″	3⅞″	4⅞″	12.3	**15.85**
C-1405	16–4	500	75	7500	FS	8 5/16″	6″	5¾″	17.0	**32.80**

A.C.-D.C. Chokes

Stancor No.	Rated Inductance in Henries	Maximum Current in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mounting	H	W	D	Weight in Ctn.	List Price
C-1711	4.5	50	325	1500	Q	1⅜″	2⅜″	1⅜″	0.5	**$1.75**
C-1723	4.5	50	325	1500	A	1⅜″	1⅜″	1⅜″	0.5	**1.70**
C-1080	3.5	50	200	1500	A	1⅝″	2⅞″	1¾″	0.6	**1.70**
C-1325	5.0	50	250	1500	A	1⅝″	2⅞″	1¾″	0.6	**1.75**
C-1277	7.0	50	300	1500	A	1⅝″	2⅞″	1¾″	0.6	**1.75**
C-1227	7.0	50	350	1500	A	1⅝″	2⅞″	1¾″	0.6	**1.75**
C-1279	8.5	50	400	1500	A	1⅝″	2⅞″	1¾″	0.6	**1.75**
C-1333	8.0	50	450	1500	A	1⅝″	2⅞″	1¾″	0.6	**1.80**
C-1215	9.0	50	500	1500	A	1⅝″	2⅞″	1¾″	0.6	**1.75**
C-1362	9.5	50	550	1500	A	1⅝″	2⅞″	1¾″	0.6	**1.80**

Output Chokes

Stancor No.	Rated Inductance in Henries	Maximum Current in Ma.	D.C. Resistance in Ohms	Volts Insulation	Type Mounting	H	W	D	Weight in Ctn.	List Price
C-1003	16.0	50	550	1500	A	2″	3¼″	1¾″	1.4	**$2.15**
C-1034*	8.0	30	1365	1500	A	2″	3¼″	1¾″	1.3	**2.65**

Audio Reactor

Stancor No.	Rated Inductance in Henries	Inductance Measured at Ma.	Maximum Current Ma.	D.C. Res. Ohms	Volts Insulation	Type Mounting	Mounting Dimensions H	W	D	Weight in Ctn.	List Price
C-2301	135.0	5	10	6500	1500	TD	2 11/16″	2¾″	2 3/16″	1.8	**5.20**

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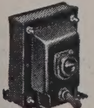
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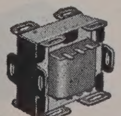
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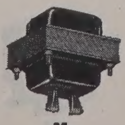
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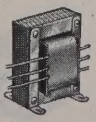
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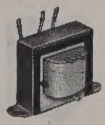
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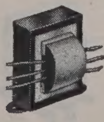
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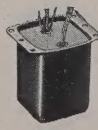
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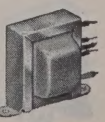
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STANCOR TRANSFORMERS

REACTORS POWER PACKS TRANSMITTERS

Plate Transformers

This group of transformers is designed primarily to deliver the rated D.C. voltage and current outputs when used with full-wave mercury vapor rectifier tubes in conjunction with a two section filter employing choke input and two 2 mfd. condensers working into a resistive load.

Generous coil and core design result in a transformer with above average regulation and efficiency. Phenolic terminal boards and heavy duty ceramic insulators assure protection from voltage breakdown.

Stancor No.	Primary Voltage	D.C. Voltage After Filter	Taps	MA. D.C.		Type Mounting	Mounting Dimensions			Weight in Ctn.	List Price
				ICAS	CCS		H	W	D		
P-8040	115	400	40	375	300	C	4¾″	4″	4½″	12.3	**$14.25**
P-8041	115	500	400–40	310	250	C	4¾″	4″	5⅛″	9.0	**17.50**
P-8042	115	600	400–40	375	300	C	4¾″	4″	6½″	16.5	**23.50**
P-8043	115	750	600–40	375	300	FS	7½″	6⅛″	8″	27.2	**43.50**
P-8044*	115	1000	400	190–190	150–150	FS	7½″	6⅛″	8¼″	28.0	**45.50**
P-8045	115	1000	750	310	250	FS	7½″	6⅛″	8″	27.2	**43.50**
P-8025	115	1000	750	500	400	FS	7½″	6⅛″	8¾″	35.5	**45.80**
P-8026	115	1250	1000	375	300	FS	7⅝″	7⅜″	8¼″	36.0	**54.00**
P-8027	115	1250	1000	625	500	FS	7⅝″	7⅜″	9″	40.0	**58.80**
P-8028	115	1500	1250	375	300	FS	7⅝″	7⅜″	8½″	38.0	**56.00**
P-8029	115–230	1500	1250	625	500	FS	11¼″	7⅜″	8¾″	52.0	**74.00**
P-8030	115	1750	1500	375	300	FS	7⅝″	7⅜″	9″	40.0	**62.00**
P-8031	115–230	1750	1500	625	500	FS	11¼″	7⅜″	8¾″	52.0	**88.50**
P-8032	115	2000	1750	375	300	FS	7⅝″	7⅜″	9¼″	45.0	**71.00**
P-8033	115–230	2000	1750	625	500	FS	11¼″	7⅜″	9½″	57.0	**102.00**
P-8034	115–230	2500	2000	375	300	FS	11¼″	7⅜″	8¾″	52.0	**86.80**
P-8035	115–230	2500	2000	575	500	FS	11¼″	7⅜″	9¾″	60.0	**112.00**

* Secondary with taps suitable for dual rectifier supply. Each output available at rated current.

NOTE: Transformers with more than one high voltage output have secondary with taps suitable for dual rectifier supply. Total current should not exceed rating.

Bias Transformers

Stancor No.	D.C. Output		Filament		Primary Volts	Type Mounting	Dimensions			Weight in Ctn.	List Price
	Volts	Ma.	Volts	Amps.			H	W	D		
P-6317	90–130–170–200	200	5 C.T.	3	115	CD	3⅞″	3¼″	3¾″	4.9	**$14.00**
P-6318	250–350–400–450	200	5 C.T.	3	115	CD	4¼″	3⁹⁄₁₆″	4¼″	7.0	**16.00**

Above plate and bias transformers are for listed voltage 60 cycle operation.
Other voltage and frequency combinations available on special order. Write for quotations.

Stancor's Power Pack - Model 752

CONTINUOUS OUTPUT RATING—6 Volts @ 12.5 Amperes D.C.—5% max. ripple at full load.

INTERMITTENT OUTPUT RATING—25.0 Amperes D.C. For use with push-button or floor-switch magnetic tuning of all popular car radio receivers.

CONTINUOUS VOLTAGE CHECK—Built-in voltmeter for visual checking of output voltage.

ADJUSTABLE VOLTAGE CONTROL—Tap switch provides selection of proper output voltage for various loads.

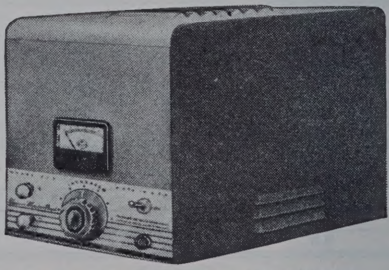
CONSERVATIVE RATING—Built with heavy duty components throughout.

HIGH OVERLOAD CAPACITY—Low internal resistance—good voltage regulation provide high output current capability for intermittent loads.

CONTROL PANEL—Readily accessible at front of case.

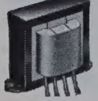
STURDY STEEL CASE—Featuring mechanical strength—neat appearance.

User's Net $43.90



FOR DEMONSTRATING AND SERVICING

- AUTO RADIOS AND OTHER AUTO ACCESSORIES
- BATTERY CHARGING
- OPERATING RELAYS AND SOLENOIDS
- REPLACING STORAGE BATTERIES
- LABORATORY TESTING
- BRUSH PLATING



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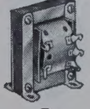

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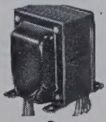

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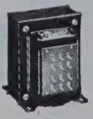

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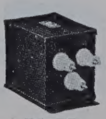

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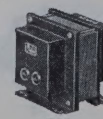

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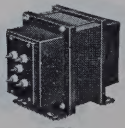

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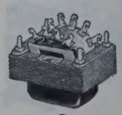

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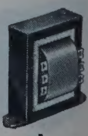

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TRANSFORMERS

REACTORS POWER PACKS TRANSMITTERS

Filament Transformers—Single Secondary

This group of filament transformers represents a complete listing of all commonly used electrical and physical specifications for units of this type. All transformers except those especially indicated have center taps. They are designed to provide accurate voltage output at rated loads with good regulation. Generous insulation provides a safety factor over and above the test voltage as indicated. Each group of transformers by voltage ratings is available in several convenient mounting styles which lend themselves to most applications.

Stancor No.	Primary Voltage	Secondary		Type Mounting	Mounting Dimensions			Sec. Volts Insulation	Weight in Ctn.	List Price
		Volts	Amperes		H	W	D			
P-4026	115	2.5 C.T.	1.5	A	1 9/16″	1 5/16″	2 3/16″	2,500	0.5	**$3.00**
P-4082	105–115	2.5 C.T.	2.5	TD	2 11/16″	2¾″	2 3/16″	2,500	1.4	**6.00**
P-6133	115	2.5 C.T.	5	S	2 11/16″	2½″	2¾″	7,500	2.7	**4.50**
P-4083	105–115	2.5 C.T.	6	C	3⅛″	2⅝″	2⅜″	2,500	2.2	**6.50**
P-3024	105–115	2.5 C.T.	10	C	3⅛″	2⅝″	2⅝″	2,500	2.7	**6.25**
P-3060	115	2.5 C.T.	10	B	3½″	2 13/16″	2½″	10,000	3.0	**5.70**
P-3025	105–115	2.5 C.T.	10	FA	5″	4¼″	8½″	10,000	5.3	**16.50**
P-3026	105–115	5.0 C.T.	3	C	3⅛″	2⅝″	2⅝″	2,500	2.5	**6.00**
P-4088	115	5.0 C.T.	3	B	3⅛″	2½″	2⅛″	2,500	2.0	**4.80**
P-3062	115	5.0 C.T.	6	B	3⅛″	2½″	2¾″	2,500	2.5	**5.50**
P-5000	105–115	5.0 C.T.	6	C	3⅛″	2⅝″	2⅞″	2,500	3.2	**6.50**
P-6135	115	5.0 C.T.	10	N	3⅛″	2⅝″	3¼″	2,500	3.1	**6.00**
P-4086	105–115	5.0 C.T.	14	FA	5″	4¼″	8½″	10,000	9.4	**19.50**
P-6302	105–115	5.0 C.T.	22	FA	5″	4¼″	8½″	10,000	12.0	**21.10**
P-6305	105–115	5.0 C.T.	30	FB	5″	4¼″	10″	10,000	17.1	**22.00**
P-6137	115	5.25 C.T.	13	N	3⅞″	3¼″	3⅝″	2,500	4.2	**7.60**
P-6134	115	6.3 C.T.	1.2	A	1⅝″	2 13/16″	1½″	2,500	0.6	**2.65**
P-5014	115	6.3 C.T.	3	B	3⅛″	2½″	2¼″	2,500	2.0	**4.50**
P-4019	105–115	6.3 C.T.	4	C	3⅛″	2⅝″	2⅝″	2,500	2.8	**5.75**
P-3064	115	6.3 C.T.	6	B	3⅛″	2½″	2¾″	2,500	2.4	**5.50**
P-4089	105–115	6.3 C.T.	6	C	3⅝″	2 15/16″	3⅛″	2,500	3.7	**6.50**
P-6308	105–115	6.3 C.T.	10	N	3½″	2 13/16″	3⅛″	2,500	4.0	**6.40**
P-6309	115	6.3 C.T.	20	N	4⅝″	3⅞″	3⅞″	2,500	7.5	**12.50**
P-5015	115	7.5 C.T.	4	B	3⅛″	2½″	2½″	2,500	2.5	**4.50**
P-4091	105–115	7.5 C.T.	5	C	3⅝″	2 13/16″	2⅞″	2,500	4.0	**7.75**
P-6138	115	7.5 C.T.	8	N	3¾″	3⅛″	3½″	2,500	4.1	**7.60**
P-4092	105–115	7.5 C.T.	8	C	3⅞″	3¼″	3⅝″	2,500	5.6	**8.00**
P-5016	115	10.0 C.T.	4	B	3½″	3″	2⅞″	2,500	3.0	**6.00**
P-4096	105–115	10.0 C.T.	5	C	3⅞″	3¼″	3⅜″	2,500	4.6	**8.25**
P-6139	115	10.0 C.T.	8	N	3⅞″	3¼″	3½″	2,500	4.1	**7.45**
P-4097	105–115	10.0 C.T.	8	C	3⅞″	3¼″	3⅝″	2,500	5.8	**8.50**
P-5002	105–115	10.0 C.T.	12	FA	5″	4¼″	8½″	7,500	11.6	**20.00**
P-3020	105–115	11.0 C.T.	10	C	4⅝″	3⅞″	3⅞″	2,500	7.8	**12.50**
P-6164	115	*6.3, 5, 2.5	2.5	B	2⅝″	2¼″	2⅜″	2,500	1.8	**4.50**

Multiple Secondary

P-5009	105–115	5.0 C.T. 6.3 C.T.	3.0 6.0	C	3⅞″	3¼″	3⅜″	2,500	4.7	**10.65**
P-5008	105–115	5.0 C.T. 6.3 C.T.	4.0 3.6	C	3⅝″	2 15/16″	3¼″	2,500	4.0	**9.30**
P-4022	105–115	5.0 C.T. 6.3 C.T.	6.0 6.0	C	3⅞″	3¼″	3⅜″	2,500	5.0	**10.50**
P-4090	115	6.3 C.T. 7.5 C.T.	3.0 4.0	B	3½″	2⅞″	3″	2,500	3.7	**7.50**
P-6144	115	2.5 C.T. 5.0 C.T. 6.3 C.T.	3.5 3.0 3.0	C	3⅝″	2 15/16″	3⅛″	2,500	4.0	**9.70**
P-6333	115	7.5, 6.3 C.T. *5.0 *5.0 *6.3	3.0 3.0 3.0 4.0	B	2⅞″	3⅜″	2¾″	2,500	4.6	**10.25**
P-6338	115	6.3 *2.5, *5.0 5.0 C.T.	3.0 2.0	N	3½″	2⅞″	2¾″	2,500	4.0	**9.10**

* Windings not center tapped. Other voltage and frequency combinations available on special order. Write for quotations.

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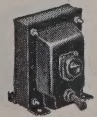
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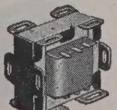
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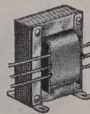
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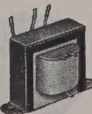
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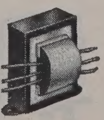
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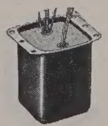
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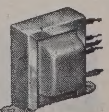
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STANCOR

TRANSFORMERS

REACTORS · POWER PACKS · TRANSMITTERS

Listings cover two distinct groups of transformers, universal or Poly-pedance and specific types. The latter group covers the most frequently used ratios, core sizes and mounting styles. They should be used in permanent installations whenever possible since their design permits the best efficiency and fidelity for units of this type. Poly-pedance transformers are ideally suited for use in experimental or temporary equipment, such as schools, laboratories, etc., since they are provided with a large number of taps to permit the user to secure the widest practical range of impedance match. All units represent outstanding values.

Modulation Transformers—Poly-Pedance

Stancor No.	Max. Aud. Watts	Pri. Ma. Per Side	Secondary Ma.		Type Mounting	Dimensions			Weight in Ctn.	List Price
			Series	Parallel		H	W	D		
A-3891	15	45	45	90	D	3 3/16″	2⅝″	3⅛″	2.5	**$12.00**
A-3892	30	80	80	160	D	3⅞″	3¼″	3⅞″	6.0	**12.00**
A-3893	60	125	125	250	D	3⅞″	3¼″	4⅜″	7.3	**14.00**
A-3894	125	150	150	300	D	4⅝″	3⅞″	5″	12.0	**18.45**
A-3898	300	260	260	520	FS	7⅝″	7⅛″	9″	40.0	**57.85**
A-3899	600	350	350	700	FS	11¼″	7⅛″	9″	75.0	**119.35**

Plate Modulation Transformers

Stancor No.	Output Tubes	Class	Impedance		D.C. Pri. Ma.	D.C. Sec. Ma.	Max. Audio Watts	Type Mtg.	Dimensions			Wght. in Ctn.	List Price
			Pri.	Sec.					H	W	D		
A-3812	1-1G6, 1J6, 19, 6E6, 6G6, 6Z7; P.P. 1H4, 30, 49, 1-1G5, 6K6, 37, 38, 41	B A	10,000	4,000	32	50	5	A	1⅝″	2⅞″	1½″	0.7	**$2.90**
A-3871	1-6B5*, 6F6*, 6L6, 6N6*, HY69	A1	4,500	8,500	60	50	10	TD	2 11/16″	2¾″	2 3/16″	1.8	**$5.75**
A-3873	P.P. 6L6, RK56, HY60	AB1	8,500	8,000	100	100	25	C	3 3/16″	2⅝″	3⅝″	6.1	**8.80**
A-3[illegible]45	1-6A6, 6N7, 53, 79, 6Y7 P.P. 6F6, 6V6, 2A5, 42	B AB2	10,000	3,000, 5,000 6,500, 8,000	100	100	25	C	3 3/16″	2⅝″	2¾″	3.5	**6.15**
A-38[illegible]5	P.P. 2A3, 6A3, 45, 6A5, 6B4, 50; P.P. 6L6	AB A1	3,000 5.000	5,350, 8.350 10,000	80	100	25	C	3⅞″	3¼″	3⅛″	5.2	**7.90**
A-3868	P.P. 6L6	AB1	6,600	10,000, 12,000	100	70	35	C	3 3/16″	2⅝″	3⅝″	6.1	**8.40**
A-3808	P.P. 6L6, 807, HY61, RK41 P.P. PAR. 6L6	AB2 AB1	3,800 3,300	4,000, 5.000 7,500. 10,000	260	170	60	D	4⅝″	3⅞″	4¾″	7.7	**13.25**
A-2907	P.P. 10, T20, TZ20, HY25, 46, 801, 825, 841	B	8,000	3,300, 5,000 6,800, 9,000 12,500	200	150	90	D	4⅝″	3⅞″	5¼″	10.2	**14.55**
A-2908	P.P. RK18, T20, TZ20, HY25, RK31, 35T, 50T, 800, 801, 830B, 1623	B	7,200 12,000	3,000, 4,500 5,350, 6,250	260	220	120	D	4⅝″	3⅞″	5⅝″	10.4	**15.35**
A-3829	P.P. RK12, HY25, 35T, HY40Z, T40, TZ40, 100TL, HK354, 756, 809, 830B	B	6,900 9,000	3,300, 4,000 5,000, 6,250	250	300	175	D	4⅝″	3⅞″	6⅛″	11.8	**16.55**

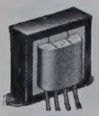
* Secondary winding used as primary.

Cathode Modulation Transformer

Stancor	Impedance		D.C. Pri. Ma.	D.C. Sec. Ma.	Max. Audio Watts	Type Mtg.	Dimensions			Wgt. in Ctn.	List Price
	Primary	Secondary					H	W	D		
A-3889	4000, 6000, C.T.	150, 250, 500, 750, 1000, 1500, 2000, 2500	125	450–250	60	D	3⅞″	3¼″	4¼″	4.8	**12.55**

Line to R.F. Load Modulation Transformer

Stancor No.	Ohms Impedance		D.C. Sec. Ma.	Max. Audio Watts	Type Mtg.	Dimensions			Wgt. in Ctn.	List Price
	Primary	Secondary Load				H	W	D		
A-3866	500,200	5,000, 6,000, 7,000, 8,000, 9,000, 10,000	150	30	D	4 5/16″	3 9/16″	3½″	6.5	**12.15**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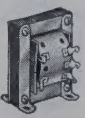
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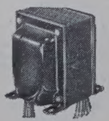
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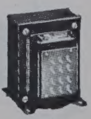
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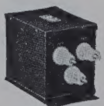
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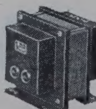
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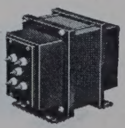
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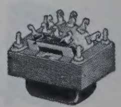
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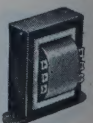
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TRANSFORMERS

REACTORS POWER PACKS TRANSMITTERS

Two distinct groups of driver transformers are shown. Tapped or Poly-pedance and specific or fixed ratio types. Poly-pedance units are especially designed for experimental and laboratory work where it is desirable to change the turns ratio to optimum value. Two power ratings one of which is applicable to circuits employing inverse feedback and two line drivers are available. Specific types are listed in the most frequently used ratios, core sizes and mounting styles. They should be used wherever possible in permanent installations because their design permits the best effiiciency and fidelity for units of this type.

Poly-Pedance Driver Transformers

Stancor No.	Capacity in Watts	Primary Ma. per Side	Ratio Primary to ½ Secondary	Type Mtg.	Dimensions H	Dimensions W	Dimensions D	Weight in Ctn.	List Price
A-4761	15	60	1.25:1, 1.4:1, 1.6:1, 1.8:1, 2:1, 2.2:1, 2.4:1	CD	3³⁄₁₆″	2⅝″	3¾″	3.0	**$13.00**
A-4762	15	60	2.6:1, 3:1, 3.2:1, 3.4:1, 4:1, 4.5:1, 5:1	CD	3³⁄₁₆″	2⅝″	3¼″	2.8	**12.10**
A-4763	30	120	1.25:1, 1.5:1, 1.75:1, 2:1, 2.25:1, 3.2:1	CD	3⅝″	3″	4″	4.3	**13.95**

Poly-Pedance Line Driver Transformers

Stancor No.	Capacity in Watts	Ratio Primary to ½ Secondary	Dimensions H	Dimensions W	Dimensions D	Type Mtg.	Weight in Ctn.	List Price
A-4765	15	1:0.75, 1:0.85, 1:1, 1:1.25, 1:1.45, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3.15	3³⁄₁₆″	2⅝″	3½″	CD	3.0	**$13.50**
A-4766	30	1:075, 1:0.85, 1:1, 1:1.25, 1:1.45, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3.15	3⅝″	3″	3¾″	CD	4.0	**14.85**

Driver Transformers

Stancor No.	From	To	Class	Impedance Pri.	Impedance ½ Sec.	Ratio Pri. to ½ Sec.	D.C. Pri. Ma.	Type Mtg.	Mounting Dimensions H	Mounting Dimensions W	Mounting Dimensions D	Wgt. in Ctn.	List Price
A-4752†	P.P. or Sgl. 45, 6F6, 2A5, 42, 6K6, 6N7, 6C5	P.P. 6K6, 2A5, 42, 6F6, 6L6, 6V6, 6Y6, 6Z7	AB	10,000	10,000 4,400 2,500	1:1 1.5:1 2:1	35	S	2¼″	2⅞″	1⅞″	1.5	**$4.00**
A-4405	Sgl. 45, 6F6, 42, 2A5, 6K6, 41	PP. 42, 89 2A5, 6F6, 6V6, 6Z7	B	10,000	6,400	1.24:1	40	C	3³⁄₁₆″	2⅝″	2⅝″	2.7	**6.60**
A-4721	Sgl. 2A3, 6A3, 45, 46, 59, 42, 6F6, 2A5, 89, 53, 6A6, 6N7, 6C5, 37, 30 1H4	P.P. 1J6, 19, 79 6Z7, 53, 6N7, 42, 45, 6F6, 46, 49, 2A5, 59, 89, 6K6, TZ20	B	10,000 22,500	2,500	2:1 3:1	30	TD	2¹¹⁄₁₆″	2¾″	2³⁄₁₆″	1.5	**5.70**
A-4404	P.P. 2A3, 6A3, 45, 6L6, 6V6 P.P. PAR. 2A3 6F6, 50, 42, 59	P.P. 849 P.P. 800, 830B 10, RK18, HF100, 811 P.P. 154, 812, 203A, 838, 211, 203Z, RK38, HF100, 100TL, HF200, 822, HD203A.354, 150T	A B	14,000	3,500	2:1	90	C	3⅝″	3″	3⅛″	3.7	**7.30**
A-4292	Sgl. 6C5, 6J5, 30, 1H4, 49	P.P. 1J6, 19, 79, 6Z7, 30 1H4, 49	B	10,000	1,600	2.5:1	10	A	1⅝″	2¹³⁄₁₆″	1½″	0.7	**2.60**
A-4208‡	P.P. 6C5, 6J5, 6N7, 6L5, 56, 27, 76, 55, 85, 6R7	P.P. 2A3, 2A5, 6A3, 6F6, 6L6, 6V6, 42, 45, 50, 59, 89	AB	25,000	3,200	2.79:1	15	C	3³⁄₁₆″	2⅝″	2⅝″	2.5	**6.00**
A-4210	Sgl. 2A3, 6A3, 45, 46, 59, 2A5 6F6, 42, 89, 6C5, 6N7, 76	P.P. 2A3, 6A3 46, 59 P.P. 2A5, 42, 45, 6F6, 6L6, 807	B AB	22,500	2,500	3:1	40	C	3³⁄₁₆″	2⅝″	2⅝″	2.6	**5.50**
A-4701‡	P.P. 46, 89, 6C5, 6J5, 56, 37, 27, 76	P.P. 6L6, 6V6, 6Y6, 42, 6F6, 45, 2A3, 6A3	AB1	20,000	2,200	3.1:1	25	C	3³⁄₁₆″	2⅝″	2⅝″	2.7	**6.35**
A-4212	P.P. 2A3, 6A3, 45, 6L6	P.P. 801, 830B 35T, 808, 838, RK57, HY40Z, 805, 828, 756, 100TL, 100TH, TZ20, T140, P.P. Par. 46, 59, PP. 807	B	25,600	2,500	3.2:1	50	C	3³⁄₁₆″	2⅝″	2⅝″	2.6	**6.15**
A-4216	Sgl. 53, 6A6, 6N7, 79, 6E6 P.P. 53, 6A6, 6N7	P.P. 53, 6A6, 6N7 6E6, 6N6, 89 P.P. Par. 53, 6A6, 6N7	B	25,000	1,000	5:1	15	TD	2¹¹⁄₁₆″	2¾″	2³⁄₁₆″	1.5	**5.50**
A-4416‡	P.P. 2A3, 45, 46, 59, 6F6 P.P. 53, 6A6, 6N7	P.P. 6L6, 6V6, P.P. Par. 46, 59 P.P. Par. 53, 6A6, 6N7	AB2 B	30,000	1,200	5:1	40	C	3³⁄₁₆″	2⅝″	2⅝″	2.7	**6.60**
A-4702‡	Sgl. 2A3, 45, 46, 89, 2A5, 6F6 42	P.P. 6L6, 6V6, 6F6, 45 P.P. Par. 6L6	AB2 AB1	50,000	2,000	5:1	80	C	3³⁄₁₆″	2⅝″	2⅝″	2.7	**5.80**
A-4703‡	P.P. 2A3, 45, 46, 6L6, 89, 6F6, 2A5, 42	P.P. 807, HY61 P.P. Par. 6L6	AB2	10,000	325	5.6:1	95	C	3⅝″	3″	3⅛″	3.8	**7.50**

† **P.P.** primary ratio is 2:1. ‡ Split Secondary.

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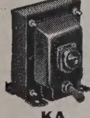
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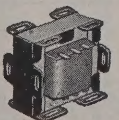
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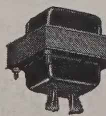
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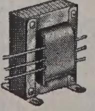
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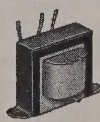
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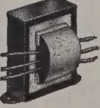
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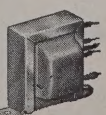
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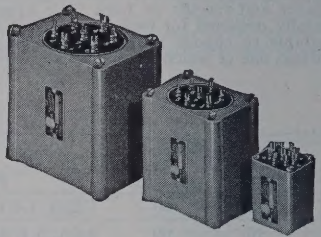
STANCOR'S HF—WF HIGH FIDELITY AUDIO TRANSFORMERS



These new units will enhance the performance of the finest amplifier circuits, speakers, microphones and pickups. Vacuum impregnation and potted construction insure long life due to excellent protection against moisture. Sturdy cast cases are finished in flat gray enamel and contain four threaded holes at each end for flush mounting.' Stud type terminals are provided on a phenolic panel with all terminals plainly marked for easy identification.

Wide range frequency response from 20 to 20,000 cps. within ±1 db for the HF units and from 30 to 20,000 cps. within ±2 db for the WF units.

Proper coil and core design reduces harmonic and intermodulation distortion to a negligible amount.

Special coil construction reduces leakage inductance and distributed capacity; results in uniform high response.

Balanced hum-bucking construction and/or high permeability magnetic shielding minimize hum pickup.

Nickel alloy laminations result in improved low frequency response in the smaller units where size and space are at a premium.

Stancor No.	Application	Primary Impedance	Secondary Impedance	Response ±1 db from	Max. Pri. DC Ma. Unbalance	Max. Level in db	Hum Pickup Reduction	Mtg.	Wgt. Lbs.	List Price
Low Impedance to Grid										
HF-20	Low Imp. Mike, Pickup or Mult Line to Grid	50, 125, 200, 250, 333, 500/600	60,000 ohms overall, in two secs.	20 to 20,000 cps.	0.5	15	−74 db	HF-1	3	**$24.50**
HF-20X	Low Imp. Mike, Pickup or Mult Line to Grid	50, 125, 200, 250, 333, 500/600	50,000 ohms	20 to 20,000 cps.	0.5	14	−92 db	HF-1	3	**31.25**
HF-22	Low Imp. Mike, Pickup or Mult Line to P.P. Grids	50, 125, 200, 250, 333, 500/600	120,000 ohms overall, in two secs.	20 to 20,000 cps.	0.5	15	−74 db	HF-1	3	**27.50**
HF-22X	Low Imp. Mike, Pickup or Line to P.P. Grids	50, 125, 200, 250, 333, 500/600	80,000 ohms overall, in two secs.	20 to 20,000 cps.	0.5	14	−92 dbQ	HF-1	3.0	**34.25**
Interstage										
HF-29	Sgl. Pl. to P.P. Grids—2A3, 6A3, 6B4-G, etc.	15,000 ohms	95,000 ohms overall	20 to 20,000 cps.	0.5	17	−50 db	HF-1	3	**23.50**
HF-31	Sgl. Pl. to P.P. Grids. Split pri. and sec.	15,000 ohms	135,000. Turns ration 3:1 overall	20 to 20,000 cps.	....	14	−74 db	HF-1	3.0	**24.00**
HF-32	P.P. Plates to P.P. Grids. Split pri. and sec.	30,000 ohms Plate to Plate	80,000. Turns ratio 1.6:1 overall	20 to 20,000 cps.	0.25	26	−50 db	HF-2	7.5	**30.50**
Mixing										
HF-40	Low Imp. Mixer, Mike, Pickup or Mult Line to Mult Line	50, 125, 200, 250, 333, 500/600 ohms	50, 125, 200, 250, 333, 500/600 ohms	20 to 20,000 cps.	0.5	17	−74 db	HF-1	3	**24.50**
Output										
HF-65	P.P. 2A3, 6A3, 6B4-G, etc. to Line or VC	3,000 or 5,000 ohms Plate to Plate	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, or 500	25 to 20,000 cps.	0.5	20	———	HF-2	7.5	**27.50**
HF-67	P.P. 2A3's, 6A5-G's, 300A's, 275A's, 6A3's, 6L6's	3,000 or 5,000 Plate to Plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	20 to 20,000 cps.	0.5	20	....	HF-2	7.5	**20.00**
HF-68	P.P. Par. 2A3's, 6A5-G's, 300A's, 6A3's	1,500 or 2,500 Plate to Plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	20 to 20,000 cps.	....	40	....	HF-3	15.0	**40.50**

Stancor No.	Application	Primary Impedance	Secondary Impedance	Response ±2 db from	Mtg.	Wgt. Lbs.	List Price
Input							
WF-20	Low Imp. Mike, Pickup or Mult Line to Sgl. Grid	50, 125, 200/250, 333, 500/600	50,000 ohms	30–20,000	WF-6	.6	**$14.50**
WF-21	Low Imp. Mike, Pickup or Mult Line to Sgl. or P.P. Grids	50, 200, 500	50,000 ohms	50–10,000 Multiple allow shield for extremely low hum pickup	WF-6	.6	**15.50**
WF-22	Low Imp. Mike, Pickup or Line to P.P. Grids	50, 125/150, 200/250, 333, 500/600 ohms	80,000 ohms overall in two sections	30–20,000	WF-6	.6	**14.50**
WF-24	Dynamic Mike to 1 or 2 Grids	30 ohms	50,000 ohms in two sections	30–20,000	WF-6	.6	**14.00**
Interstage							
WF-26	Single Plate to Single Grid	15,000 ohms	60,000 ohms. 2:1 turns ratio	30–20,000	WF-6	.6	**12.75**
WF-28	Sgl. Pl. to 2 Grids. Can use split pri. for P.P. Pl.	15,000 ohms	80,000 ohms overall. 2.3:1 turns ratio overall	30–20,000	WF-6	.6	**14.00**
Low Level Output							
WF-34	Sgl. Pl. to Mult Line	15,000 ohms	50, 125, 200/250, 333, 500/600 ohms	30–20,000	WF-6	.6	**14.50**
WF-35	Single Plate to Multiple Line	15,000 ohms	50, 125/150, 200/250, 333, 500/600 ohms	30–20,000	WF-6	.6	**14.00**
WF-36	P.P. Low Level Plates to Line	30,000 ohms Plate to Plate	50, 125/150, 200/250, 333, 500/600	30–20,000	WF-6	.6	**15.00**
Mixing							
WF-30	Low Imp. Mixer, Mike, Pickup or Mult Line to Mult Line	50, 125, 200/250, 333, 500/600 ohms	50, 125, 200/250, 333, 500/600 ohms	30–20,000	WF-6	.6	**14.50**

Dimensions: HF–1 Case, 3¼″ H x 3$^{1}/_{16}$″ W x 2$^{9}/_{16}$″ D. Mtg. ctrs., 1$^{15}/_{16}$″ x 2$^{7}/_{16}$″. HF–2 Case, 4⅛″ H x 4$^{3}/_{16}$″ W x 3$^{3}/_{16}$″ D. Mtg. ctrs. 2$^{11}/_{16}$″ x 3$^{11}/_{16}$″. HF-3 Case, 4$^{11}/_{16}$″ H x 5$^{9}/_{16}$″ W x 4$^{11}/_{16}$″ D. Mtg. ctrs., 4$^{3}/_{16}$″ x 5$^{1}/_{32}$″. WF–6 Case, 2″ H x 1½″ W x 1½″ D. Mtg. ctrs., 1$^{5}/_{32}$″, x 1$^{5}/_{32}$″.

CHICAGO

NEW EQUIPMENT

POWER TRANSFORMERS FILTER REACTORS

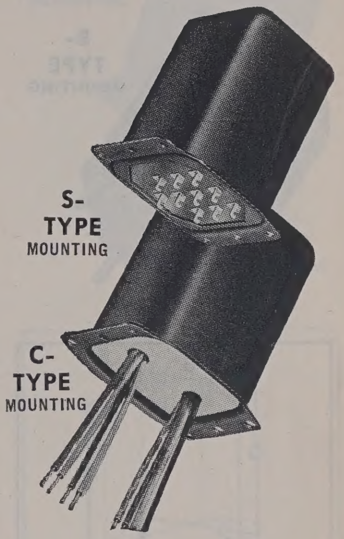
CHICAGO TRANSFORMER DIVISION * ESSEX WIRE CORPORATION

POWER TRANSFORMERS

The power transformers in the CHICAGO New Equipment Line are designed to provide plate and filament supply for from two to sixteen tubes in a wide range of applications. They are conservatively rated and will deliver full rated current and voltage with minimum temperature rise well within RMA-recommended limits.

FILTER REACTORS

The CHICAGO filter reactors listed below have current ratings particularly suited for use with the power transformers above them, but will give equally satisfactory service in any other correct application. Their design provides maximum inductance for given current rating in the smallest practical size of unit.



POWER TRANSFORMERS — PLATE AND FILAMENT SUPPLY

For CAPACITOR INPUT SYSTEMS — Primary 117 Volts, 50-60 Cycles

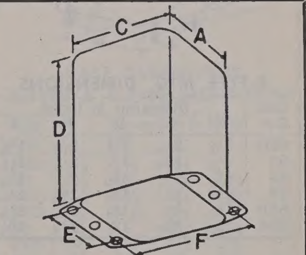
High Voltage Secondary			Filaments						S-Type Mounting		C-Type Mounting	
Volts A-C	Ma. D-C	Output V. D-C	Rectifier Volts	Rectifier Amps.	Others Volts	Others Amps.	Wt. Lbs.	Case Size	Cat. No.	List Price	Cat. No.	List Price
270-0-270	55	260	5	2	6.3CT	2	3	F8	PSC-55	$10.00	PCC-55	$ 6.50
335-0-335	70	320	5	2	6.3CT	3	4¼	F9	PSC-70	11.50	PCC-70	8.00
330-0-330	85	320	5	2	6.3CT	3	5¼	F10	PSC-85	13.25	PCC-85	9.25
345-0-345	105	320	5	2	6.3CT	3.5	6	F10	PSC-105	14.00	PCC-105	10.00
375-0-375	120	380	5	3	6.3CT	4	8½	F11	PSC-120	14.75	PCC-120	11.25
370-0-370	150	390	5	3	6.3CT	4						
					6.3CT	1	9¾	F11	PSC-150	19.50	PCC-150	15.00
385-0-385	200	390	5	3	6.3CT	4.5						
					6.3CT	1	11½	F11	PSC-200	20.75	PCC-200	16.25

For REACTOR INPUT SYSTEMS — Primary 117 Volts, 50-60 Cycles

350-0-350	55	260	5	2	6.3CT	2	3	F8	PSR-55	10.25	PCR-55	6.75
425-0-425	70	320	5	2	6.3CT	3	4¼	F9	PSR-70	11.75	PCR-70	8.25
440-0-440	85	325	5	2	6.3CT	3	5½	F10	PSR-85	13.50	PCR-85	9.50
445-0-445	105	325	5	2	6.3CT	3.5	5¾	F10	PSR-105	14.25	PCR-105	10.25
500-0-500	120	400	5	3	6.3CT	4	8½	F11	PSR-120	15.00	PCR-120	11.50
505-0-505	150	400	5	3	6.3CT	4						
					6.3CT	1	10	F11	PSR-150	19.75	PCR-150	15.25
520-0-520	200	410	5	3	6.3CT	4.5						
					6.3CT	1	11	F11	PSR-200	21.00	PCR-200	16.50
550-370-75-0					6.3CT	1						
-75-370-550	300	425	5	6	6.3CT	5	16	F12	PSR-300	30.00	PCR-300	23.50

FILTER REACTORS

Inductance in henries	Max. Current Ma. D-C	D-C Resistance in Ohms	Insulation Test Volts	Case Size	Wt. Lbs.	S-Type Mounting Cat. No.	S-Type Mounting List Price	C-Type Mounting Cat. No.	C-Type Mounting List Price
15	55	385	2,500	F6	2	RS-1555	$ 5.00	RC-1555	$ 3.75
15	85	270	2,500	F7	2¾	RS-1585	6.00	RC-1585	4.50
12	105	170	2,500	F8	3¼	RS-12105	6.50	RC-12105	5.25
12	150	150	2,500	F9	5	RS-12150	8.75	RC-12150	7.25
12	200	140	2,500	F10	6½	RS-12200	10.25	RC-12200	8.75
10	55	222	2,500	F6	2	RS-1055	4.75	RC-1055	3.50
10	85	175	2,500	F7	2¾	RS-1085	5.75	RC-1085	4.25
8	105	103	2,500	F8	3¼	RS-8105	6.25	RC-8105	5.00
8	150	100	2,500	F9	5	RS-8150	8.50	RC-8150	7.00
8	200	85	2,500	F10	6½	RS-8200	10.00	RC-8200	8.50
8	300	70	2,500	F11	9½	RS-8300	15.50	RC-8300	13.50



CASE DIMENSIONS S-TYPE & C-TYPE MOUNTINGS

Case Size	Dimensions in Inches A	C	D	E	F
F6	2¼	2⅛	$2\frac{15}{16}$	1½	2⅜
F7	2½	2⅜	$3\frac{5}{16}$	1¾	$2\frac{11}{16}$
F8	2⅞	$2\frac{11}{16}$	3¾	2	3⅛
F9	3¼	3	4¼	2¼	3½
F10	$3\frac{11}{16}$	$3\frac{5}{16}$	$4\frac{11}{16}$	2¾	3⅞
F11	$4\frac{9}{16}$	4⅛	$5\frac{5}{16}$	2½	4¾
F12	$5\frac{5}{16}$	$4\frac{13}{16}$	$6\frac{1}{16}$	3½	5⅜

For details on mounting constructions, see bottom of next page.

FILAMENT TRANSFORMERS — S-Type Mounting

CHICAGO New Equipment filament transformers provide voltage and current ratings for heating a wide range of popular tubes.

Those with secondaries rated for less than 6 amps. have solder-lug terminals as shown in the S-type mounting; those with secondaries rated at more than 6 amps. have screw-type terminals. Filament Transformers Nos. F-210 and F-210H are specially designed for high voltage rectifier filament supply. They have screw-type terminals, insulated on the secondaries with ceramic bushings.

Secondary Volts	Secondary Amps	Primary Volts	Primary Cycles	Insulation Test Volts	Case Size	Wt. Lbs.	Catalog No.	List Price
2.5 CT	5.25	115-230	50-60	3,500	F7D	2	F-25	$ 7.50
2.5 CT	10.0	115-230	50-60	5,000	F8D	3¼	F-210	10.75
2.5 CT	10.0	115-230	50-60	9,000	F9D	4½	F-210H	12.50
5 CT	4.0	115-230	50-60	2,500	F7D	2¾	F-54	7.75
5 CT	10.0	115-230	50-60	2,500	F8D	3¼	F-58	10.75
5 CT	20.0	115-230	50-60	2,500	F10D	6½	F-516	15.50
6.3 CT	5.5	115-230	50-60	2,500	F8D	3¼	F-65	9.00
6.3 CT	10.0	115-230	50-60	2,500	F9D	5	F-610	12.75
7.5 CT	5.0	115-230	50-60	2,500	F8D	3¼	F-75	8.75
7.5 CT	25.0	115-230	50-60	2,500	F11	12	F-725	20.50
10 CT	4.0	115-230	50-60	2,500	F8D	3¼	F-104	9.25
10 CT	6.5	115-230	50-60	2,500	F9D	5	F-106	12.75
10 CT	10.0	115-230	50-60	2,500	F10D	6½	F-1010	15.00
11 CT	10.0	115-230	50-60	2,500	F11	9½	F-1110	16.00

BIAS TRANSFORMERS

Combination plate and filament supply transformers. High voltage secondaries, 180/160/140/120 volts a-c at 150 ma d-c; rectifier filament windings, 5 volts at 3 amps. Available with either 115-volt or 230-volt primaries. In drawn steel cases, case size F9, in either the "S" or "C" type of mounting. Wt., 5 lb.

S-Type Mounting

Primary Volts	Catalog No.	List Price
115	1BS-150	$13.00
230	2BS-150	12.75

C-Type Mounting

115	1BC-150	8.25
230	2BC-150	8.00

CHICAGO

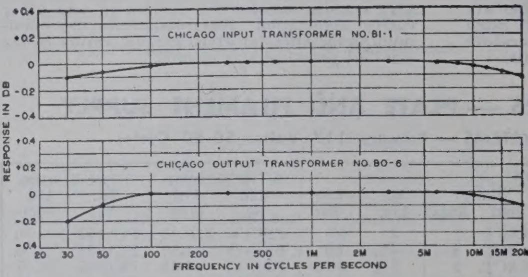
NEW EQUIPMENT

AUDIO TRANSFORMERS

CHICAGO TRANSFORMER DIVISION * ESSEX WIRE CORPORATION

FULL FREQUENCY RANGE AUDIO TRANSFORMERS

Frequency Response within ±½ db, 30 to 15,000 Cycles



The frequency response curves at left are typical of these CHICAGO transformers. This, plus a very low percentage of distortion over the full range and their high grade construction, recommends them to all users of fine, broadcast quality audio components.

Input units have hum-bucking core construction and inner alloy cases for extra hum shielding.

For Full Frequency Range DRIVER and MODULATION TRANSFORMERS, see page N-20

INPUT TRANSFORMERS — B-Type Mounting

Application	Impedance Primary—Secondary	Max. Power Level	Hum Shielding	Case Size	Wt., Lbs.	Cat. No.	List Price
Line to Single or P-P Grids	*Pri: 600/150 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	—70 dbm.	S6D	2	**BI-1**	$22.00
Line to Single or P-P Grids	*Pri: 600/150 ohms CT *Sec: 50.000 ohms CT	+15 dbm.	—90 dbm.	S6D	2	**BI-2**	29.00
Line bridging to P-P Grids	*Pri: 8,000/6,000 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	—70 dbm.	S6D	2	**BI-3**	21.00
Line to line	Pri: 600/150 ohms CT Sec: 600/150 ohms CT	+15 dbm.	—70 dbm.	S6D	2	**BI-4**	21.00
Line to line	*Pri: 600/150 ohms CT *Sec: 600/150 ohms CT	+30 dbm.	—90 dbm.	S9	3	**BI-5**	30.00
Interstage: P-P Plates to Sgl.or P-P Grids	*Pri: 20,000 ohms CT *Sec: 50,000 ohms CT	+15 dbm.	—70 dbm.	S6D	2	**BI-6**	22.00

*Split and balanced windings.

OUTPUT TRANSFORMERS — B-Type Mounting

Application	Impedance Primary—Secondary	Max. Power Level	Case Size	Wt., Lbs.	Cat. No.	List Price
Single Plate to Line	†Pri: 15,000 ohms *Sec: 600/150 ohms CT	+15 dbm.	S7	2	**BO-1**	$13.00
P-P Plates to Line	*Pri: 20,000 ohms CT *Sec: 600/150 ohms CT	+30 dbm.	S8	2¾	**BO-2**	19.00
P-P Plates to Line	Pri: 5,000 ohms CT *Sec: 600/150 ohms CT	+40 dbm.	S10	5	**BO-3**	17.00
P-P Plates to Line	Pri: 7,500 ohms CT *Sec: 600/150 ohms CT‡	+43 dbm.	S10	5	**BO-4**	18.00
P-P Plates to Line	*Pri: 10,000 ohms CT *Sec: 600/150 ohms CT and 16/8/4 ohms	+37 dbm.	S9D	4	**BO-5**	24.00
P-P Plates to Voice Coil	*Pri: 7,500 ohms CT Sec: 8/20 ohms‡	+43 dbm.	S10	5	**BO-6**	23.00
Line to Voice Coil	Pri: 600/150 ohms Sec: 8/20 ohms	+45 dbm.	S10	5	**BO-7**	22.00

*Split and balanced windings. †0 to 10 ma. D.C.
‡Has tertiary winding to provide 15% inverse feedback.

DETAILS OF NEW EQUIPMENT LINE MOUNTINGS

The New Equipment Line offers these exclusive features: (1) Uniformity of mounting — all but the largest units have CHICAGO's famous **Sealed in Steel** constructions; (2) Choice of two alternate mountings, the S-Type and C-Type, in most categories.

A third construction, the B-Type mounting, is used for the Full Frequency Range audio units, where fine wire windings deserve the highest degree of sealing against moisture.

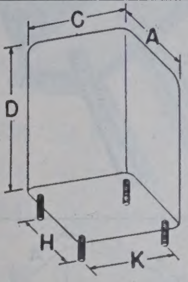
All three mountings achieve: 1. "Steel wall" protection against corrosive moisture; (2) Efficient shielding; (3) Unsurpassed strength to withstand shock and vibration; (4) Compactness; (5) Clean, streamlined appearance.

C-TYPE MOUNTING — Moisture-resistant compound surrounds coil and core. Ten-inch, RMA-color-coded leads, ends stripped and tinned for easy soldering. Flange-mounted drawn steel cases.

S-TYPE MOUNTING — Precision-fitted steel base-covers and terminal boards, plus compound filling, keep moisture out. Solder-lug terminals are clearly identified, easy to use. Drawn steel cases are flange-mounted.

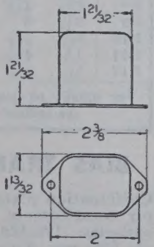
B-TYPE MOUNTING — Steel bases are bonded into the drawn steel cases by deep-seal soldering to make units completely moisture proof. Stud-mounted cases take minimum chassis space. Convenient, compact, pin-type terminals.

B-TYPE MOUNTING



B-TYPE MTG. DIMENSIONS

Case Size	Dimensions in Inches A	C	D	H	K
S6D	2¼	2⅛	$2\frac{15}{16}$	$1\frac{9}{16}$	1⅜
S7	2½	2⅜	$3\frac{1}{16}$	$1\frac{13}{16}$	$1\frac{11}{16}$
S8	2⅞	$2\frac{11}{16}$	3½	2	1⅞
S9	3¼	3	3⅞	2⅜	2⅛
S9D	3¼	3	4¼	2⅜	2⅛
S10	$3\frac{11}{16}$	$3\frac{5}{16}$	$4\frac{5}{16}$	2⅝	2⅜



HIGH Q CHOKES

for Dynamic Noise Suppression Circuits (S-Type Mounting)

Two efficient reactors, inductance values .8 and 2.4 henrys respectively, are designed for noise suppression circuits, but can be used in any tuned circuit requiring the given inductances. Inductance values accurate within ±5% with up to 15 ma. dc. Minimum Q of 20. Mounted in identical drawn steel cases.

Cat. No.	Inductance	List Price
NSI-1	.8 hy.	$7.50
NSI-2	2.4 hy.	7.50

PUBLIC ADDRESS RANGE AUDIO TRANSFORMERS

Frequency Response within ±1 db, 50 to 10,000 Cycles

Driver and output transformers in this CHICAGO series are designed for three general power levels to fit a wide range of application. Up-to-date secondary impedances match 600 or 150-ohm lines, 16, 8, and 4-ohm speakers. (16/8/4-ohm taps also suitable for 20/6/3.2-ohm speakers.) Output transformers have tertiary windings for 10% inverse feedback that minimizes distortion and provides extra audio watts without loss of fidelity.

INPUT TRANSFORMERS

Application	Primary Impedance	Max. D-C Pri. CT	Ratio, Pri. to ½ Sec.	Case Size	Wt. Lbs.	S-Type Mounting Cat. No.	S-Type Mounting List Price	C-Type Mounting Cat. No.	C-Type Mounting List Price
P-P Plates to P-P Grids	20,000 ohms (Pri. CT)	10 ma.	3:1	F7	2	PSD-10	$ 7.25	PCD-10	$ 5.00
P-P Plates to P-P Grids	20,000 ohms (Pri. CT)	25 ma.	3:1	F7D	2¾	PSD-25	7.00	PCD-25	4.75
P-P Plates to P-P Grids	5,000/10,000 ohms (Pri. CT)	100 ma.	5:1	F9	5	PSD-100	12.00	PCD-100	8.50

OUTPUT TRANSFORMERS

Application	Impedances	Typical Output Tubes	Class	Max. Audio Watts	Max. D-C Pri. CT	Case Size Wt.	Cat. No.	List Price
P-P Plates to Line or Voice Coil	Primary: 5,000 ohms, CT Secondary: * 600/150/16/8/4 ohms	2A3, 6A3, 6B4, 6L6, 6V6, etc.	A, AB	20	120 ma.	F10: 6½ lbs.	S-Type Mounting PSO-80 C-Type Mounting PCO-80	 $15.00 11.00
P-P Plates to Line or Voice Coil	Primary: 10,000 ohms, CT Secondary: * 600/150/16/8/4 ohms	6V6, 6F6, 6K6, etc.	A, AB, AB_1	15	200 ma.	F9D: 5 lbs.	S-Type Mounting PSO-150 C-Type Mounting PCO-150	 13.50 9.50
P-P Plates to Line or Voice Coil	Primary: 6,000 ohms, CT Secondary: * 600/150/16/8/4 ohms	Two 6L6's, four 6V6's, or similar	B, AB_2	30	240 ma.	F11: 9½ lbs.	S-Type Mounting PSO-200 C-Type Mounting PCO-200	 16.50 12.50

*Has tertiary winding to provide 10% inverse feedback

COMMUNICATIONS RANGE AUDIO TRANSFORMERS

Frequency Response within ±1 db., 200 to 3,500 Cycles

These transformers are specifically designed for use in receiving and transmitting equipment such as amateur, police, railroad, and aircraft types, where clear voice reproduction is desired. All units, excepting one, are offered in both S- and C-Type mountings. Check the advantages of these Sealed in Steel mountings for protecting the units against deterioration from atmospheric moisture in the field, and for adding to the appearance of any gear.

INPUT TRANSFORMERS

Application	Impedances: Primary — Secondary	Case Size	Wt. Lbs.	S-Type Mounting Cat. No.	S-Type Mounting List Price	C-Type Mounting Cat. No.	C-Type Mounting List Price
Line to Single or Push-Pull Grids	Pri.: 600/150 ohms *Sec.: 100,000 ohms CT	F4D	¾	CIS-1	$10.50	CIC-1	$7.50
S. B. or D. B. mike to Sgl. or P-P Grids	Pri.: 125/50 ohms @ 80 ma. Sec.: 125,000 ohms CT	F4D	¾	CIS-2	6.00	CIC-2	3.75

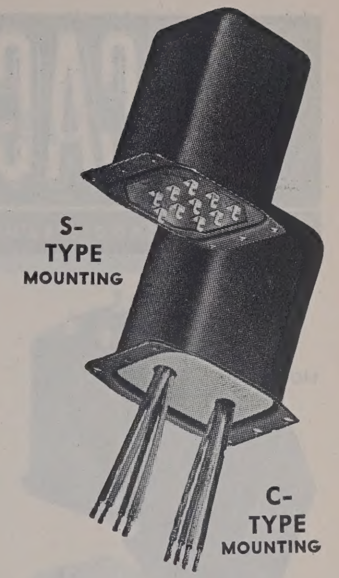
*Split and balanced windings: may be used singly or push-pull.

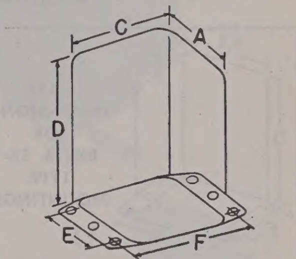
OUTPUT TRANSFORMERS

Application	Impedances: Pri. — Sec.	Typical Output Tubes	Class	Max. Audio Watts	Max. Pri. D-C	Case Size	Wt. Lbs.	S-Type Mounting Cat. No.	S-Type Mounting List Price	C-Type Mounting Cat. No.	C-Type Mounting List Price
Sgl. Pl. to Line or Speaker	Pri.: 5000 ohms Sec. ohms: 600/150/16/8/4	6L6, 6V6, 25A6	A	5	55 ma.	F7	2¾	COS-1	$7.50	COC-1	$4.75
Sgl. Pl. to Line or Speaker	Pri.: 8000 ohms Sec. ohms: 600/150/16/8/4	6F6, 6V6, 6K6	A	5	55 ma.	F7	2¾	COS-2	7.75	COC-2	5.00

DRIVER TRANSFORMER

Application	Primary Impedance	Max. D-C Pri. CT	Ratio, Pri. to ½ Sec.	Case Size	Wt. Lbs.	S-Type Mounting Cat. No.	S-Type Mounting List Price	C-Type Mounting Cat. No.	C-Type Mounting List Price
P-P Plates (2A3's, etc.) to P-P Grids	5,000 ohms (Pri. CT)	100 ma.	3:1	F8D	3	CDS-1	$8.25	CDC-1	$5.75





CASE DIMENSIONS
S-TYPE & C-TYPE MOUNTINGS

Case Size	A	C	D	E	F
F4D	1½	1½	2⅛		1⅞
F7	2½	2⅜	3 1/16	1¾	2 11/16
F7D	2½	2⅜	3 5/16	1¾	2 11/16
F8D	2⅞	2 11/16	3¾	2	3⅛
F9	3¼	3	3⅞	2¼	3½
F9D	3¼	3	4¼	2¼	3½
F10	3 11/16	3 5/16	4 5/16	2¾	3⅞
F11	4 9/16	4⅛	5 5/16	2½	4¾

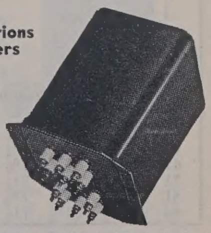
Dimensions in Inches

For details on mounting constructions, see bottom of opposite page.

MODULATION TRANSFORMER CMS-1

for Communications Transmitters

Freq. Range, 200 to 3,500 Cycles



CHICAGO's No. CMS-1 Modulation Transformer and matching Driver Transformer No. CDS-1, at left, are ideally suited for use in ham and commercial speech transmitters. No. CMS-1 will deliver 250 watts of Class B audio power from P-P 203A's, 211's, 805's, 75TL's, etc. to a Class C load with response variations not exceeding ±1 db. over the stated frequency range. Primary impedances, 9000/6700 ohms ct; secondary, 8900/6000/4000 ohms. Case size F13. Wt., 22 lbs.

No. CMS-1........List Price, $40.00

CHICAGO

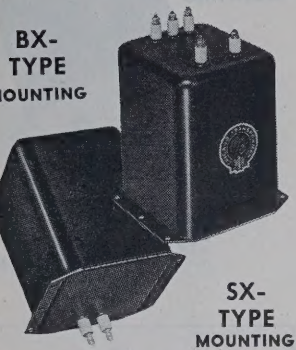
NEW EQUIPMENT

TRANSFORMERS and REACTORS

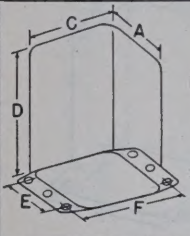
for Broadcast, Amateur, and Industrial Application

CHICAGO TRANSFORMER DIVISION * ESSEX WIRE CORPORATION

BX-TYPE MOUNTING

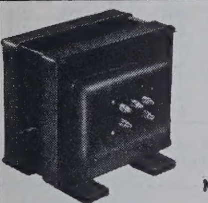


SX-TYPE MOUNTING

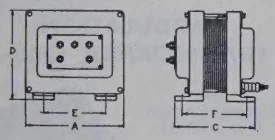


CASE DIMENSIONS FOR BX- & SX-TYPE MOUNTINGS

Case Size	Dimensions in Inches A	C	D	E	F
F12	5 5/16	4 13/16	6 1/16	3½	5⅜
F13	6⅛	5¼	7 1/16	4¼	6
F14	7 1/16	6⅛	8 1/16	5	7



FS-TYPE MOUNTING



Size	Dimensions in Inches A	D	E	F	C
60	7½	7	4¾	5½	6 5/16
62	7½	7	4¾	6¼	7⅛
63	7½	7	4¾	6 11/16	7½
71	8⅞	8½	5½	6½	8⅛
81	11½	10½	7½	8¼	10¼
84	11½	10½	7½	11 13/16	13 13/16

WC-TYPE MOUNTING

Overall Case Dimensions:
H—31½" W—26½" D—23½"

DRIVER AND MODULATION TRANSFORMERS

For Full Frequency Range Broadcasting

Ideally suited to the small-to-medium size, high fidelity broadcast station, three matched sets of driver and modulation transformers provide frequency response within ±1 db. over the full 30 to 15,000-cycle range. A uniformly low percentage of distortion proven in use. Three specially designed modulation reactors complete the sets.

CONSTRUCTIONS

BX-TYPE MOUNTING — Flange mounted case with steel base solder-sealed in. Bushing-insulated screw terminals in the tops of the cases.
SX-TYPE MOUNTING — Flange mounted cases with precision-fitted steel bases. Bushing-insulated screw terminals out the bases of the units.
FS-TYPE MOUNTING — Heavy duty frame-and-shield construction. Screw terminals on the primaries; bushing-insulated terminals on the secondaries.

WC-TYPE MOUNTING — Large oil-filled cases, made of heavy, welded steel plate. High voltage type, bushing-insulated terminals.

DRIVER TRANSFORMERS

Recommended Application: In:	Tubes:	Ratio Pri./½ Sec.	Mtg. Type	Case Size	Wt. Lbs.	Cat. No.	List Price
250-watt transmitter	From two 2A3's, 6B4's, or similar P-P plates to Class B 838's, 805's, 203-A's, etc.	3.5:1	B*	S10	6	**BD-1**	$ 30.00
1-KW transmitter	From four 2A3's, 6B4's, or similar P-P plates to two 833-A's or similar P-P grids	3:1	†	F12	16	**BD-2**	62.00
5-KW transmitter	From four 845's, two 152-TL's or similar P-P plates to 891-R's or similar P-P grids	3.5:1	BX	F13	22	**BD-3**	160.00

†Similar to BX-Type mounting, but with screw terminals on a terminal board.
*B-Type mounting, but with screw terminals. See page N-18 for dimensions.

MODULATION TRANSFORMERS

Recommended Application: In:	With:	Impedances (Pri. Plate to Plate)	Modulator Tubes	Mtg. Type	Size	Wt. Lbs.	Cat. No.	List Price
250-watt transmitter	Driver Transformer #BD-1	Pri.: 7500 ohms CT Sec.: 5000 ohms	203-A, 838 805, etc.	BX	F13	52	**BM-1**	$ 67.00
1-KW transmitter	Driver Transformer #BD-2	Pri.: 9000 ohms CT Sec.: 7500 ohms	833-A, etc.	FS	84	175	**BM-2**	390.00 (net)
5-KW transmitter	Driver Transformer #BD-3	Pri.: 13500 ohms CT Sec.: 10250 ohms	891-R, etc.	WC		1100	**BM-3**	1068.00 (net)

MODULATION REACTORS

Recommended Application: In:	With:	Inductance	D-C Ma.	Mtg. Type	Size	Wt. Lbs.	Cat. No.	List Price
250-watt Transmitter	Mod. Transformer #BM-1	65 hy.	250	BX	F14	41	**BR-1**	$ 97.00
1-KW Transmitter	Mod. Transformer #BM-2	100 hy.	500	FS	81	165	**BR-2**	185.00
5-KW Transmitter	Mod. Transformer #BM-3	120 hy.	900	WC		1100	**BR-3**	891. (net)

PLATE TRANSFORMERS AND REACTORS

Plate voltages and currents available here fit a wide range of usage in both commercial and ham transmitters, and in many types of industrial electronic equipment, including induction heaters. High quality construction and conservative ratings assure top performance.

PLATE TRANSFORMERS — FS-Type Mounting

Primary: Volts	Max. VA.	Secondary: A-C Load Volts	D-C Volts after filter	D-C Ma.	Mtg. Size	Wt. Lbs.	Catalog No.	List Price
115-230	310	1150-0-1150 870-0-870	1000 750	250	60	37	**P-107**	$ 50.00
115-230	550	1710-0-1710 1430-0-1430	1500 1250	300	63	43	**P-1512**	65.00
115-230	915	2820-0-2820 2260-0-2260	2500 2000	300	71	55	**P-2520**	100.00
115-230	1850	3450-0-3450 2850-0-2850	3000 2500	500	81	125	**P-3025**	175.00

FILTER REACTORS

Inductance in henrys	Max. D-C Ma.	D-C Resistance, Ohms	Insulation Test Volts	Mtg. Type	Mtg. Size	Wt. Lbs.	Catalog No.	List Price
10	500	40	9,000	FS	62	35	**R-105**	$35.00
10	300	40	7,500	SX	F13	22	**R-103**	20.00
6	500	35	9,000	FS	60	35	**R-65**	32.50
6	300	35	7,500	SX	F12	16	**R-63**	17.00

CHICAGO

REPLACEMENT TYPE

TRANSFORMERS and REACTORS

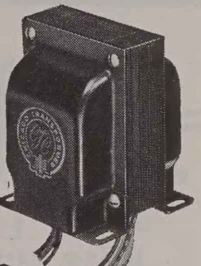
Premium Quality—Yet They Cost No More

CHICAGO TRANSFORMER DIVISION * ESSEX WIRE CORPORATION

POWER TRANSFORMERS

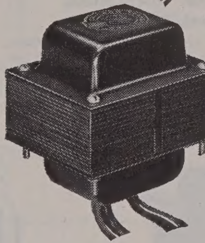
6.3-VOLT FILAMENTS — VERTICAL SHIELD MOUNTING (V)

Catalog No.	High Voltage Secondary A-C Volts	High Voltage Secondary D-C Ma.	Rectifier Filament Volts	Rectifier Filament Amps.	Other Filaments Volts	Other Filaments Amps.	Dimensions H	Dimensions W	Dimensions D	Wt. Lbs.	List Price
PV-40	225-0-225	40	5	2	6.3 C-T	1	3⅛	2½	2½	2¼	$ 6.60
PV-50	325-0-325	50	5	3	6.3 C-T	2	3¾	2⅞	3¼	3¾	7.40
PV-60	250-0-250	60	5	2	6.3 C-T	2	3⅛	2½	3	3	7.90
PV-70	350-0-350	70	5	3	6.3 C-T	3	4	3⅛	3⅜	5	8.50
PV-70A	300-0-300	70	5	3	6.3 C-T	3	3¾	2⅞	3⅜	4	8.40
PV-90	350-0-350	90	5	3	6.3 C-T	3.5	4	3⅛	3½	5¼	9.50
PV-100	350-0-350	100	5	3	6.3 C-T	5	4⅞	3¾	3½	7½	9.80
PV-120	300-0-300	120	5	3	6.3 C-T	5	4	3⅛	3¾	5¾	10.00
PV-145	372-0-372	145	5	3	6.3 C-T	5	4⅞	3¾	3¾	9	11.80
PV-200	400-0-400	200	5	4	6.3 C-T	5.5	4⅞	3¾	4	9	13.80



6.3-VOLT FILAMENTS — HORIZONTAL SHIELD MOUNTING (H)

PH-40	250-0-250	40	5	2	6.3 C-T	1.6	3	3	2½	2½	$ 6.80
PH-50	250-0-250	50	5	2	6.3 C-T	2	3½	3	2½	3	6.90
PH-50A	280-0-280	50	5	3	6.3 6.3	1.5 .6	3	3	2½	3½	7.10
PH-70	300-0-300	70	5	3	6.3 C-T	3	3½	3⅜	2$\frac{13}{16}$	4	7.20
PH-70B	350-0-350	70	5	3	6.3 C-T	2.5	3⅝	3	2½	4½	7.30
PH-90	350-0-350	90	5	3	6.3 C-T	3.5	3	3⅜	2$\frac{13}{16}$	5¼	7.70
PH-120	300-0-300	120	5	3	6.3 C-T	5	3¾	4⅛	3½	5¾	8.50
PH-200	350-0-350	200	5	3	6.3 C-T	6	4	4½	3¾	8	12.25



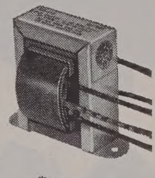
6.3 AND 2.5-VOLT FILAMENTS — HORIZONTAL SHIELD MOUNTING (H)

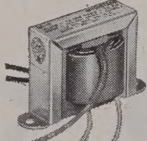
PH-60	300-0-300	60	5	3	6.3 C-T 2.5 C-T	2.5 7.5	3⅝	3⅜	2$\frac{13}{16}$	4½	$ 8.25

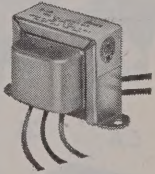
2.5-VOLT FILAMENTS — HORIZONTAL SHIELD MOUNTING (H)

PH-70A	325-0-325	70	5	3	2.5 C-T	9	3½	3¾	3⅛	4½	$ 8.25
PH-120A	325-0-325	120	5	3	2.5 C-T 2.5 C-T	12.5 3.5	3¾	3¾	3⅛	6	10.50

All transformers above are designed for 117 volts, 50/60 cycles.







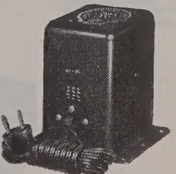
FILAMENT TRANSFORMER

Catalog No.	Secondary Volts	Secondary Amps.	Primary Volts	Primary Cycles	Insulation Test Volts	Mounting Type	Dimensions H	Dimensions W	Dimensions D	Wt. Lbs.	Price List
F-633	6.3 C-T	3	117	60	2000	U	2⅜	2⅞	1¾	1	$3.60

FILTER REACTORS

Catalog No.	Inductance in henries	Maximum D-C Current Ma.	D-C Resistance in ohms	Insulation Test Volts	Mtg. Type	Dimensions H	Dimensions W	Dimensions D	Wt. Lbs.	List Price
R-650	6	50	300	1500	L	1⅝	2⅝	1⅜	¾	$1.65
R-1230	12	30	400	2000	L	1⅜	2⅜	1⅜	½	1.55
R-1240	12	40	400	2000	L	1⅝	2⅝	1⅜	¾	1.60
R-8120	8	120	350	1500	L	2½	4	2	2½	3.90
R-23110	23	110	250	2000	V	3¼	2⅝	2⅝	2½	3.80

ISOLATION TRANS-FORMERS



CHICAGO Isolation Transformers are designed for a dual purpose: (1) To supply 115 volts isolated from a line of above/below normal, or normal, voltage — primary switch sets for 125/115/105 volts, 50/60 cycles; or (2) For use in servicing to eliminate shock hazard, by isolating chassis ground from line ground (particularly important on "hot" AC-DC television sets.) Also provide 125 and 105 volts on the secondary for locating doubtful tubes, etc.

Cat. No.	Capacity	List Price
IS-50	50 VA	$ 8.00
IS-150	150 VA	21.00
IS-250	250 VA	35.00

DRIVER TRANSFORMERS

Cat. No.	Typical Applications: From Driver Tubes	Typical Applications: To Output Tubes	Class	Ratio Primary: ½ Sec.	Max. Pri. D-C Ma.	Mtg. Type	Dimensions H	Dimensions W	Dimensions D	Wt. Lbs.	List Price
D-15	Single 30	P-P 19 or 30's	B	2.5 :1	15	L	1⅝	2⅞	1½	¾	$2.60
D-30	6C5, 6R7, or Triode 6F6	P-P 6L6's	AB	3 :1	30	LS	2	3¼	1⅞	1	3.75
D-35	Triode Plate	P-P Grids		1 :1, 1.5 :1 or 2 :1	20	L	3⅛	2⅝	2½	1	4.00
D-40	6C5, 6R7, or Triode 6F6	P-P 6L6's	AB	3 :1	40	V	3⅛	2⅝	2½	2½	5.50

INTERSTAGE TRANSFORMERS

Cat. No.	Application	Class	Ohms Impedance Pri.	Ohms Impedance Sec.	Max. Primary D-C Ma.	Ratio Sec. : Pri.	Mtg. Type	Dimensions H	Dimensions D	Dimensions W	Wt. Lbs.	List Price
IN-10	S. Pl. to P-P Gds.	A	10000	160,000	10	4 :1	L	1⅞	3¼	1¾	1	$3.20
IN-11	S. Pl. to P-P Gds.	A	10000	122,500	10	3.5 :1	L	1⅝	2⅞	1½	⅝	2.60
IN-13	S. Pl. to P-P Gds.	A	10000	90,000	10	3 :1	L	1⅞	3¼	2⅜	1	3.20
IN-14	S. Pl. to P-P Gds.	A	10000	90,000	10	3 :1	L	1¾	2⅞	1½	⅝	2.90
IN-15	P-P Pls.-P-P Gds.	A	10000	* 90,000	10	3 :1	L	1⅞	3¼	2⅜	1	4.05
IN-16	Sgl. or P-P Input & Output	A			10	1 :1, 3 :1, or 6 :1	L	2	3⅜	2	1½	4.25

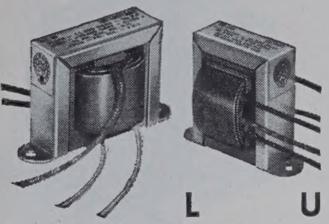
*Universal type: center-tapped primary, split secondary.

CHICAGO

REPLACEMENT TYPE

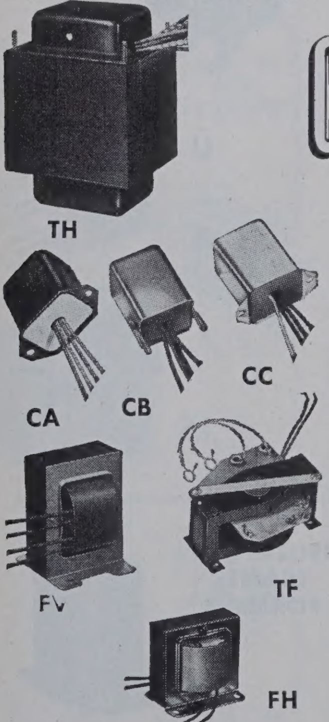
TRANSFORMERS

Premium Quality—
Yet They Cost No More



SPEAKER MATCHING TRANSFORMER

No. SM-1. For matching one, two, three, or four 6-ohm speakers from a 500-ohm line. Primary tapped for 1000, 1500, or 2000-ohms. 500, Pri. d-c, 80 ma. Delivers 12 audio watts to each speaker. U-type mtg. H—2⅜, D—2⅞, W—1¾. Wt., 1 lb. List Price $3.75



VERTICAL BLOCKING OSCILLATOR TRANSFORMERS

No. TBO-1. Creates 60-cycle vertical sweep voltages. Pri. Induc: 1.15 hy. @ 3 v., 1000 cycles. Ratio (Pri:Sec) 1:4.2. Type CA mounting. Wt., 1 lb.

No. TBO-2. Same as TBO-1, but in Type CB mounting. Wt. ½ lb.

No. TBO-3. Same function as TBO-1. Pri. Induc: 3 hy. @ 3 v., 60 cycles. Type CC mtg. Wt., 1 lb.

HORIZONTAL SCANNING OUTPUT TRANSFORMER

No. TFB-1. Couples horiz. output tube to horiz. deflection yoke; supplies high pulse volts to picture tube; has rectifier filament winding. Type TF mtg. Wt., 1 lb.

OUTPUT TRANSFORMERS

SINGLE PLATE TO VOICE COIL

Catalog No.	Application Typical Output Tubes	Ohms Impedance Pri.	Ohms Impedance Sec.	Max. Primary D-C Ma.	Max. Audio Watts	Mtg. Type	Dimensions H	Dimensions W	Dimensions D	Wt. Lbs.	List Price
RO-2	25L6, 35A5, 2A3, 6B4	2000	3 to 6	50	4	L	1⅜	2⅜	1¼	½	$1.75
RO-3	25L6 (10-ohm tap on primary)	2000	3 to 6	50	4	L	1⅜	2⅜	1¼	½	2.10
RO-6	12A5, 25A6, 45, 71A	4000	4-8-15	40	10	L	2	3¼	1¾	1	2.60
RO-8	2A5, 25A6, 43	4500	3 to 6	35	5	L	1⅜	2⅜	1¼	½	1.85
RO-9	6V6, 25A7G, 30, 31, 50	5000	4-8-15	50	8	L	2	3¼	1¾	1	2.60
RO-11	1S4	6000	3 to 6	5	2	L	1⅛	2⅛	1	⅜	1.60
RO-13	7B5, 18, 31, 33, 42, 46, 47	7000	3 to 6	35	5	L	1⅜	2⅜	1¼	½	1.75
RO-16	1C5G, 1G5G, 1J6G, 6A4, 6A6	10000	3 to 6	30	5	L	1⅜	2⅜	1¼	½	1.80
RO-18	1A5G, 1E7G, 1N6G, 6V7G	25000	3 to 6	10	5	L	1⅝	2⅞	1⅜	⅝	1.70

PUSH-PULL PLATES TO VOICE COIL

RO-110	P-P 2A5, 6AC5G, 6A6, 6N7, 45	10000	4-8-15	80	12	U	2⅜	2⅞	1¾	1	$3.00
RO-111	P-P 6B5, 6K6, 6N6G, 7B5, 31	14000	4-8-15	80	15	U	2⅜	2⅞	1¾	1	3.20
RO-113	P-P 1A5G, 1E7G, 1N6G, 6V7G	30000	3 to 6	20	7	L	1⅝	2⅞	1½	⅝	2.90

UNIVERSAL TYPE — SINGLE PLATE TO VOICE COIL

Catalog No.	Range of Ohms Impedance Primary	Range of Ohms Impedance Secondary	Primary D-C Ma.	Max. Audio Watts	Mtg. Type	Dimensions H	Dimensions W	Dimensions D	Wt. Lbs.	List Price
RO-201	4000, 7000, or 10000	3 to 6	40	8	L	1⅝	2⅞	1½	⅝	$2.60

UNIVERSAL TYPE — SINGLE OR PUSH-PULL PLATES TO VOICE COIL

RO-301	2500 to 14000	2, 4, 6, 8, 15, etc.	30	4	L	1⅜	2⅜	1¼	½	$2.65
RO-302	2500 to 15000	2, 4, 6, 8, 15	50	4	L	1⅜	2⅜	1⅜	⅝	2.65
RO-303	2500 to 14000	2, 4, 6, 8, 15, etc.	40	8	L	1⅝	2⅞	1½	⅝	2.75
RO-304	2500 to 13000	2, 4, 6, 8, 15	70	8	U	2	2½	1⅞	13/16	3.00
RO-305	2500 to 14000	2, 4, 6, 8, 15, etc.	60	12	L	2	3¼	1¾	1	4.10
RO-307	2500 to 14000	2, 4, 6, 8, 15, etc.	50	10	U	2⅜	2⅞	1½	1	3.20

UNIVERSAL TYPE — PUSH-PULL PLATES (ONLY) TO VOICE COIL

RO-401	2500 to 13000	2, 4, 6, 8, 15	70	15	U	2 5/16	2¾	2⅜	1½	$4.20

CHICAGO

EXACT REPLACEMENT TELEVISION TRANSFORMERS

POWER TRANSFORMERS

No. TP-365. Supplies 405 volts d-c @ 295 ma. into an 80 mfd. cond. input filter with two 5U4G's. Plate supply: 362-0-362 v. a-c, 295 ma. d-c. Filaments: 5 v., 3 amp (Rec.); 5 v., 2 amp; 12.6 v., 5 amp, CT. Type TH mtg. 17 lbs.

No. TP-383. Supplies 390 volts d-c @ 230 ma. into an 80 mfd. cond. input filter with a 5U4G. Plate supply: 383-0-383 v. a-c, 230 ma. d-c. Filaments: 5 v., 3 amp (Rec.); 5 v., 2 amp; 6.3 v., 9 amp. Type TH mtg. Wt., 13½ lbs.

No. TP-393. Supplies 393 volts d-c @ 270 ma. into a 90 mfd. cond. input filter with two 5U4G's. Plate supply: 366-0-366 v. a-c, 270 ma. d-c. Filaments: 5 v., 3 amp (Rec.); 6.7 v., 4.5 amp. Type TH mtg. Wt., 10½ lbs.

No. TP-400. Supplies 400 volts d-c @ 205 ma. into a 90 mfd. cond. input filter with a 5U4G. Plate supply: 374-0-374 v. a-c, 205 ma. d-c. Filaments: 5 v., 3 amp (Rec.); 5 v., 2 amp; 6.3 v., 5.6 amp. Type TH mtg. Wt., 9 lbs.

No. TP-210. For use with TP-400. Supplies 210 volts d-c @ 90 ma. into a 40 mfd. cond. input filter with a 5Y3. Plate supply: 233-0-233 v., a-c, 90 ma. d-c. Filaments: 5 v., 2 amp (Rec.); 6.3 v., 5.3 amp. Type TH mtg. Wt., 4½ lbs.

No. TP-410. Supplies 390 volts d-c @ 240 ma. into a 40 mfd. cond. input filter with a 5U4G. Plate supply: 385-0-385 v. a-c, 240 ma. d-c. Filaments: 5 v., 3 amp (Rec.); 5 v., 2 amp; 6.3 v., 8.6 amp. Type TH mtg. Wt., 12 lbs.

No. TP-450. Info 40 mfd. cond. input filters, delivers 395 volts d-c @ 195 ma. with a 5U4G, 212 volts d-c @ 105 ma. with a 5Y3GT. Plate supply: 364-0-364 v. a-c, 195 ma; 229-0-229 v. a-c, 105 ma. d-c. Rec. Fil: 5 v., 3 amp; 5 v., 2 amp. Other Fil: 5 v., 2 amp; 6.3 v., 8.25 amp; 6.3 v., 0.6 amp. Type TH mtg. 12 lbs.

VERTICAL SCANNING OUTPUT TRANSFORMERS

No. TSO-1. Couples vert. output tube to deflection yoke. Pri. Imped: 19,000 ohms @ 30 v., 60 cycles, with 13 ma. d-c. Ratio (Pri:Sec) is 10:1. Mtg. Type FV, Wt., 2½ lbs.

No. TSO-2. Similar to TSO-1. Ratio (Pri:Sec) 8:1. Mtg. Type FH, Wt., 2½ lbs.

No. TSO-3. Very similar to TSO-1. Mtg. FV.

No. TSO-4. Similar to TSO-1. Pri. Imped: 18,000 ohms @ 30 v., 60 cycles, with 10 ma. d-c. Mtg. Type FV, Ft., 2 lbs.

Replacement Guide—List Prices

TV POWER TRANSFORMERS

Make of Set	Set Manufacturer's Part No.	CHICAGO Catalog No.	List Price
Admiral	80B11	TP-400	$15.00
Admiral	80B12	TP-210	8.75
Magnavox	300045 series	TP-410	13.75
Motorola	25C-484095 series	TP-450	17.50
RCA	940157 series (TYPE 201T6)	TP-365	26.50
RCA	970918 series	TP-383	16.60
RCA	970924 series	TP-393	16.75
Teleking	B101	TP-400	15.00
Teleking	B103	TP-210	8.75

VERTICAL BLOCKING OSCILLATOR TRANSFORMERS

Make of Set	Set Manufacturer's Part No.	CHICAGO Catalog No.	List Price
Magnavox	320025 series	TBO-1	3.10
	320030 series	TBO-2	2.90
Motorola	25B-90010 series	TBO-3	3.25
RCA	940160 series (TYPE 208T2)	TBO-1	3.10
RCA	941129 series (TYPE 208T9)	TBO-2	2.90
Scott	91L3317	TBO-1	3.10
Sentinel	22E31	TBO-1	3.10

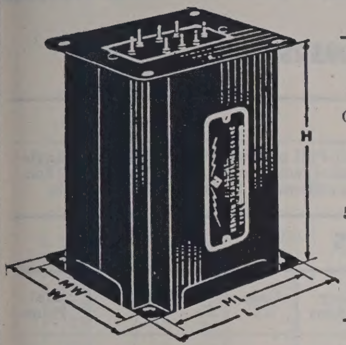
VERTICAL SCANNING OUTPUT TRANSFORMERS

Make of Set	Set Manufacturer's Part No.	CHICAGO Catalog No.	List Price
Admiral	79B6	TSO-3	5.90
Magnavox	320024 series	TSO-1	5.90
Motorola	25C-90009 series 25K-489134 series	TSO-2	5.70
RCA	940187 series (TYPE 204T2)	TSO-1	5.90
RCA	941177 series (TYPE 204T9)	TSO-4	4.50
Scott	91L3318	TSO-1	5.90
Sentinel	22E33	TSO-1	5.90

HORIZONTAL SCANNING OUTPUT TRANSFORMERS

Make of Set	Set Manufacturer's Part No.	CHICAGO Catalog No.	List Price
Admiral	79B7	TFB-1	11.25
RCA	970154 series (TYPE 211T1)	TFB-1	11.25

KENYON "T" LINE TRANSFORMERS



DIMENSIONS OF "T" LINE TRANSFORMERS

MOUNTING DIMENSIONS			OVERALL DIMENSIONS		
Case No.	ML	MW	Length (L)	Width(W)	Height (H)
1A	2 1/32	1 9/16	2 7/16	2	2 7/8
2A	2 1/8	1 13/16	2 3/4	2 3/8	3 3/16
3A	2 7/16	1 15/16	3 1/16	2 9/16	3 5/8
4A	3 7/8	2 7/16	4 1/2	3	3 7/8
5A	4 5/16	3 3/16	5	3 7/8	5
5½A	4 5/16	3 27/32	5	4 1/2	5
6A	4 5/16	4 1/2	5	5 1/8	5
7A	5 1/2	4 5/16	6 5/16	5 3/16	6 3/8
8A	5 3/4	4 13/16	6 9/16	5 11/16	7 1/8
9A	6 15/16	5 3/4	7 3/4	6 5/8	7 3/16
10A	8 5/8	7 11/32	9 1/2	8 1/4	10 5/8

LOW IMPEDANCE SOURCE TO GRID TRANSFORMERS

Type No.	From	Primary Ohms	Secondary Ohms	Case No.	Weight	List Price
T-1 (Hum bucking type)	S.B. or D.B. Mic.	400-300-200-100-50	80,000 Single Grid	1A	1 lb. 1 oz.	$9.20
T-2 (Hum bucking type)	Any line	500-333-250-200-125-50	80,000 Single Grid	1A	1 lb. 1 oz.	9.20
T-3 (Hum bucking type)	Any line	500-333-250-200-125-50	80,000 P.P. Grids	1A	1 lb. 1 oz.	9.50
T-6	Any line	500-333-250-200-125-50	20,000 Single Grid	1A	1 lb.	12.50

LINE-TRANSFORMERS—LINE TO LINE AND LINE TO VOICE COIL

Type No.	Primary Ohms	Secondary Ohms	Maximum Level	Case No.	Weight	List Price
T-25	500-200-50	500-200-50	+ 24 D.B.	2A	1 lb. 14 ozs.	$8.60
T-26 (Hum bucking type)	500-333-250-200-125-50	500-333-250-200-125-50	+ 24 D.B.	1A	1 lb. 1 oz.	8.40
T-28	500-200	15-8-4	30 watts	4A	5 lbs. 10 ozs.	13.95

INTERSTAGE AUDIO TRANSFORMERS

Type No.	From	To	Ratio	Case No.	Weight	List Price
T-51	Single 10,000 ohm plate	Single Grid	1:4	1A	1 lb. 4 ozs.	$7.20
T-52	Single 10,000 ohm plate	P.P. Grids	1:4	1A	1 lb. 4 ozs.	7.50
T-54	P.P. 10,000 ohm plates	P.P. Grids	1:1.8	2A	1 lb. 14 ozs.	9.10
T-55	Single 10,000 ohm plate	Single Grid	1:3	2A	1 lb. 14 ozs.	8.30
T-56	Single 10,000 ohm plate	P.P. Grids	1:2	2A	1 lb. 14 ozs.	8.35
T-57 (Hum bucking type)	Single 10,000 ohm plate	Single Grid	1:2	2A	1 lb. 7 ozs.	8.95
T-58 (Hum bucking type)	Single 10,000 ohm plate	P.P. Grids	1:2	2A	1 lb. 7 ozs.	9.10

DRIVER TRANSFORMERS

Type No.	Primary to match	Class AB or Class B Tubes	Ratio (pri. to ½ Sec.)	Case No.	Weight	List Price
T-251	Single 53, 6A6, 6N7, 56, 6C5	53, 6A6, 6N7	2.3:1	2A	1 lb. 14 ozs.	$7.65
T-252	Single 30, 49, 89	19, 30's, 49's	1.7:1	1A	13 ozs.	6.60
T-253	Single 46, 59	46's, 59's, 6F6's	2.3:1	2A	1 lb. 14 ozs.	7.35
T-255	P.P. 56, 6C5, 53, 6N7	6L6's	2.9:1	2A	1 lb. 14 ozs.	8.25
T-267	4-2A3's	354E's, 354F's	2.1:1	4A	5 lbs. 10 ozs.	13.85
T-271	P.P. 45's, 2A3's, 6F6's	6L6's, 809's, TZ40's	3.7:1	3A	2 lbs. 13 ozs.	10.70

KEN-O-TAP UNIVERSAL DRIVER TRANSFORMERS

500 Ohm Line to any Class B Grids

Primary to Secondary Ratio Variable from 1:13.3 to 1: .7

Type	Power Rating	Case No.	Weight	List Price
T-261	7 Watts	3A	2 lbs. 12 oz.	$11.25
T-262	18 Watts	4A	5 lbs. 4 oz.	14.80

Any Line or Single or Push Pull Plates to Class B Grids

Primary to ½ Secondary Ratio Variable from 7.0:1 to 1:9.0

Type	Audio Rating	Case Size	Max. Pri. D.C.	Max. Sec. D.C.	Weight	List Price
T-264	7 Watts	3A	100 MA	100 MA	2 lbs. 12 oz.	$11.40
T-263	18 Watts	4A	200 MA	200 MA	5 lbs. 12 oz.	17.10

PREAMPLIFIER OUTPUT TRANSFORMERS

Type No.	From	Secondary Ohms	Case No.	Weight	List Price
T-101	Single 56, 76, 6C5	200-500	1A	1 lb. 4 ozs.	$6.5[illegible]
T-102	P.P. 56, 76, 6C5	200-500	1A	1 lb. 4 ozs.	7.00

OUTPUT TRANSFORMERS TO 500-200 OR 15-8-4 OHMS

Type No.	From	Primary Ohms	Case No.	Weight	List Price
T-104	Single 2A5, 6F6, 42, 47, 89	7,000	2A	1 lb. 14 ozs.	$8.80
T-105	Class "A," P.P. 2A5's, 6F6's, 42's, 47's, 89's	14,000	2A	2 lbs.	9.55
T-317	Class "AB" P.P. 6L6's	6,600 or 3,800	4A	5 lbs. 6 ozs.	15.70
T-319	Class "AB2" P.P. 6L6's	6,000 or 3,800	5A	8 lbs. 7 ozs.	19.90
T-301	Class "A," P.P. 6L6's, Class AB 45's, 2A3's	5,000 or 3,000	4A	4 lbs. 5 ozs.	14.10

KENYON "T" LINE TRANSFORMERS

KEN-O-DYNE UNIVERSAL OUTPUT TRANSFORMERS

Type No.		Case No.	Weight	List Price	
T-108	15 watts	3A	2 lbs. 13 ozs.	$10.80	Will match any set of Push-Pull or Push-Pull Parallel or a single plate to 500-200 or speaker voice-coils. Low impedance connection for speaker voice coils range from .5 to 25 ohms.
T-109	30 watts	4A	5 lbs. 2 ozs.	15.20	
T-110	60 watts	5A	10 lbs. 1 oz.	20.40	

KEN-O-TAP MODULATION TRANSFORMERS

Type No.	Audio Watts	Class C W. Sec.	Max. Pri. D.C.	Max. Sec. D.C.	Max. D.C. Voltage	Primary Range Ohms	Secondary Range Ohms	Case No.	Weight	List Price
T-489	15	30	120	120	600	2000-20000	200-20000	3A	2 lbs. 13 oz.	$10.30
T-493	40	80	250	250	750	2000-20000	200-20000	4A	5 lbs. 10 oz.	14.95
T-494	75	150	250	300	1250	2000-20000	200-20000	5A	9 lbs.	20.30
T-441	125	250	250	250	1500	2000-20000	200-20000	6A	15 lbs. 8 oz.	28.20
T-495	125	250	200	250	2000	500-18000	200-19000	7A	19 lbs. 2 oz.	54.20
T-496	300	600	250	300	2500	500-18000	200-19000	8A	26 lbs. 4 oz.	63.00
T-442	600	1200	400	400	3000	500-18000	200-19000	9A	45 lbs.	70.50

PLATE TRANSFORMERS DESIGNED FOR INTERMITTENT DUTY ONLY

(55°C. RISE— 15 Minutes On, 15 Minutes Off)

Type No.	Secondary Voltage	D.C. Volts	D.C., M A	Case No.	Weight	List Price
T-668	1000/750-0-750/1000	600/800	250	5½A	12 lbs., 6 oz.	$24.40
T-669	1460/1180-0-1180/1460	1000/1250	300	7A	19 lbs., 2 oz.	36.50
T-670	2360/2080/1760-0-1760/2080/2360	1500/1750/2000	270	8A	31 lbs., 9 oz.	51.90
T-671	1460/1180-0-1180/1460	1000/1250	450	8A	31 lbs., 9 oz.	50.25

PLATE TRANSFORMERS DESIGNED FOR BOTH CONTINUOUS AND INTERMITTENT DUTY

Type No.	Primary Conn.	Volts Secondary No. 1		55°C. Rise MA Cont.	55°C. Rise 15Min On 15Min Off MA Int.	Volts Secondary No. 2		55°C. Rise MA Cont.	55°C. Rise 15Min On 15Min Off MA Int.	Volts Secondary No. 3		55°C. Rise MA Cont.	55°C. Rise 15Min On 15Min Off MA Int.	Case No.	Weight	List Price
		D.C.	A.C.			D.C.	A.C.			D.C.	A.C.					
T-664		600	740-0-740	150	200									5A	10 lbs., 10 oz.	$ 19.55
T-655	High Low	450 350	575-0-575 460-0-460	— 250	340 375									5A	10 lbs., 1 oz.	20.60
T-656	High Low	750 600	925-0-925 740-0-740	— 270	320 360									6A	15 lbs., 9 oz.	31.60
T-657	High Low	1000 750	1170-0-1170 900-0-900	— 150	200 225	1000 750	1170-0-1170 900-0-900	— 150	200 225					7A	21 lbs., 9 oz.	46.25
T-658	High Med Low	500 450 400	650-0-650 585-0-585 520-0-520	— — 150	200 225 250	560 510 450	710-0-710 640-0-640 570-0-570	— — 150	200 225 250	560 510 450	710-0-710 640-0-640 570-0-570	— — 150	200 225 250	7A	22 lbs., 12 oz.	49.40
T-654	High Med Low	470 420 375	610-0-610 550-0-550 490-0-490	— — 200	250 275 300	625 560 500	785-0-785 710-0-710 630-0-630	— — 200	250 275 300	625 560 500	785-0-785 710-0-710 630-0-630	— — 200	250 275 300	8A	32 lbs., 9 oz.	52.75
T-659	High Med Low	500 450 400	650-0-650 585-0-585 520-0-520	— — 230	300 325 350	560 510 450	710-0-710 640-0-640 570-0-570	— — 230	300 325 350	560 510 450	710-0-710 640-0-640 570-0-570	— — 230	300 325 350	9A	48 lbs.	63.70
T-665	High Low	1250 1000	1470-0-1470 1180-0-1180	— 200	270 300									7A	23 lbs., 4 oz.	47.50
T-666		1250	1460-0-1460	280	350									8A	32 lbs., 2 oz.	52.20
T-667		1250	1460-0-1460	400	600									9A	50 lbs.	64.00
T-660		1250	1460-0-1460	400	600	500	630-0-630	150	200					9A	49 lbs., 11 oz.	67.50
T-652	High Low	1750 1500	2080-0-2080 1760-0-1760	— 320	450 500									9A	50 lbs., 8 oz.	67.50
T-663		2000	2360-0-2360	350	500		PRIMARIES FOR 115 or 230 VOLTS							10A	82 lbs.	117.00
T-673	High Low	3000 2500	3400-0-3400 2840-0-2840	— 425	400 500									10A	82 lbs.	121.00
T-674	High Low	3000 2500	3400-0-3400 2840-0-2840	— 850	800 1000									Spec.	135 lbs.	170.00

KENYON "T" LINE TRANSFORMERS

FILTER REACTORS

Type No.	Inductance At Rated D.C.	Rated D.C. MA.	D.C. Resistance	Insulation Test R.M.S.	Case No.	Weight	List Price
T-155	280	10	5200	1500	2A	2 lbs.	$ 6.90
T-156	30	25	800	1500	1A	1 lb., 4 oz.	5.25
T-157	10	50	200	1500	1A	1 lb., 4 oz.	5.15
T-153	20	90	360	1500	3A	2 lbs., 12 oz.	7.55
T-154	12.5	165	220	1500	3A	3 lbs., 2 oz.	8.60
T-151	7.5	250	100	1500	4A	5 lbs., 10 oz.	11.80
T-152	7	200	140	1500	3A	2 lbs., 13 oz.	8.15
T-164	13	250	120	1500	5A	10 lbs., 1 oz.	17.40
T-166	10	300	120	1500	5A	10 lbs., 1 oz.	17.40
T-159	10	500	70	1500	6A	15 lbs., 9 oz.	26.50
T-165	10	150	260	3000	3A	3 lbs., 2 oz.	8.60
T-168	12	250	120	3000	5A	10 lbs., 10 oz.	17.40
T-160	11	300	120	3000	5A	10 lbs., 1 oz.	17.40
T-167	11	400	70	3000	6A	15 lbs., 9 oz.	26.50
T-175	10	200	140	5000	4A	5 lbs., 10 oz.	11.90
T-176	10	300	103	5000	5A	10 lbs., 11 oz.	19.30
T-178	10	400	90	5000	6A	15 lbs., 2 oz.	27.50
T-177	11	500	90	5000	7A	21 lbs., 1 oz.	37.40
T-161	7.5	600	50	5000	7A	21 lbs., 4 oz.	36.40
T-180	10	500	60	7000	8A	26 lbs., 4 oz.	48.20
T-181	5	1000	18	7000	9A	50 lbs.	70.50

SWINGING REACTORS

Type No.	Inductance At Rated D.C.	Rated D.C. MA.	D.C. Resistance	Insulation Test R.M.S.	Case No.	Weight	List Price
T-517	11/40	90/20	360	1500	3A	2 lbs., 12 oz.	$ 7.55
T-515	6/21	165/30	220	1500	3A	3 lbs., 2 oz.	8.60
T-506	4/16	200/30	140	1500	3A	2 lbs., 13 oz.	8.15
T-501	5/15	250/30	100	1500	4A	5 lbs., 10 oz.	11.80
T-510	6/20	300/30	120	1500	5A	10 lbs., 1 oz.	17.40
T-502	6/22	500/50	70	1500	6A	15 lbs., 9 oz.	26.50
T-509	7/22	200/30	140	5000	4A	5 lbs., 10 oz.	12.05
T-512	6/22	300/30	103	5000	5A	10 lbs., 1 oz.	17.40
T-513	5/24	400/50	90	5000	6A	15 lbs., 2 oz.	27.50
T-521	6/26	500/60	90	5000	7A	21 lbs., 1 oz.	37.40
T-505	6/21	600/60	50	5000	7A	21 lbs., 4 oz.	36.40
T-516	6/22	400/50	70	3000	6A	15 lbs., 9 oz.	26.50
T-530	6/21	500/50	60	7000	8A	26 lbs., 4 oz.	48.20
T-531	3/9	1000/100	18	7000	9A	50 lbs.	70.50

OPERATING VOLTAGES FOR 1500 VOLT TEST—UP TO 600 VOLTS D.C.
OPERATING VOLTAGES FOR 3000 VOLT TEST—UP TO 1000 VOLTS D.C.
OPERATING VOLTAGES FOR 5000 VOLT TEST—UP TO 2000 VOLTS D.C.
OPERATING VOLTAGES FOR 7000 VOLT TEST—UP TO 3000 VOLTS D.C.

PLATE AND FILAMENT TRANSFORMERS

Type No.	High Voltage—		Filament No. 1		Filament No. 2		Filament No. 3		Filament No. 4		Case No.	Weight	List Price
	Volts	M.A.	Volts	Amps	Volts	Amps	Volts	Amps	Volts	Amps			
T-249*	235-0-235	20	6.3 C.T.	0.6	6.3 C.T.	0.9					2A	2 lbs.	$ 9.95
T-245*	320-0-320	40	5	2	6.3 C.T.	2					3A	2 lbs. 13 ozs.	11.20
T-205*	350-0-350	75	5	2	6.3 C.T.	3					4A	5 lbs. 10 ozs.	15.60
T-222*	250-0-250	50	5	2	6.3 C.T.	2					3A	2 lbs. 13 ozs.	10.70
T-206*	325-0-325	100	5	3	6.3 C.T.	3	6.3 C.T.	2			5A	9 lbs.	21.20
T-212	420-0-420	125	5	3	6.3 C.T.	3	2.5 C.T.	4			5A	9 lbs. 2 ozs.	21.30
T-244*	425-0-425	165	5	3	6.3 C.T.	3	6.3 C.T.	3			6A	13 lbs. 11 ozs.	27.10
T-248*	425-0-425	165	5	3	2.5 C.T.	6	2.5 C.T.	6			6A	13 lbs. 11 ozs.	27.10
T-213	520-110-0-520	180	5	3	2.5	3	6.3 C.T.	3	6.3 C.T.	3	5A	10 lbs. 6 ozs.	25.10
T-215	360-125-0-360	200	5	3	2.5 C.T.	3	2.5 C.T.	10	6.3 C.T.	2.1	5A	10 lbs. 10 ozs.	25.20
T-247	590-0-590	200	5	3	6.3 C.T.	3	6.3 C.T.	3			5A	12 lbs. 8 ozs.	25.90
T-216	520-85-0-520	250	5	3	2.5 C.T.	3	6.3 C.T.	3	6.3 C.T.	3	6A	15 lbs. 9 ozs.	32.00
T-202*	0-150	20	6.3	0.6							1A	1 lb. 4 ozs.	6.90
T-220*	125-0-125	200	5	3							4A	5 lbs.	13.10
T-246	625-0-625	250	5	3	6.3 C.T.	3	6.3 C.T.	3			6A	15 lbs. 9 ozs.	30.60
T-223	600-0-600	300	5	6	6.3 C.T.	3	6.3 C.T.	2			6A	15 lbs. 9 ozs.	31.00
T-221	High voltage se Filament No. 1 5 V.-6A		condary 520-390- and 300 Filament No. 2 5 V.-3A		105-390-520 to de V. D.C. at 160 Filament No. 3 2.5 V.-3A		liver 400 V. D.C. M.A. Filament No. 4 6.3 V. C.T.-4A		at 400 M.A. Filament No. 5 6.3 V. C.T.-4A		7A	21 lbs. 10 ozs.	48.25

* Indicates unit designed for condenser input. All other units should be used choke input. If used with condenser input, the D.C. current rating of these items should be reduced to 70% of that specified.

POWER LINE AUTO TRANSFORMERS

Type No.	Input	Output	Capacity Volt-Amperes	Case No.	Weight	List Price
T-219	88 to 130 volts	115 volts	500	5A	10 lbs. 1 oz.	$23.50

All power transformers are designed for 115 volt, 50 to 60 cycle operation. For any other voltage 50 to 60 cycle operation add 25% to list prices. For 115 volt 25 cycle operation, add 60% to list prices. For any other voltage 25 cycle operation add 100% to list prices. Case sizes for 25 cycle application are different from those specified for standard 115 volt 50 to 60 cycle operation.

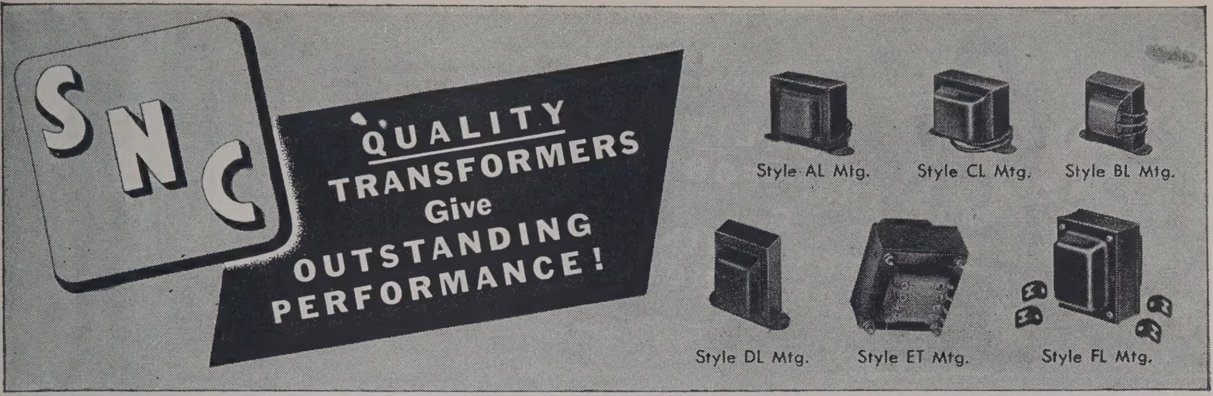
KENYON "T" LINE TRANSFORMERS

FILAMENT TRANSFORMERS

Type No.	SINGLE WINDING		Case No.	Weight	List Price
T-388	2.5, 5, 6.3 V.-3A	1000 V. Test	1A	1 lb. 7 ozs.	$ 6.85
T-379	2.5 V.-5 A. CT.	2000 V. Test	1A	1 lb. 6 ozs.	6.25
T-352	2.5 V.-10 A. CT.	2000 V. Test	2A	1 lb. 14 ozs.	7.50
T-360	2.5 V.-10 A. CT.	5000 V. Test	3A	2 lbs. 13 ozs.	9.20
T-389	2.5 V.-10 A. CT.	9000 V. Test	4A	4 lbs. 14 ozs.	13.15
T-354	5 V.-3 A. CT.	2000 V. Test	2A	1 lb. 14 ozs.	7.35
T-357	5 .25 V.-12 A. CT.	2000 V. Test	4A	5 lbs. 10 ozs.	13.70
T-358	5.25 V.-20 A. CT.	2000 V. Test	5A	9 lbs. 2 ozs.	17.10
T-390	5 V.-20 A. CT.	10000 V. Test	5½A	11 lbs. 9 ozs.	21.20
T-380	5, 5.1, 5.25 V.-8 A. CT.	2000 V. Test	4A	4 lbs. 5 ozs.	12.05
T-381	5, 5.1, 5.25 V.-10.5 A. CT.	2000 V. Test	4A	5 lbs.	13.30
T-382	5, 5.1, 5.25 V.-16 A. CT.	2000 V. Test	4A	5 lbs. 10 ozs.	14.80
T-383	5, 5.1, 5.25 V.-21 A. CT.	2000 V. Test	5A	9 lbs. 2 ozs.	19.20
T-393	5, 5.1, 5.25 V.-26 A. CT.	2000 V. Test	5A	9 lbs. 8 ozs.	19.40
T-394	5, 5.1, 5.25 V.-32 A. CT.	2000 V. Test	5A	10 lbs. 8 ozs.	20.90
T-351	6.3 V.-3 A. CT.	2000 V. Test	2A	1 lb. 14 ozs.	7.15
T-378	6.3, 7.5 V.-7 A. CT.	2000 V. Test	3A	2 lbs. 13 ozs.	9.50
T-387	6.3, 6.45, 6.6 V.-8 A. CT.	2000 V. Test	3A	2 lbs. 13 ozs.	9.85
T-395	6.3 V.-20 A. CT.	2000 V. Test	5A	9 lbs.	17.15
T-396	6.3 V.-30 A. CT.	2000 V. Test	5½A	12 lbs.	23.50
T-397	6.3 V.-12 A. CT.	2000 V. Test	4A	5 lbs. 12 ozs.	13.85
T-392	7.5, 7.7, 7.9 V.-6 A. CT.	2000 V. Test	3A	2 lbs. 13 ozs.	9.95
T-353	7.5 V.-4½ A. CT.	2000 V. Test	2A	2 lbs.	7.75
T-359	7.5 V.-9 A. CT.	2000 V. Test	4A	5 lbs.	13.10
T-365	10 V.-4 A. CT.	5000 V. Test	3A	2 lbs. 13 ozs.	9.10
T-361	10 V.-8 A. CT.	5000 V. Test	4A	5 lbs. 10 ozs.	14.10
T-384	10, 10.5, 11 V.-5 A. CT	2000 V. Test	4A	5 lbs.	13.10
T-385	10, 10.5, 11 V.-10 A. CT.	2000 V. Test	5A	8 lbs. 15 ozs.	19.30
	TWO WINDINGS				
T-386	6.3 V.- 3 A. CT. 2000 V. Test 5 V.- 4 A. CT. 2000 V. Test		3A	2 lbs. 13 ozs.	$10.30
T-369	2.5 V.- 8 A. CT. 1000 V. Test 6.3 V.- 4 A. CT. 1000 V. Test		4A	4 lbs. 11 ozs.	13.70
T-368	6.3 V.- 4 A. CT. 2000 V. Test 6.3 V.- 4 A. CT. 2000 V. Test		4A	4 lbs. 11 ozs.	13.70
T-366	2.5 V.-10 A. CT. 5000 V. Test 2.5 V.-10 A. CT. 5000 V. Test		4A	5 lbs. 10 ozs.	15.40
	THREE WINDINGS				
T-376	6.3 V.-4 A. CT. 2000 V. Test 6.3 V.-4 A. CT. 2000 V. Test 5 V.-3 A. 2000 V. Test		4A	5 lbs. 10 ozs.	$14.20
T-356	6.3 V.-3 A. CT. 750 V. Test 5 V.-4 A. CT. 3000 V. Test 5 V.-8 A. CT. 3000 V. Test		4A	5 lbs. 9 ozs.	14.20
T-355	5 V.-3 A. CT. 4000 V. Test 5 V.-3 A. CT. 4000 V. Test 5 V.-6 A.CT. 4000 V. Test		4A	5 lbs. 10 ozs.	14.70
T-375	2.5 V.-5 A. CT. 6000 V. Test 2.5 V.-5 A. CT. 6000 V. Test 2.5 V.-10 A. CT. 6000 V. Test		4A	5 lbs. 9 ozs.	14.80
	FOUR WINDINGS				
T-367	6.3 V.-5 A. CT. 2000 V. Test 6.3 V.-5 A. CT. 2000 V. Test 5 V.-6 A. CT. 2000 V. Test 5 V.-3 A. CT. 2000 V. Test		5A	10 lbs. 1 oz.	$21.00
	FIVE WINDINGS				
T-377	5 V.-3 A. 2000 V. Test 5 V.-6 A. 2000 V. Test 6.3 V.-1 A. CT. 2000 V. Test 6.3 V.-5 A. CT. 2000 V. Test 6.3 V.-5 A. CT. 2000 V. Test		5A	10 lbs. 1 oz.	$21.25

OPERATING VOLTAGES FOR 2000 VOLT TEST—UP TO 750 VOLTS D.C.
OPERATING VOLTAGES FOR 3000 VOLT TEST—UP TO 1000 VOLTS D.C.
OPERATING VOLTAGES FOR 4000 VOLT TEST—UP TO 1500 VOLTS D.C.
OPERATING VOLTAGES FOR 5000 VOLT TEST—UP TO 2000 VOLTS D.C.
OPERATING VOLTAGES FOR 9000 VOLT TEST—UP TO 4000 VOLTS D.C.
OPERATING VOLTAGES FOR 10000 VOLT TEST—UP TO 4500 VOLTS D.C.

PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE



Skillful Engineering, latest production techniques and highest quality materials . . . backed by careful workmanship, exacting step-by-step inspection and rigorous final testing . . . are combined in every SNC transformer to provide a quality product that gives MORE in dollar value.

AUDIO TRANSFORMERS—THE "ONE" SERIES

AUDIO INPUT

Type Number	Application	Impedance		Pri. Mils (D.C.)	Max. Turns Ratio	Frequency Characteristics—c. p. s.					Mtg. Style	Dimensions				Net Wt.	List Price
		Primary	Secondary			50	200	1M	5M	10M		A	B	C	D		
1P121	P.M. Speaker to Grid	4	100,000	0	1:158	-4.0	-1.0	0	0	0	BL	1-7/8	1-9/16	1-1/2	2	.5	2.90
1P124	S.B. Mic. to Sgl. or P.P. Grids	100	400,000 C.T.	50	1:63		-6.0	0	-2.0	-6.0	BL	1-7/8	1-9/16	1-1/2	2	.5	3.10
1P125	Low Z to Sgl. or P.P. Grids	50	100,000 C.T.	0	1:45		-3.0	0	0	0	BL	1-7/8	1-9/16	1-1/2	2	.5	2.85
1P128	Sgl. or D.B. Mic. or Line to Sgl. or P.P. Grids	200*/50	100,000 C.T.	50	1:45	-2.0	-0.3	0	-0.7	-2.0	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.3	4.50
1P136	Line to Sgl. or P.P. Grids	500*/125	100,000 C.T.	0	1:28	-3.0	-0.4	0	-0.4	-1.5	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.4	4.50
1P145	Sgl. or P.P. Plates to Line	20,000 C.T.	500*/125	8	12.6:1	-3.5	-1.0	0	0	0	DL	2-1/4	1-7/8	1-13/16	2-3/8	.9	3.70
1P152	Sgl. or P.P. Plates to Line	20,000 C.T.	200*/50	8	20:1	-4.0	-1.0	0	0	0	DL	2-1/4	1-7/8	1-13/16	2-3/8	.9	3.70
1P161	Line to Line	500	500*/125	0	2:1	-0.4	-0.1	0	-0.4	-1.0	DL	2-1/4	1-7/8	1-13/16	2-3/8	.9	4.00

*Indicates Balanced Center Tap

AUDIO INTERSTAGE

Type Number	Application	Primary	Secondary	Pri. Mils (D.C.)	Max. Turns Ratio	50	200	1M	5M	10M	Mtg. Style	A	B	C	D	Net Wt.	List Price
1P323	Sgl. Plate to Sgl. Grid	10,000	90,000	8	1:3	-5.0	-1.5	0	0	0	BL	1-7/8	1-9/16	1-1/2	2	.5	2.70
1P331	Sgl. Plate to P.P. Grids	10,000	90,000 C.T.	8	1:3	-6.0	-2.0	0	0	-1.0	BL	1-7/8	1-9/16	1-1/2	2	.5	2.90
1P339	Sgl. Plate to P.P. Grids	10,000	90,000 C.T.	8	1:3	-3.0	-0.5	0	+0.1	+0.5	BL	2-1/4	1-7/8	1-13/16	2-3/8	.9	3.25
1P342	Sgl. Plate to P.P. Grids	10,000	90,000 C.T.	8	1:3	-2.5	-0.5	0	0	0	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	4.20
1P346	P.P. Plates to P.P. Grids	20,000 C.T.	45,000 C.T.	10	1:1.5	-1.0	-0.2	0	0	0	DL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	4.35
1P351	Universal	Universal		8	1:3	-2.0	-0.4	0	0	0	BL	2-1/4	1-7/8	1-13/16	2-3/8	.9	3.45
3P363	Sgl. Type 30 to 19, 1J5 or P.P. 30 Class B	10,000	7,000 C.T.	8	2.4:1	-0.5	0	0	-0.2	-1.0	BL	1-7/8	1-9/16	1-1/2	2	.5	2.35

CHOKES AND REACTORS—THE "TWO" SERIES

AUDIO REACTORS

Type Number	D.C. Mils		Inductance				Insul. Test Voltage	D.C. Res.	Mtg. Style	Dimensions					Net Weight	List Price
	Nom.	Max.	0-D.C.	50% Nom. D.C.	Nom. D.C.	Max. D.C.				A	B	C	D	E		
2P123	5-0.5	15	550	—	300-500	80	2000	5500	AL	1-7/8	2-1/4	1-5/8	2-13/16		.9	2.90
2P124	5-0.5	15	550	—	300-500	80	2000	5500	CL.	1-7/8	2-1/4	1-3/4	2-13/16		.9	3.25
2P126	35-15	45	65	—	25-35	20	2000	800	AL	1-7/8	2-1/4	1-5/8	2-13/16		.9	2.30
2P127	35-15	45	65	—	25-35	20	2000	800	CL	1-7/8	2-1/4	1-3/4	2-13/16		.9	2.70

FILTER AND SWINGING CHOKES

Type Number	Nom.	Max.	0-D.C.	50% Nom. D.C.	Nom. D.C.	Max. D.C.	Insul. Test Voltage	D.C. Res.	Mtg. Style	A	B	C	D	E	Net Weight	List Price
2P132	40	50	22	13	8	6	2000	450	AL	1-5/16	1-5/8	1-1/8	2		.3	1.50
2P135	65	80	18	11	8	7	2000	300	AL	1-9/16	1-7/8	1-3/8	2-3/8		.5	1.80
2P138	85	100	30	16	8	7	2000	350	AL	1-7/8	2-1/4	1-7/8	2-13/16		1.2	2.35
2P141	110	135	20	10.5	8	7	2000	200	BL	2-5/8	2-3/16	1-7/8	2-13/16		1.5	3.10
2P142	110	135	20	10.5	8	7	2000	200	DL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	3.25
2P144	150	180	26	13	8	5.5	2000	190	BL	3	2-1/2	2-1/8	3-1/8		2.1	3.10
2P145	150	180	26	13	8	5.5	2000	190	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.2	4.20
2P147	200	250	16	10	8	6.5	3500	110	GL	3-1/2	2-7/8	3-1/8	2-1/4	2	3.2	5.40
2P148	200-20	—	—	—	3-15	—	3500	110	GL	3-1/2	2-7/8	3-1/8	2-1/4	2	3.2	5.40
2P151	300	350	18	11	8	7	5000	75	GL	4-5/8	3-3/4	3-7/8	3	2-13/16	7.5	9.25
2P152	300-30	—	—	—	3-15	—	5000	75	GL	4-5/8	3-3/4	3-7/8	3	2-13/16	7.5	9.25
2P155	500	600	16	10	8	5.5	5000	55	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22.8	26.00
2P156	500-50	—	—	—	3-15	—	5000	55	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22.8	26.00

DRIVER TRANSFORMERS—THE "THREE" SERIES

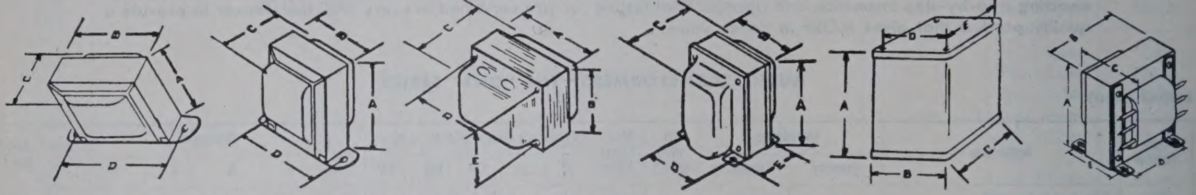
Type Number	Primary Impedance	Watts	Ratio, Pri. to 1/2 Sec. or Sec. Z	Pri. D.C. Mils	Frequency Characteristics—c. p. s.					Mtg. Style	Dimensions					Net Wt.	List Price
					50	200	1M	5M	10M		A	B	C	D	E		
3P323	6,000 C.T. to 10,000 C.T.	25	6, 5.5, 5:1	60	-0.5	0	0	0	-0.3	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	9.40
3P328	3,000 C.T. to 5,000 C.T.	25	6, 5.5, 5:1	60	-0.4	0	0	0	-0.1	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	9.40
3P334	6,000 C.T. to 10,000 C.T.	25	4.5, 4, 3.5:1	60	-1.0	-0.3	0	+0.1	+0.6	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	9.30
3P338	3,000 C.T. to 5,000 C.T.	25	4.5, 4, 3.5:1	60	-1.7	-0.5	0	0	0	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	9.45
3P342	6,000 C.T. to 10,000 C.T.	25	3, 2, 1:1	60	-0.7	-0.1	0	+0.1	+0.4	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	9.80
3P347	3,000 C.T. to 5,000 C.T.	25	3, 2, 1:1	60	-0.8	0	0	0	-0.8	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	9.65
3P353	6,000 C.T. to 10,000 C.T.	25	500 Ohms	60	-1.1	-0.3	0	0	+0.3	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	9.50
3P358	3,000 C.T. to 5,000 C.T.	25	500 Ohms	60	-0.9	-0.1	0	-0.4	-1.0	GL	3-1/8	2-1/2	2-5/8	2	1-11/16	2.3	9.50
3P363	10,000	5	2.4:1	10	-0.5	0	0	-0.2	-1.0	BL	1-7/8	1-9/16	1-1/2	2		.5	2.35

See next page for Dimensional Illustrations.

SNC QUALITY TRANSFORMERS Give OUTSTANDING PERFORMANCE!

Style AL Mtg.
Style CL Mtg.
Style BL Mtg.
Style DL Mtg.
Style ET Mtg.
Style FL Mtg.

DIMENSIONAL ILLUSTRATIONS



OUTPUT TRANSFORMERS—THE "SIX" SERIES

SPECIFIC DUTY REPLACEMENT TYPES—TUBE TO VOICE COIL

Type Number	Primary Imp.—Ohms		Pri. D.C. Mils	Sec. Z—Ohms	Watts	Mtg. Style	Dimensions				Net Wt.	List Price
							A	B	C	D		
6P300	Single	2,000 Plate	50	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	1.50
6P306	Single	4,000 Plate	35	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	1.50
6P312	Single or P.P.	7,500 Plates	35	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.00
6P316	Single or P.P.	10,000 Plates	35	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.00
6P319	Push-Pull	15,000 Plates	35	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.05
6P321	Push-Pull	20,000 Plates	30	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.05
6P325	Push-Pull	25,000 Plates	20	3–6	6	AL	1-5/16	1-5/8	1-1/2	2	.3	2.05

UNIVERSAL REPLACEMENT TYPES—TUBE TO VOICE COIL—TUBE TO LINE—LINE TO VOICE COIL

Type Number	Primary Imp.—Ohms	Pri. D.C. Mils	Sec. Z—Ohms	Watts	Mtg. Style	Dimensions				Net Wt.	List Price
						A	B	C	D		
6P165	Sgl. or P.P. 4M to 14M Plates	40	1.1 to 14	4	ATL	1-5/16	1-5/8	1-3/8	2	.3	2.35
6P166	Sgl. or P.P. 4M to 14M Plates	50	1.1 to 14	8	ATL	1-9/16	1-7/8	1-5/8	2-3/8	.5	2.35
6P167	Sgl. or P.P. 3M to 10M Plates	50	1.2 to 13	15	BTL	1-7/8	1-9/16	1-3/4	2	.5	2.90
6P169	Sgl. 1500 to 7M Plate	55	.8 to 19	10	ATL	1-9/16	1-7/8	1-5/8	2-3/8	.5	2.35
6P172	P.P. 3500 to 12M Plates	60	1.3 to 14	20	BTL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	4.25
6P701	Single 2500 to 7500 Plate	45	165 to 1500	10	BTL	2-1/4	1-7/8	1-7/8	2-3/8	.9	3.70
6P710	P.P. 7500 to 15M Plates	45	250 to 1000	10	BTL	2-1/4	1-7/8	1-7/8	2-3/8	.9	4.20
6P714	Sgl. or P.P. 2500 to 12M Plates	45	150 to 2400	10	BTL	2-1/4	1-7/8	1-7/8	2-3/8	.9	4.40
6P717	125 to 500 Line	0	1 to 32	35	BTL	2-5/8	2-3/16	2-1/8	2-13/16	1.5	4.50
6P722	500 to 3M Line in 500-Ohm Steps	0	1.3 to 48	10	BTL	2-1/4	1-7/8	1-7/8	2-3/8	.9	4.25

AMPLIFIER AND EQUIPMENT TYPES—TUBE TO LINE AND VOICE COIL

Type Number	Primary Imp.—Ohms		Pri. D.C. Mils	Secondary Imp.—Ohms	Watts	Frequency Characteristics—c. p. s.					Mtg. Style	Dimensions					Net Wt.	List Price
						50	200	1M	5M	10M		A	B	C	D	E		
6P726	P.P. 3300 or 3800	Plates	90	4-8-16-250-500	60	−0.3	0	0	+0.1	+0.5	GL	3-3/4	3-1/16	3-3/8	2-1/2	2-3/16	4.4	8.90
6P731	P.P. 4500 or 6800	Plates	90	4-8-16-250-500	60	−0.3	0	0	+0.2	0	GL	3-3/4	3-1/16	3-3/8	2-1/2	2-3/16	4.4	8.90
6P736	P.P. 5000	Plates	70	4-8-16-250-500	25	−0.9	−0.2	0	+0.2	+0.5	DL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	6.00
6P740	P.P. 4300	Plates	70	4-8-16-250-500	25	−0.9	−0.3	0	+0.3	+0.5	DL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	6.00
6P743	P.P. 6600	Plates	70	4-8-16-250-500	25	−0.7	−0.1	0	+0.2	+0.5	DL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	6.00
6P746	P.P. 8000	Plates	70	4-8-16-250-500	25	−0.7	−0.1	0	+0.1	+0.3	DL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	6.00
6P749	P.P. 10,000	Plates	60	4-8-16-250-500	25	−0.4	−0.1	0	+0.2	+0.3	DL	2-5/8	2-3/16	2-1/8	2-13/16		1.5	6.30
6P752	Sgl. 2500	Plate	60	4-8-16-250-500	10	−3.0	−0.4	0	+0.3	+0.5	DL	2-1/4	1-7/8	2-1/8	2-3/8		1.0	4.75

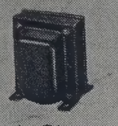
MODULATION TRANSFORMERS—THE "FIVE" SERIES

SNC universal modulation transformers are specifically designed to provide maximum application possibilities per type. All units are provided with two indentical secondary windings, permitting series or parallel operation. Changes in the ratio can be readily accomplished, when desired, without removing the unit from the chassis. Most units available in either air cooled or compound filled cases.

UNIVERSAL TYPES

Type Number	Watts	Primary Current Mils	Secondary Characteristics				Primary Impedance Ohms	Mtg. Style	Dimensions					Net Weight	List Price
			Series Sec.		Parallel Sec.										
			Impedance	Mils	Impedance	Mils			A	B	C	D	E		
5P341	15	60		50		100	3M to 8M	DL	2-5/8	2-3/16	2-3/8	2-13/16		1.5	7.50
5P346	50	80	2M to 18M	75	500 to 4500	150	3M to 15M	GTL	3-7/8	3-1/8	3-3/8	2-1/2	2-3/16	4	11.75
5P352	100	120	2M to 18M	100	500 to 4500	200	3M to 15M	GTL	4-5/8	3-3/4	3-7/8	3	2-13/16	9.7	18.75
5P354	200	200	2M to 18M	150	500 to 4500	300	3M to 15M	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	24	43.00
5P355								JT						32	47.00
5P357	300	250	2M to 18M	250	500 to 4500	500	3M to 15M	HT	7-1/8	6-1/2	7-1/4	5-3/8	6-1/8	33	52.00
5P358								JT						41	56.00
5P363	500	300	2M to 18M	300	500 to 4500	600	3M to 15M	HT	10-3/4	6-1/2	7-1/4	5-3/8	6-1/8	51	105.00
5P364								JT						64	115.00

S N C MANUFACTURING CO., INC., OSHKOSH, WISCONSIN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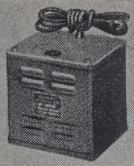
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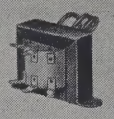
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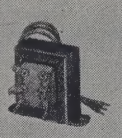
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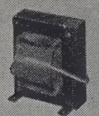
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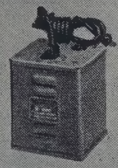
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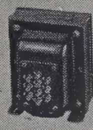
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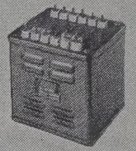
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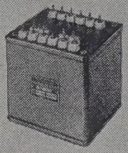
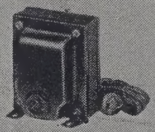

Style JT Mtg.


Style-GP Mtg.

NOTE

Basic mounting types are classified as "A," "B," "C," "D," "E," "F," "G," "H," "J," and Bx.

Explanation of Suffix Symbols
L = Leads
T = Lugs
P = Cord and Plug
SP = Switch, Cord and Plug

Skillful Engineering, latest production techniques and highest quality materials . . . backed by careful workmanship, exacting step-by-step inspection and rigorous final testing . . . are combined in every SNC transformer to provide a quality product that gives MORE in dollar value.

POWER TRANSFORMERS—THE "EIGHT" SERIES

All units conservatively rated for operation on either 50 or 60 cycles and contain an electrostatic shield between primary and all other windings

REPLACEMENT TYPES (6.3 Volt Heater Winding)

Type Number	Primary Voltage	R.M.S.—High Volt. Secondary	Pri. D.C. Mils	Rectifier Filament	Heater Winding Center Tapped	Mtg. Style	Dimensions A	B	C	D	E	Net Wt.	List Price
8P040	117	265–0–265	40	5V. @ 2A.	6.3V. @ 2A.	FL	3	2-1/2	2-3/4	2-1/2	2	2.3	4.50
8P055	117	300–0–300	55	5V. @ 2A.	6.3V. @ 2.5A.	FL	3	2-1/2	3-1/8	2-1/2	2	2.8	4.55
8P070	117	325–0–325	70	5V. @ 2A.	6.3V. @ 3A.	FL	3	2-1/2	3-1/2	2-1/2	2	3.2	5.75

HEAVY DUTY REPLACEMENT AND NEW EQUIPMENT TYPES (6.3 Volt Heater Winding)

Type Number	Primary Voltage	R.M.S.—High Volt. Secondary	Pri. D.C. Mils	Rectifier Filament	Heater Winding Center Tapped	Mtg. Style	Dimensions A	B	C	D	E	Net Wt.	List Price
8P180	117	265–0–265	40	5V. @ 2A.	6.3V. @ 2A.	FL	3	2-1/2	3-1/4	2-1/2	2	3.2	6.15
8P180G						GL	3-1/16	2-7/32	3-1/8	2	2-3/16		
8P183	117	300–0–300	50	5V. @ 2A.	6.3V. @ 2A.	FL	3-3/8	2-13/16	3-7/16	2-13/16	2-1/4	3.5	6.50
8P183G						GL	3-7/16	2-27/32	3-1/4	2-1/4	2-1/8		
8P186	117	325–0–325	60	5V. @ 2A.	6.3V. @ 3A.	FL	3-3/8	2-13/16	3-11/16	2-13/16	2-1/4	4.0	6.85
8P186G						GL	3-7/16	2-27/32	3-1/2	2-1/4	2-3/8		
8P189	117	350–0–350	70	5V. @ 3A.	6.3V. @ 3.5A.	FL	3-3/4	3-1/8	3-3/4	3-1/8	2-1/2	5.0	7.50
8P189G						GL	3-13/16	3-5/32	3-5/8	2-1/2	2-7/16		
8P192	117	350–0–350	90	5V. @ 3A.	6.3V. @ 4A.	FL	3-3/4	3-1/8	4	3-1/8	2-1/2	5.7	8.25
8P192G						GL	3-13/16	3-5/32	3-7/8	2-1/2	2-11/16		
8P194	117	375–0–375	110	5V. @ 3A.	6.3V. @ 4A.	FL	3-3/4	3-1/8	4-1/8	3-1/8	2-1/2	6.0	9.25
8P194G						GL	3-13/16	3-5/32	4	2-1/2	2-13/16		
8P196	117	350–0–350	150	5V. @ 3A.	6.3V. @ 4.8A.	FL	4-1/8	3-7/16	4-3/8	3-7/16	2-3/4	7.7	9.75
8P196G						GL	4-3/16	3-15/32	4-3/8	2-3/4	3-5/16		
8P199	117	400–0–400	70	5V. @ 3A.	6.3V. @ 3.5A.	FL	3-3/4	3-1/8	4	3-1/8	2-1/2	5.8	8.75
8P199G						GL	3-13/16	3-5/32	3-7/8	2-1/2	2-11/16		
8P202	117	450–0–450	200	5V. @ 3A.	6.3V. @ 5A.	FL	4-1/2	3-3/4	4-3/4	3-3/4	3	10.7	12.50
8P202G						GL	4-9/16	3-25/32	4-3/8	3	3-11/16		
8P205	117	450–0–450	325	5V. @ 6A.	6.3V. @ 8A.	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22.3	34.00
8P208	117	550–0–550	275	5V. @ 6A.	6.3V. @ 6A.	HT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	23.3	34.00

REPLACEMENT TYPES (2.5 Volt Heater Winding)

8P287	117	350–0–350	70	5V. @ 3A.	2.5V. @ 6A.	FL	3-3/4	3-1/8	3-3/4	3-1/8	2-1/2	5.0	7.50
8P293	117	350–0–350	90	5V. @ 3A.	2.5V. @ 8A.	FL	3-3/4	3-1/8	.4	3-1/8	2-1/2	5.6	8.15
8P295	117	350–0–350	150	5V. @ 3A.	2.5V. @ 12A.	FL	4-1/8	3-7/16	4-3/8	3-7/16	2-3/4	7.8	9.75

REPLACEMENT TYPES (Two 2.5 Volt Heater Windings)

8P487	117	350–0–350	70	5V. @ 3A.	No. 1 = 2.5V. @ 3.5A. No. 2 = 2.5V. @ 8A.	FL	3-3/4	3-1/8	4	3-1/8	2-1/2	5.8	9.00
8P487G						GL	3-13/16	3-5/32	3-7/8	2-1/2	2-11/16		
8P494	117	375–0–375	110	5V. @ 3A.	No. 1 = 2.5V. @ 3.5A. No. 2 = 2.5V. @ 10A.	FL	3-3/4	3-1/8	4-1/4	3-1/8	2-1/2	6.2	9.85
8P494G						GL	3-13/16	3-5/32	4-1/8	2-1/2	2-15/16		

GENERAL PURPOSE TYPES WITH CONVENIENT LUG TERMINALS (6.3 Volt Heater Winding)

Type Number	Primary Voltage	R.M.S.—High Volt. Secondary	Pri. D.C. Mils	Rectifier Filament	Heater Winding Center Tapped	Mtg. Style	Dimensions A	B	C	D	E	Net Wt.	List Price
8P382	117	300–0–300	50	5V. @ 2A.	6.3V. @ 2A.	ET	3-3/8	2-13/16	3-7/16	2-13/16	2-1/4	3.2	5.90
8P385	117	325–0–325	60	5V. @ 2A.	6.3V. @ 3A.	ET	3-3/8	2-13/16	3-11/16	2-13/16	2-1/4	4.0	6.35
8P388	117	350–0–350	70	5V. @ 3A.	6.3V. @ 3.5A.	ET	3-3/4	3-1/8	3-3/4	3-1/8	2-1/2	4.7	6.90

BIAS TYPES

8P510	117	40–0–40	25	5V. @ 2A.		CL	1-7/8	2-1/4	1-3/4	2-13/16		1.0	3.75
8P511	117	0–90–150–200–250	50	5V. @ 2A.		GL	3-1/16	2-7/32	2-5/8	2	1-11/16	2.0	5.45

VIBRATOR TYPES

8P610	6	225–0–225	40			AL	2-3/16	2-5/8	2	3-1/8	.....	1.3	4.25
8P611	6	320–0–320	40			GL	3-1/16	2-7/32	2-1/2	2	1-9/16	2.1	5.10
8P612	6	390–0–390	60			GL	3-7/16	2-27/32	3-5/16	2-1/4	2-3/16	3.7	5.75

See opposite page for Dimensional Illustrations

Style GL Mtg.

Style HP Mtg.

Style ATL Mtg.

Style BTL Mtg.

Style BxL Mtg.

NOTE

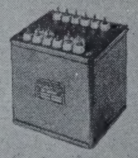
Basic mounting types are classified as "A," "B," "C," "D," "E," "F," "G," "H," "J," and Bx.

Explanation of Suffix Symbols
L = Leads
T = Lugs
P = Cord and Plug
SP = Switch, Cord and Plug

Style HSP Mtg.

Style GTL Mtg.

Style HT Mtg.


Style JT Mtg.

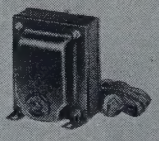

Style GP Mtg.

PLATE TRANSFORMERS—THE "SEVEN" SERIES

All SNC plate transformers have dual secondary ratings. Most units available in either air cooled or compound filled cases. All units contain electrostatic shields between primary and high voltage windings.

Type Number	Primary Voltage	Pri. V.A.	Secondary R.M.S. Voltage	D.C. Voltage From Filter*	D.C. Current	Mtg. Style	Dimensions A	B	C	D	E	Net Wt.	List Price
7P530	115–230	220	920–0–920 or 740–0–740	750 or 600	200MA	GL	4-3/4	3-3/4	5-1/8	3	4-1/16	12	15.00
7P535 7P536	115–230	320	930–0–930 or 750–0–750	750 or 600	300MA	HT JT	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	22 30	35.00 40.00
7P542 7P543	115–230	530	1470–0–1470 or 1220–0–1220	1250 or 1000	300MA	HT JT	7-1/8	6-1/2	7-1/4	5-3/8	6-1/8	33 41	42.00 46.00
7P551 7P552	115–230	750	2050–0–2050 or 1740–0–1740	1750 or 1500	300MA	HT JT	7-1/8	6-1/2	7-1/4	5-3/8	6-1/8	43 51	45.00 55.00
7P557 7P558	115–230	1060	2880–0–2880 or 2350–0–2350	2500 or 2000	300MA	HT JT	10-3/4	6-1/2	7-1/4	5-3/8	6-1/8	53 69	62.00 67.00
7P563 7P564	115–230	1760	2900–0–2900 or 2370–0–2370	2500 or 2000	500MA	HT JT	10-3/4	9	7-1/4	7	5-13/16	96 126	90.00 125.00

*All units may be operated with simultaneous loads—provided the total D.C. current of the two loads does not exceed the rating listed.

FILAMENT TRANSFORMERS—THE "FOUR" SERIES

Most SNC Filament Transformers are constructed to provide two identical center tapped secondary windings and offer a minimum of three applications. They provide three-fold the number of possible applications of ordinary filament types. A few are single secondary units and are so designated. All have 117 V. 50/60 cycle primary.

Type Number	Applications			Test Voltage	Mtg. Style	Dimensions					Net Wt.	List Price
	Parallel Secondaries	Series Secondaries	Independent Identical Secondaries			A	B	C	D	E		
4P222	2.5V. C.T. @ 5 A.	5 V. C.T. @ 2.5 A.	Two of 2.5V. C.T. @ 2.5 A.	2000	BL	2-1/4	1-7/8	1-3/4	2-3/8		1.0	2.95
4P226*	2.5V. C.T. @ 10 A.*			7500	BL	3	2-1/2	2-3/8	3-1/8		2.0	4.60
4P227	2.5V. C.T. @ 10 A.	5 V. C.T. @ 5 A.	Two of 2.5V. C.T. @ 5 A.	2000	BL	2-5/8	2-3/16	2	2-13/16		1.5	4.00
4P234	2.5V. C.T. @ 15 A.	5 V. C.T. @ 7.5 A.	Two of 2.5V. C.T. @ 7.5 A.	2000	BL	3	2-1/2	2-1/4	3-1/8		2.2	4.75
4P239	5 V. C.T. @ 6.5A.	10 V. C.T. @ 3.25A.	Two of 5 V. C.T. @ 3.25A.	2000	BL	3	2-1/2	2-1/4	3-1/8		2.2	4.25
4P242*	5 V. C.T. @ 20 A.*			10000	BxL	4-1/8	3-7/16	2-3/4	2-3/4	2-1/8	4.6	8.50
4P243	5 V. C.T. @ 20 A.	10 V. C.T. @ 10 A.	Two of 5 V. C.T. @ 10 A.	2000	BxL	3-3/4	3-1/8	2-3/4	2-1/2	2-1/4	4.3	7.50
4P244*	6.3V. C.T. @ 0.6A.*			2000	BL	1-7/8	1-9/16	1-1/2	2		.6	2.90
4P245*	6.3V. C.T. @ 1.2A.*			2000	BL	1-7/8	1-9/16	1-5/8	2		.7	3.15
4P246	6.3V. C.T. @ 2 A.	12.6V. C.T. @ 1 A.	Two of 6.3V. C.T. @ 1 A.	2000	BL	2-1/4	1-7/8	1-3/4	2-3/8		1.0	3.50
4P251	6.3V. C.T. @ 6 A.	12.6V. C.T. @ 3 A.	Two of 6.3V. C.T. @ 3 A.	2000	BL	3	2-1/2	2-1/4	3-1/8		2.0	4.05
4P256	6.3V. C.T. @ 10 A.	12.6V. C.T. @ 5 A.	Two of 6.3V. C.T. @ 5 A.	2000	BxL	3-3/8	2-13/16	2-1/2	2-1/4	2-1/8	2.9	5.25
4P260	7.5V. C.T. @ 3 A.	15 V. C.T. @ 1.5 A.	Two of 7.5V. C.T. @ 1.5 A.	2000	BL	2-5/8	2-3/16	2	2-13/16		1.5	4.25
4P267	7.5V. C.T. @ 4.5A.	15 V. C.T. @ 2.3 A.	Two of 7.5V. C.T. @ 2.3 A.	2000	BL	3	2-1/2	2-1/4	3-1/8		2.0	5.25
4P272	11 V. C.T. @ 10 A.	22 V. C.T. @ 5 A.	Two of 11 V. C.T. @ 5 A.	2000	BxL	3-3/4	3-1/8	2-3/4	2-1/2	2-1/4	4.1	7.50

*Single secondary units

VOLTAGE CHANGER AND ISOLATION—THE "NINE" SERIES

All Units Have Primary Cord and Secondary Plug and Are For 50/60 Cycle Operation

VOLTAGE CHANGER (ISOLATION)

Type Number	Primary Voltage	Secondary Voltage	Capacity in V. A.	Mtg. Style	Dimensions					Net Wt.	List Price
					A	B	C	D	E		
9P707	220–250	110–125	75	GP	3-13/16	3-5/32	3-1/8	2-1/2	1-15/16	3.9	7.75
9P713	220–250	110–125	150	GP	4-9/16	3-25/32	3-7/8	3	2-13/16	8.0	11.50
9P718	220–250	110–125	350	HP	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	23.3	30.00

ISOLATION TYPES

9P721	110–250	110–250	150	GP	4-9/16	3-25/32	4-5/8	3	3-9/16	12.1	15.00
9P725	110–250	110–250	250	HP	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	23.3	24.50
9P728	110–250	110–250	500	HP	7-1/8	6-1/2	7-1/4	5-3/8	6-1/8	34.8	34.50

VOLTAGE ADJUSTMENT TYPES WITH TAP CHANGE SWITCH

9P732	95–130 in 5V. Steps	115	150	HSP	4-7/8	3-7/8	3-7/8	3-1/8	3-1/8	4.7	21.00
9P737	95–130 in 5V. Steps	115	250	HSP	5-3/8	4-3/8	4-1/4	3-5/8	3-1/2	8.0	27.50
9P739	80–130 in 5V. Steps	115	500	HSP	7-1/8	5-1/2	5-15/16	4-3/8	4-13/16	23.3	41.00

All list prices given are subject to regular trade discounts and may be changed without notice.

S N C MANUFACTURING CO., INC., OSHKOSH, WISCONSIN

See Page 2 for Dimensional Illustrations

THORDARSON TRANSFORMERS

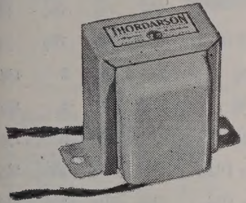
NEW STREAMLINED SERIES

This is the new Thordarson post-war series of Transformers and Chokes. Every unit has been designed for utmost efficiency and adaptability. Many of the engineering and production advancements developed by Thordarson during the war, are used in producing this line.

The new lamination alloys and insulating material, incorporated in this series, results in superior performance and a greater factor of safety without an increase in size or weight. Consequently, some types are smaller and more compact without sacrificing efficiency or performance.

Finished in baked grey enamel and fitted with matched mounting styles, the units present a uniform appearance. This is especially desirable where several Transformers and Chokes are mounted on the same chassis.

Types for Radio Receiver Replacement, Amateur Radio, Sound Systems and allied applications, can be selected from this listing.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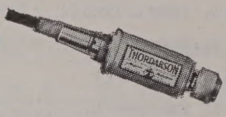
BAH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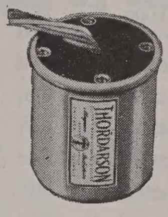
RTV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AUDIO INPUT TRANSFORMERS

Type No.	List Price	Mtg.	Application	Ohms Impedance Primary	Ohms Impedance Secondary	Turns Ratio	Mtg. Centers	Dimensions W.	Dimensions D.	Dimensions H.	Wt Lbs.
T-20A00	**$2.90**	BAH	Line or mic to single or push-pull grids*.......	600 Ct. 200 Ct. 50	60,000 Ct. 20,000 Ct. 20,000 Ct.	1:10	2	2⅜	1¼	1 11/32	½
T-20A01	**4.60**	FGV	Line or mic to single grid§†..................	600 Ct. 200 Ct. 50	240,000 80,000 80,000	1:20	2⅜	2⅞	1⅞	2 5/16	1¼
T-20A02	**4.50**	FGV	Line or mic to push-pull grids§	600 Ct. 200 Ct. 50	240,000 Ct. 80,000 Ct. 80,000 Ct.	1:20	2⅜	2⅞	1⅞	2 5/16	1¼
T-20A03	**4.30**	BAH	Single plate and mic or line to grid*...........	5,000 to 10,000 200	100,000 250,000	1:3.25	2⅜	2 13/16	1⅝	1⅝	¾
T-20A04	**2.90**	BAH	Voice coil or mic to grid*.....................	3 to 6 50	38,400 320,000	1:80	2	2⅜	1¼	1 11/32	½
T-20A05	**10.60**	RTV	Line or mic to single or push-pull grids§....... (Hum-bucking coil and core—fully potted)	600 Ct. 200 Ct. 50	60,000 Ct. 20,000 Ct. 20,000 Ct.	1:10	1 5/16 x 1 5/16	1 9/16 Diam.		2	½
T-20A06	**10.60**	RTV	Line to Line................................. (Hum-bucking coil and core—fully potted)	600 Ct. 200 Ct. 50 Ct.	600 Ct. 200 Ct. 50 Ct.	1:1	1 5/16x1 5/16	1 9/16 Diam.		2	½
T-20A40	**25.00**	Z	Microphone cable input transformer‡..........	30 to 60	50,000	1:31.6		1 Diam.		2 11/16	¾
T-20A41	**25.00**	Z	Microphone cable input transformer‡..........	200 to 250	50,000	1:14.2		1 Diam.		2 11/16	¾

† Can be used in reverse—i.e., High impedance source to line. * Frequency response—250 to 10,000 c.p.s. § Frequency response—60 to 10,000 c.p.s.
‡ Used for converting high impedance input of amplifier to accommodate low impedance microphones—Frequency response within ½ Db 30 to 5,000 c.p.s.—High permeability shield for reduction of hum—Fitted with 2-prong connector for balanced mic cable and single contact connector for fitting to amplifier input.

AUDIO INTERSTAGE TRANSFORMERS

Type No.	List Price	Mtg.	Application	Ohms Impedance Primary	Ohms Impedance Secondary	Turns Ratio	Pri. M.A.	Mtg. Centers	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-20A16	**$2.50**	BAH	Single plate to single or push-pull grids........	10,000	40,000 Ct.	1:2	8	2	2⅜	1¼	1 11/32	½
T-20A17	**4.25**	RAV	Single plate to single or push-pull grids........	10,000	40,000 Ct.	1:2	8	1 7/16	1 9/16 Diam.		2	½
T-20A19	**3.40**	BAH	Single or push-pull plates to single or push-pull grids	Universal		1:3	8	2⅜	2 13/16	1⅝	1⅝	¾
T-20A22	**4.25**	BAH	Single plate to single or push-pull grids........	10,000	90,000 Ct.	1:3	8	2⅞	3¼	2⅛	1 15/16	1¼
T-20A23	**4.90**	FGV	Single plate to single or push-pull grids........	10,000	90,000 Ct.	1:3	8	2⅜	2⅞	2 1/16	2 5/16	1½
T-20A24	**5.00**	FGV	Push-pull plates to push-pull grids............	20,000 Ct.	180,000 Ct.	1:3	8 Bal.	2⅜	2⅞	2 1/16	2 5/16	1½
T-20A25 CHT	**10.60**	RTV	Single or push-pull plates to single or push-pull grids (Hum-bucking coil and core—fully potted)	Universal		1:1.41	8 Bal.	1 5/16 x 1 5/16	1 9/16 Diam.		2	½
T-20A27	**10.60**	RTV	Single plate to single or push-pull grids........	10,000 2,500	40,000 20,000	1:2			2⅞ Diam.		3 9/16	2½

TUBE TO LINE TRANSFORMERS (Low Level)

Type No.	List Price	Mtg.	Application	Ohms Impedance Primary	Ohms Impedance Secondary	Turns Ratio	Pri. M.A.	Mtg. Centers	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-22S90	**$4.50**	FGV	Single or push-pull plates to line.............	20,000 Ct.	500 Ct. or 125 to 200	..	8	2⅜	2 27/32	1⅞	2⅜	1¼
T-22S92	**9.90**	RTV	Single or push-pull plates to line (Hum-bucking coil and core—fully potted)	20,000 Ct.	500 Ct. or 125 to 200	..	8	1 5/16 x 1 5/16	1 9/16 Diam.		2	½

DRIVER TRANSFORMERS

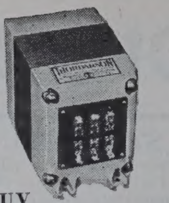
Type No.	List Price	Mtg.	Application	Turns Ratio Pri.–½ Sec.	Pri. M.A.	Mtg. Centers	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-20D75	**$2.75**	BAH	Single plate to push-pull Class B grids..................... Primary 10,000 ohms—1H4-G or 30 to 19, etc.	2.4:1	5	2	2⅜	1¼	1⅜	½
T-20D76	**2.90**	BAH	Single plate to push-pull Class B grids..................... Primary single 6N7 to Class B 6N7, etc.	5.2:1	15	2	2⅜	1¼	1⅜	½
T-20D77	**4.30**	FGV	Primary single 6F6 to PP 6F6, etc..........................	2.5:1	30	2⅜	2⅞	2 1/16	2 3/16	1¼
T-20D78	**5.75**	GGV	Push-pull plates to push-pull grids........................ Primary 6F6 triode to PP 6L6, etc.	4:1	40	2 x 1 11/16	2 9/16	2 11/16	3⅛	2½
T-20D79	**4.90**	FGV	Parallel or P-P parallel 6N7 to P-P parallel 6N7, etc........	5.2:1	30	2⅜	2⅞	2 1/16	2 3/16	1½
T-20D80	**6.80**	GGV	Push-pull 2A3 or 6A3 to 805-838, etc.......................	3.2:1	100	2 x 1 11/16	2 9/16	2 11/16	3⅛	2½
T-20D81	**8.65**	GGV	Push-pull 845 to push-pull 805-833, etc.	5:1	100	2½ x 2 3/16	3 3/16	3 7/16	3⅞	4½
T-20D82	**7.50**	GGV	Push-pull plates to push-pull grids .... Push-pull 2A3-6F6, etc. to 805, etc.	5:1 4:1,3.2:1	100	2 x 1 11/16	2 9/16	2 11/16	3⅛	2½
T-20D83 CHT	**26.45**	PUV	20 Watt 500 Ohm line to class B grids.	1:.75,1:.85,1:1.25, 1:1.4,1:1.75,1:2,1:2.25, 1:2.5,1:2.75,1:3.		1¾ x 4⅜	3⅛	4¾	4	8
T-20D84	**14.50**	GGV*	20 Watt 500 Ohm line to class B grids..........	1:.75, 1:.85, 1:1.25, 1:1.4, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3		2¼ x 2	3	3½	3⅝	3½

*Terminal Board with Solder Lugs on Both Shields 20 Watts Capacity.

TRANSFORMER SPECIALISTS SINCE 1895 THORDARSON

THORDARSON TRANSFORMERS

GGV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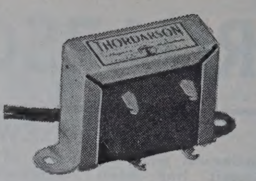
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OUTPUT TRANSFORMERS

Type No.	List Price	Mtg.	Application	Primary Imp. Ohms	Max. Prim. Per Side	D.C. M.A. Unbal.	Secondary Imp. Ohms	Power Watts	Mtg. Centers	Dimensions W	Dimensions D	Dimensions H	Wt. Lbs.
T-22S45	$2.05	BAH	Single plate to voice coil.....	1500 to 3000.......	..	55	3.2	3	2	2 3/8	1 1/4	1 3/8	1/2
T-22S46	2.30	BAH	Single plate to voice coil.....	3000 to 6000.......	..	35	3.2	3	2	2 3/8	1 1/4	1 3/8	1/2
T-22S47	2.75	BAH	Single or push-pull plates to voice coil	6000 to 12000 Ct...	35	35	3.2	3	2	2 3/8	1 1/4	1 3/8	1/2
T-22S48	2.80	BAH	Single or push-pull plates to voice coil	12000 to 25000 Ct..	10	8	3.2	3	2	2 3/8	1 1/4	1 3/8	1/2
T-22S56	4.15	BAH	Single or push-pull plates to voice coil	8000/10000 Ct.....	50	35	3.2 to 4/6 to 8	8	2 13/16	3 1/4	1 3/4	2	1 1/4
T-22S58	4.15	BAH	Single or push-pull plates to voice coil	5000/7000 Ct......	50	45	3.2 to 4/6 to 8	8	2 13/16	3 1/4	1 3/4	2	1 1/4
T-22S60	4.30	BAH	Single or push-pull plates to voice coil	2500/4000 Ct.......	60	60	3.2 to 4/6 to 8	8	2 13/16	3 1/4	1 3/4	2	1 1/4
T-22S64	7.20	GGV	Single or push-pull plates to voice coil	10000 Ct...........	50	30	3.2 to 4/6 to 8/15/250/500	25	2 x 1 11/16	2 17/32	2 11/16	3 3/32	2 1/2
T-22S66	7.20	GGV	Single or push-pull plates to voice coil	8000 Ct............	50	30	3.2 to 4/6 to 8/15/250/500	25	2 x 1 11/16	2 17/32	2 11/16	3 3/32	2 1/2
T-22S68	6.75	GGV	Single or push-pull plates to voice coil	6500 Ct............	70	40	3.2 to 4/6 to 8/15/250/500	25	2 x 1 11/16	2 17/32	2 11/16	3 3/32	2 1/2
T-22S70	7.70	GGV	Single or push-pull plates to voice coil	5000 Ct............	80	45	3.2 to 4/6 to 8/15/250/500	25	2 x 1 11/16	2 17/32	2 11/16	3 3/32	2 1/2
T-22S72	7.70	GGV	Single or push-pull plates to voice coil	3000 Ct............	90	50	3.2 to 4/6 to 8/15/250/500	25	2 x 1 11/16	2 17/32	2 11/16	3 3/32	2 1/2
T-22S78	10.95	GGV	Single or push-pull plates to voice coil	3300 Ct..............	180	150	3.2 to 4/6 to 8/15/250/500	60	2 1/2 x 2 7/16	3 5/32	3 5/8	3 15/16	5 1/4
T-22S74	6.35	BHH	Universal single or push-pull tubes to voice coil	14000/10000/8000/ 6600/5000/3000/2500 Ct.	80	60	1 to 30	25	3 9/16	4	2 1/2	2 9/16	2 1/2
T-22S76	6.60	BHH	Universal single or push-pull tubes to line	14000/12000/10000/ 8000/5000/3000 Ct.	80	60	500	25	3 9/16	4	2 1/2	2 9/16	2 1/2
T-22S80	4.40	BHH	Single line to voice coil......	500 to 600	..	..	3.2 to 4/6 to 8/15	8	3 1/8	3 11/16	2	2 1/4	1 1/2
T-22S82	7.15	BHH	Multiple lines to voice coil...	2000/1500/1000/500	..	..	3.2 to 4/6 to 8/15	25	3 9/16	4	2 3/4	2 9/16	2 1/4
T-22S83	4.90	BAH	Multiple lines to voice coil...	2000/1500/1000/500	..	..	3.2 to 4/6 to 8/15	15	3 1/8	3 11/16	2	2 1/4	1 1/2
T-22S84	4.50	BAH	Multiple lines to voice coil.....	2000/1500/1000/500	..	..	3.2 to 4/6 to 8/15	5	2 13/16	3 1/4	1 3/4	2	1
T-22S85	4.10	BAH	Multiple lines to voice coil...	2000/1500/1000/500	..	..	3.2 to 4/6 to 8/15	3	2 3/8	2 7/8	1 1/2	1 5/8	3/4
T-22S62	4.25	BHH	Universal single plate to voice coil	4000/3000/2500/ 2000/1500	..	50	.1 to 29	8	2 13/16	3 1/4	2	2	1 1/4
T-22S88	3.75	BAH	Universal single or push-pull plates to voice coil	14000 Ct./8000 Ct./ 3500/2000	50	10	3.2 to 4/6 to 8/15	8	2 13/16	3 1/4	1 3/4	2	1
T-22S87	3.45	BAH	Universal single or push-pull plates to voice coil	14000 Ct./8000 Ct./ 3500/2000	50	10	3.2 to 4/6 to 8	6	2 3/8	2 7/8	1 1/2	1 5/8	3/4
T-22S86	3.15	BAH	Universal single or push-pull plates to voice coil	14000 Ct./8000 Ct./ 3500/2000	50	10	3.2 to 4/6 to 8	3	2	2 3/8	1 1/4	1 3/8	1/2

"24" REPLACEMENT LINE SERVICE OUTPUT TRANSFORMERS

Type No.	List Price	Mtg. Fig.	Typical Tube Applications	Class	Pri. Imp.	Pri. Ma.	Secondary Imp.Ohms	Max. Watts	Mtg. Centers	Dimensions W	Dimensions D	Dimensions H	Wt. Lbs.
TS-24S50	$1.35	BAH	2A3, 6A3, 6B4, 6W6, 7A5, 23ACS, 25B5, 25N6, 25L6, 35A5, 35L6, 35B5, 50A5, 50L6, 70L7, 48, etc.	A	2000	55	3–4	5	2	2 3/8	1 1/4	1 3/8	1/2
TS-24S51	1.38	BAH	31, 43, 45, 50, 59, 71A, 1S4, 2B6, 6A5G, 6V6, 7C5, 12A5, 25A5, 25A6, 25A7, 35L6, etc.	A	5000	40	3–4	5	2	2 3/8	1 1/4	1 3/8	1/2
TS-24S52	1.30	BAH	20, 31, 33, 41, 42, 46, 47, 59, 89, 1C5, 1G5, 1Q5, 1S4, 2A5, 3Q5, 6A4, 6AC5, 6B5, 6F6, 6K6, 6N6, 6V6, 7B5, etc.	A	7000	30	3–4	5	2	2 3/8	1 1/4	1 3/8	1/2
TS-24S54	1.48	BAH	38, 85, 1D8, 1E7, 1F4, 1F5, 1J5, 1T5, 6F6, 6V7, 6Y7, etc.	A	15000 to 25000	10	3–4	5	2	2 3/8	1 1/4	1 3/8	1/2

UNIVERSAL SERVICE REPLACEMENT

TS-24S60	$2.40	BHH	Single or push-pull plates....................	A	4M, 7M, 8M, 10M, 14M C.T.	35	.1 to 29 ohms	4	2	2 3/8	1 1/4	1 3/8	1/2
TS-24S61	2.70	BHH	Single or push-pull plates....................	A	4M, 7M, 8M, 10M, 14M, C.T.	40	.1 to 29 ohms	8	2 3/8	2 7/8	1 1/2	1 5/8	1

MODULATION TRANSFORMERS

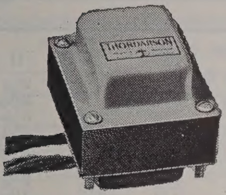
Type No.	List Price	Mtg.	Capacity Watts	Primary Imp. Ohms	Secondary Imp. Ohms	Secondary Volts	Secondary M.A.	Primary Application	Mtg. Centers	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-21M50	$3.40	BAH	3	10,000 Ct.	4500	135	30	19, etc.	2	2 3/8	1 3/8	1 3/8	1/2
T-21M52	4.90	FGV	10	10,000 Ct.	4500/3750/3000	350	80	6N7, etc.	2 3/8	2 7/8	2 1/16	2 3/16	1 1/4
T-21M54	6.60	GGV	25	6,600 Ct.	4000	400	100	PP 6L6, etc.	2 x 1 15/16	2 9/16	2 15/16	3 1/8	2 3/4
T-21M56	10.95	GGV	75	10,000 Ct.	6600/3750	1250 Max.	200	TZ-20-809 etc.	2 1/2 x 2 15/16	3 3/16	4 3/16	3 7/8	6 3/4
T-21M58	25.90	KTV	100	15,000 Ct.	6250	1250 Max.	200	811-812, etc.	3 1/2 x 4 1/16	4 9/16	5 11/16	5 5/8	13

It is essential that the class C R.F. load be properly matched to the class B modulator tubes for a maximum transfer of speech energy with low distortion. Thordarson Multi-Match modulation transformers have sufficient flexibility to enable the engineer or amateur to adjust the impedance ratio of primary to secondary, to meet any practical condition of operation. This feature forestalls the possibility of the modulation transformer becoming obsolete due to changing the modulator or class C tubes. The use of new tubes or a change in class C voltage and current will not necessitate the need of a new modulation transformer, providing the power capacity is adequate. Complete charts and instructions for proper matching are supplied with each unit.

UNIVERSAL MULTI–MATCH MODULATION TRANSFORMERS

Type No.	List Price	Mtg.	Capacity Watts	Primary M.A. each side	Secondary M.A. Series	Secondary M.A. Parallel	Mtg. Centers	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-21M60	$17.85	KTV	15	50	50	100	2 1/16 x 2 1/2	2 15/16	3 11/16	4	3 3/4
T-21M61	24.00	PUV	60	125	125	250	1 3/4 x 4 5/8	3 1/8	5 1/4	4	8 3/4
T-21M62	36.00	PUV	125	210	160	320	2 3/16 x 6 1/8	4 1/16	6 5/8	5 3/16	16 3/4
T-21M64	57.50	PUV	300	250	250	500	2 11/16 x 6 7/8	4 11/16	7 3/4	6	20
T-21M65	96.00	PUV	500	320	320	640	3 1/16 x 10	5 5/16	11	6 7/8	50
T-21M66	27.00	KTV	50	500 Ohm Line to R.F. Load—5000/6000/7000/8000/9000/10,000 Ohms—Max. Sec. D.C. 200 M.A.			3 1/4 x 3 3/4	4 3/16	5 3/16	5 1/4	11

THORDARSON TRANSFORMERS



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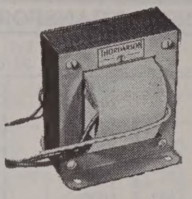

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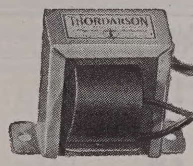

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REPLACEMENT POWER TRANSFORMERS

Type No.	List Price	Mtg.	H.V. Secondary A.C. Volts	M.A. D.C.	Rct. Fil.	Fil. No. 2	Fil. No. 3	Pri. Volts 50/60 Cy.	Pri. VA.	Mtg. Centers	Dimensions W.	D.	H.	Wt. Lbs.
T-22R00	**$6.90**	AGF	250–0–250	40	5V.-2A.	6.3V. CT-2A.		117	45	2 x 2½	2½	3	1 11/16	1¾
T-22R01	**7.00**	AGF	275–0–275	50	5V.-2A.	6.3V. CT-2.5A.		117	55	2 x 2½	2½	3	1 13/16	2¼
T-22R02	**8.35**	AGF	300–0–300	70	5V.-2A.	6.3V. CT-3A.		117	65	2 x 2½	2½	3	2 3/16	2¾
T-22R04	**8.55**	AGF	300–0–300	90	5V.-2A.	6.3V. CT-3.5A.		117	80	2¼ x 2 13/16	2 13/16	3⅜	2 3/16	3
T-22R05	**9.50**	AGF	300–0–300	120	5V.-3A.	6.3V. CT-5A.		117	95	2½ x 3⅛	3⅛	3¾	2½	4¼
T-22R06	**10.00**	AGF	325–0–325	150	5V.-3A.	6.3V. CT-5A.		117	125	2½ x 3⅛	3⅛	3¾	3	5¾
T-22R07	**12.40**	AGF	350–0–350	200	5V.-3A.	6.3V. CT-6A.		117	165	3 x 3¾	3¾	4½	2 13/16	7¾
T-22R08	**6.90**	AGF	250–0–250	40	5V.-2A.	2.5V. CT-4A.		117	40	2 x 2½	2½	3	1 11/16	1¾
T-22R09	**7.50**	AGF	275–0–275	50	5V.-2A.	2.5V. CT-7.5A.		117	55	2 x 2½	2½	3	1 13/16	2¼
T-22R10	**9.80**	AGF	325–0–325	85	5V.-2A.	2.5V. CT-9A.	2.5V. CT-3.5A.	117	90	2½ x 3⅛	3⅛	3¾	2¼	3½
T-22R11	**10.95]**	AGF	325–0–325	120	5V.-3A.	2.5V. CT-12.5A	2.5V. CT-5A	117	125	2½ x 3⅛	3⅛	3¾	3	5½
T-22R12	**4.00**	BAH	120V	75	6.3V-1.5A					3⅛	3 11/16	1 1/64	2 3/16	1

POWER TRANSFORMERS (AMPLIFIER, ETC.)

Type No.	List Price	Mtg.	H.V. Secondary A.C. Volts	M.A. D.C.	Rct. Fil.	Fil. No. 2	Fil. No. 3	Pri. Volts 50/60 Cy.	Pri. VA.	Mtg. Centers	Dimensions W.	D.	H.	Wt. Lbs.
T-22R30	**$8.35**	GGV	275–0–275	50	5V.-2A.	6.3V. CT-2.5A.		117	55	2 x 2 3/16	2 17/32	3 3/16	3 3/32	3¼
T-22R31	**9.50**	GGV	360–0–360	80	5V.-2A.	6.3V. CT-2.5A.		117	76	2 x 2 11/16	2 17/32	3 11/16	3 3/32	4
T-22R32	**11.25**	GGV	350–0–350	110	5V.-2A.	6.3V. CT-3A.	6.3V. CT-3A.	117	107	2½ x 2 11/16	3 5/32	3 15/16	3⅞	5¾
T-22R33	**12.10**	GGV	375–0–375	160	5V.-3A.	6.3V. CT-5A.		117	145	3 x 3 9/16	3 25/32	2 15/16	4⅝	7¾
T-22R34	**15.55**	GGV	385–0–385	225	5V.-3A.	6.3V. CT-5A.		117	186	3 x 3 9/16	3 25/32	4 11/16	4⅝	10
T-22R35	**16.50**	GGV	400–0–400	340	5V.-6A.	6.3V. CT-7A.		117	290	3 x 4 1/16	3 25/32	5 3/16	4⅝	12½
T-22R36	**12.50**	GGV	600–0–600	200	5V.-3A.	6.3V. CT-5A.				3 x 3 5/16	3 13/16	4 7/16	4⅝	8½

Intermittent Duty and Low Cost P. A. Amplifiers.

UNIVERSAL POWER REPLACEMENT "24" SERVICE LINE

Type No.	List Price	Mtg.	H. V. Secondary A.C. Volts	M.A. D.C.	Rct. Fil.	Fil. No. 2	Mtg. Centers	Dimensions W.	D.	H.	Wt. Lbs.
TS-24R00	**$4.90**	AGF	240–0–240	40	5V.-2A	6.3V.CT-2A	2 x 2½	2½	3	1 13/16	1¾
TS-24R00-U	**4.90**	GGV	240–0–240	40	5V.-2A	6.3V.CT-2A	2 x 1 9/16	2 9/16	2 9/16	3⅛	1¾
TS-24R01	**5.15**	AGF	325–0–325	40	5V.-2A	6.3V.CT-2A	2 x 2½	2½	3	1 15/16	2¼
TS-24R01-U	**5.15**	GGV	325–0–325	40	5V.-2A	6.3V.CT-2A	2 x 1 11/16	2 9/16	2 11/16	3⅛	2¼
TS-24R02	**6.25**	AGF	350–0–350	70	5V.-2A	6.3V.CT-2.5A	2¼ x 2 13/16	2 13/16	3⅜	2 9/16	3½
TS-24R02-U	**6.25**	GGV	350–0–350	70	5V.-2A	6.3V.CT-2.5A	2¼ x 2¼	2⅞	3 7/16	3½	3½
TS-24R04	**6.75**	AGF	350–0–350	90	5V.-3A	6.3V.CT-3.5A	2¼ x 2 13/16	2 13/16	3⅜	2 15/16	3¾
TS-24R04-U	**6.75**	GGV	350–0–350	90	5V.-3A	6.3V.CT-3.5A	2¼ x 2⅝	2⅞	3 13/16	3½	3¾
TS-24R05	**7.65**	AGF	350–0–350	120	5V.-3A	6.3V.CT-4.7A	2½ x 3⅛	3⅛	3¾	3	5
TS-24R05-U	**7.65**	GGV	350–0–350	120	5V.-3A	6.3V.CT-4.7A	2½ x 2 11/16	3 3/16	3 15/16	3⅞	5
TS-24R06	**9.05**	AGF	375–0–375	150	5V.-3A	6.3V.CT-4.7A	2¾ x 3 7/16	3 7/16	4⅛	3⅞	5¾
TS-24R06-U	**9.05**	GGV	375–0–375	150	5V.-3A	6.3V.CT-4.7A	2¾ x 2 13/16	3½	3 15/16	4¼	5¾
TS-24R07	**12.00**	AGF	400–0–400	200	5V.-3A	6.3V.CT-5A	3 x 3¾	3¾	4½	3 5/16	8½
TS-24R07-U	**12.00**	GGV	400–0–400	200	5V.-3A	6.3V.CT-5A	3 x 3 5/16	3 13/16	4 7/16	4⅝	8½

VIBRATOR POWER TRANSFORMERS

Type No.	List Price	Mtg.	Primary	H.V. Secondary	Sec. No. 2	Mtg. Centers	Dimensions W.	D.	H.	Wt. Lbs.
T-22R25	**$6.50**	TTV‡	6-8 volts D.C.	150 volts D.C. at 40 M.A.		Exact Repl.	2⅜	2 3/16	3	2
T-22R27	**7.00**	TTV‡	6-8 volts D.C.	250 volts D.C. at 50 M.A.		Exact Repl.	2⅜	2 3/16	3	2
‡ Fully shielded and potted—popular replacement size.										
T-22R20	**$6.35**	CAV	6-8 volts D.C.	250 volts D.C. at 50 M.A.		2 x 1¾	2½	2¼	3 1/16	2½
T-22R22	**7.50**	CAV	6-8 volts D.C.	325 volts D.C. at 75 M.A.		2 x 2½	2½	3	3 1/16	3½
T-22R24	**14.40**	GGV	117V. 60 cycle or 6-8 volts D.C.	325 volts D.C. at 135 M.A.	6.3 volts Ct. at 4.75 A.	3 x 3 1/16	3 13/16	4 3/16	4 9/16	8¾

PLATE TRANSFORMERS

The new Thordarson plate transformers are designed to deliver the rated D.C. voltage from a two-section filter which includes the voltage drop in the rectifier tubes and chokes. Two current ratings are indicated, "Continuous Commercial Service" (CCS) and "Intermittent Commercial or Amateur Service" (ICAS). These dual ratings make it possible to select the plate transformer exactly suited for each application.

Type No.	List Price	Mtg.	Pri. Volts 50–60 Cy.	Prim. V.A. ICAS	Prim. V.A. CCS	Secondary Volts A.C. R.M.S.	D.C. Volts	D.C.M.A. ICAS	D.C.M.A. CCS	Mtg. Centers	Dimensions W.	D.	H.	Wt. Lb.
T-21P75	**$155.25**	PUV	115/230	1900	1500	3000-2400-1500-0-1500-2400-3000	2500-2000-1250	650	500	4 9/32 x 12 5/16	7 9/16	13½	9 9/16	135
T-21P77	**90.50**	PUV	115/230	1250	900	3000-2450-0-2450-3000	2500-2000	425	300	3¼ x 10	6⅜	11	9	77
T-21P79	**74.00**	PUV	115/230	1000	750	1875-1560-0-1560-1875	1500-1250	550	400	3 1/16 x 10⅛	5 5/16	11	6⅞	60
T-21P81	**69.00**	PUV	115*	630	480	1560-1265-0-1265-1560	1250-1000	425	300	3 1/16 x 10⅛	5 5/16	11	6⅞	57
T-21P82	**69.00**	PUV	115*	820	600	2335-1700-0-1700-2335	2000-1500	300	220	3 1/16 x 9⅛	5 5/16	10	6⅞	43
T-21P83	**36.00**	PUV	115*	440	300	1560-1250-0-1250-1560	1250-1000	300	200	2 11/16 x 7⅝	4 11/16	8½	6	33
T-21P85	**29.35**	PUV	115*	370	260	850-730-0-730-850	600-500	425	300	2 3/16 x 6⅜	4 1/16	6⅞	5 3/16	19
T-21P87	**17.25**	GGV	115*	250	185	835-656-0-656-835	650-500	300	220	3 x 3 5/16	3 25/32	4 7/16	4⅝	10
T-21P89	**11.50**	GGV	115	135	95	550-0-550	450	250	175	2½ x 2 15/16	3 3/16	4 3/16	3⅞	6½
T-21P91	**40.00**	PUV	115	375	280	1200-0-1200 900-0-900†	1000 and 750†	200 150	150 110	2 3/16 x 6⅞	4 1/16	7⅜	5 3/16	22
T-21P93	**16.10**	GGV	115	210	160	1075-0-1075 500-0-500†	1000 and 400†	110 150	95 125	3 x 3 9/16	3 25/32	4 11/16	4⅝	10

* Secondary voltages changed by means of primary taps.

† Designed for double rectifiers and will deliver both secondary ratings simultaneously. If only the lower voltage taps are used the current rating is equal to the current rating of both windings.

TRANSFORMER SPECIALISTS SINCE 1895 THORDARSON

THORDARSON TRANSFORMERS

FILAMENT TRANSFORMERS

Type No.	List Price	Mtg.	Secondary Volts	Secondary Amps.	Ins. R.M.S.	Pri. Volts 50/60 Cy.	Mtg. Centers	Dimensions W	Dimensions D	Dimensions H	Wt. Lbs
T-21F00	**$3.60**	BAV	2.5 Ct.	@ 5	1600	117	2⅜	2⅞	1¾	2 5/16	1
T-21F01	**4.35**	BAV	2.5 Ct.	@ 10	1600	117	2 11/16	3 5/16	2	2 11/16	1½
T-21F02	**6.20**	CAV	2.5 Ct.	@ 10	7500	117	2 x 1¾	2½	2¼	3 1/16	2¼
T-21F03	**4.15**	BAV	5 Ct.	@ 3	1600	117	2⅜	2⅞	1¾	2 5/16	1
T-21F04	**5.30**	BAV	5 Ct.	@ 8	1600	117	2 11/16	3 5/16	2	2 11/16	1½
T-21F05	**6.00**	CAV	5 Ct.	@ 3	10,000	117	2 x 1¾	2½	2¼	3 1/16	2
T-21F06	**6.35**	CAV	5 Ct.	@ 13	1600	117	2 x 2	2½	2½	3 1/16	2¾
T-21F07	**8.65**	CAV	5 Ct.	@ 21	1600	117	2½ x 2¼	3⅛	3¼	3 13/16	5¼
T-21F08	**3.15**	BAV	6.3 Ct.	@ 1	1600	117	2	2⅜	1½	2	¾
T-21F10	**4.15**	BAH	6.3 Ct.	@ 3	1600	117	2¾	3¼	1¾	2	1
T-21F11	**6.15**	BAV	6.3 Ct.	@ 6	1600	117	2 11/16	3 5/16	2	2¾	1½
T-21F12	**6.05**	CAV	6.3 Ct.	@ 10	1600	117	2 x 2	2½	2¾	3 1/16	2¾
T-21F14	**4.15**	BAH	6.3-5-2.5	@ 2.5	1600	117	2¾	3¼	1¾	2	1
T-21F15	**4.60**	BAV	7.5 Ct.	@ 4	1600	117	2 11/16	3 5/16	2	2 11/16	1½
T-21F16	**6.05**	CAV	7.5 Ct.	@ 8	1600	117	2 x 2	2½	2¾	3 1/16	2¾
T-21F17	**7.50**	CAV	7.5 Ct.	@ 12	1600	117	2¼ x 2¼	2 13/16	3¼	3½	4
T-21F18	**6.05**	CAV	10 Ct.	@ 5	1600	117	2 x 1¾	2½	2¼	3 1/16	2¼
T-21F19	**8.65**	CAV	10 Ct. 11 Ct.	@ 12 or @ 11	1600	117	2½ x 2¼	3⅛	3¼	3 13/16	5¼

CHOKES—REACTORS

Universal Types—Swinging and Smoothing

Thordarson Universal Chokes are designed for use both in the input and smoothing positions. Where the current taken from the power supply is essentially constant (not varying more than a few percent) the chokes should be selected so as not to exceed the rated D.C.-M.A. If the current fluctuates considerably, as is the case where the power supply furnishes a class B modulator stage, the chokes should be selected so as not to exceed the rated D.C.-M.A. rating under the steady state of operation, and not to exceed the Max. D.C.-M.A. rating when the modulator stage is fully excited.

These are truly universal chokes suitable for use in power supplies requiring either input, swinging or smoothing types.

The tapped Splatter Chokes are used between the modulator and Class C stage for eliminating objectionable side band splatter. Full instructions and circuit diagrams are supplied with each unit.

Type No.	List Price	Mtg. Fig.	Inductance in Henries* O D.C.	Inductance in Henries* Rated D.C.	Inductance in Henries* Max. D.C.	Current in M.A. Rated D.C.	Current in M.A. Max. D.C.	D.C. Res. Ohms	Test Volts R.M.S.	Mtg. Centers	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-20C50	**$3.45**	BAH	475	350	75	5	25	5500	2000	2⅞	3¼	2	2	1½
T-20C51	**2.30**	BAH	70	35	15	15	25	1850	1200	2	2⅜	1¼	1⅜	½
T-20C52	**2.00**	BAH	13	8	4	40	65	450	1200	2	2⅜	1¼	1⅜	½
T-20C59	**2.40**	BAH	14	7	5	55	65	200	1600	2⅜	2 3/16	1⅝	1⅝	¾
T-20C53	**2.95**	BAH	24	12	8	80	100	375	2000	2⅞	3¼	2	2	1¼
T-20C64	**3.60**	BAH	15	4	3	130	150	100	1600	3⅛	3 11/16	2⅝	2¼	1½
T-20C54	**4.90**	GGV	16	8	4	150	200	145	2700	2x1 11/16	2 17/32	2¾	3⅛	2½
T-20C54-P	**10.00**	CHT	16	8	4	150	200	145	2700	2 11/16x2 5/32	3	2¾	4	3¾
T-20C55	**6.35**	GGV	11	6	2	200	300	75	2700	2¼x2	2⅞	3¼	3½	3½
T-20C55-P	**12.75**	CHT	11	6	2	200	300	75	2700	2 25/32x2 11/32	3⅜	3	4 5/32	5
T-20C56	**9.25**	GGV	10	7	4	300	375	60	3500	2½x3	3 3/16	4 3/16	3⅞	6½
T-20C56-P	**16.25**	CHT	10	7	4	300	375	60	3500	3⅝x3⅛	4¼	3¾	4 13/16	8½
T-20C57	**34.50**	PUV	16	10	6	500	600	65	7500	2 11/16x7	4 11/16	7¾	6	26
T-20C58	**2.30**	BAH		.75		.5		30	1100	2⅜	2 13/16	1½	1⅝	½

*Measured at 50 volts, 60 cycles at D.C. current shown.

Dual Tone Control Reactor

Type No.	List Price	Mtg. Fig.	O D.C.	Rated D.C.		D.C. Res. Ohms	Test Volts R.M.S.	Mtg. Centers	W.	D. H.	Wt. Lbs.
T-20C74	**$4.75**	RAV	22	0	HUM-BUCKING CONSTRUCTION	220	500	1 7/16	1 9/16	Diameter 2	½
R-1068	**3.15**	USED IN CONJUNCTION WITH DUAL TONE CONTROL CHOKE T-20C74									¼

Splatter Chokes

Type No.	List Price	Mtg.	Application	D.C. Resistance	Mtg. Dim.	Dimensions W.	Dimensions D.	Dimensions H.	Wt. Lbs.
T-20C62	**$4.00**	BAH	Inductance—.2 to 1.5 H. @ 100 M.A. D.C.	96 ohms	2 13/16	1 15/16	1⅞	2 5/16	1¼
T-20C60	**$16.25**	KTV	Inductance—.2 to 1.5 H. @ 300 M.A. D.C.	30 ohms	2⅝ x 3⅛	3 17/32	4 13/32	4½	7
T-20C61	**20.00**	KTV	Inductance—.2 to 1.5 H. @ 500 M.A. D.C.	27 ohms	2⅞ x 3 7/16	3 27/32	4 25/32	4⅞	9

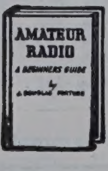
Voltage Changer—Auto Transformers

T-23V21	**$ 7.50**	GGV*	220–250	110–125†	100	2½ x 1 11/16	3 5/32	2 15/16	3⅞	5
T-23V22	**11.00**	GGV*	220–250	110–125†	150	2½ x 1 15/16	3 5/32	3 3/16	3⅞	6¼
T-23V23	**13.00**	GGV*	220–250	110–125†	250	3 x 2 5/16	3 13/16	3⅝	4 11/16	10¼
T-23V24	**19.25**	GGV*	220–250	110–125†	500	3 x 3 5/16	8 13/16	4⅝	4 11/16	13

* Furnished with primary cord and secondary receptacle. † Output is proportional to voltage applied to input.

Type No.	List Price	Case Style	Secondary No. 1 A.C. Volts	Secondary No. 1 D.C. MA	Rect. Fil.	Fil. No. 2	Fil. No. 3	Mtg. Centers	Dimensions W	Dimensions D	Dimensions H	Wt. Lbs.
T-22R40	**$15.00**	GGV	1800	2	2.5V-1.8A	6.3V-.6A Tapped at 2.5V-2.1A		2½x2 7/16	3 5/32	3¾	3 13/16	4¾
Use for experimental work, television replacement, oscilloscopes up to 7″ tubes.												
TV-24R92	**12.00**	GGV	2400	10	2.5V-1.75A			2¾x2 11/16	3½	3⅞	4¼	5
Replacement—Half Wave—2 x 2 Rectifier—High Voltage Low Current Supplies.												
TV-24R98	**15.00**	AGF	350-0-350	200	5V-2A 5V-3A	6.3V-7A	6.3V-.9A	3x3¾	3¾	4½	4⅛	10¼
Power Supply 12″ and 15″ Receivers.												

THORDARSON LITERATURE



TRANSFORMER MANUAL: A complete book containing literature on Radio receiver replacement transformers, Sound amplifiers, amateur transmitters and current Thordarson catalogs. Bound in heavy blue and orange loose leaf cover permitting addition of future Thordarson releases. Manual No. 340—50 cents.

TRANSFORMER CATALOG: A complete listing of Thordarson transformers, chokes, voltage changers, and regulators for receiver replacement, amateur radio and sound amplifiers. Tables and curves give complete data on application and characteristics of output, modulation and other transformers and chokes. Catalog 400—Free.

TRU-FIDELITY TRANSFORMER CATALOG: Complete technical data on Thordarson broadcast units. Includes audio transformers, filters, line equalizers, filament transformers, filter reactors, plate transformers, and modulation reactors and transformers. Highest quality units that satisfy the requirements of discriminating engineers, broadcast stations and laboratories. Catalog 500—Free.

AMATEUR RADIO: Carefully prepared and edited to make learning of Radio, by all beginners, easy and interesting. Presents fundamental theory and instructions for making code practice oscillators, receivers and transmitters. Has 160 pages and over 100 illustrations and drawings. Heavy book cover, finished in wear-resistant blue cloth and imprinted with gold lettering. Amateur net price—75 cents.

THORDARSON

TRANSFORMER SPECIALISTS SINCE 1895 THORDARSON

HALLDORSON *Vacuum Sealed* TRANSFORMERS

HIGH FIDELITY TRANSFORMERS

± ONE DB FROM 30 to 20,000 CYCLES

Item No.	Dealer Net	Application	Primary Imp.	Secondary Imp.	Mtg. Type
Y-1	$12.48	S.Plate to P.P. Gr.	8,000 to 15,000	60,000 C.T.	Y
Y-2	14.10	Low L. Output to Line	8,000 to 15,000 in Two Sections	50-125-200-250-333-500	Y
Y-3	14.10	Low Level Input	500-333-250-200-125-50	50,000 In Two Sections	Y
Y-4	11.70	Bridging Trans.	20,000	50,000	Y
Y-5	12.78	Repeat Coil	500/600	500/600	Y

HIGH FIDELITY OUTPUT TRANSFORMERS

± TWO DB FROM 20 TO 20,000 CYCLES

Item No.	Dealer Net	Pri. Imp.	Sec. Imp.	Max. Watts	Mtg. Type	Wt. Lbs.
Y-20	$13.20	8500	500	15	N2	3
Y-21	23.40	5400	4-8-15-125-250-500	35	N2	4¾
Y-22	35.40	3800	4-8-15-125-250-500	50	N2	6¼

DRIVERS (Class AB and B AUDIO)

Item No.	Dealer Net	Class	Ratio Pri. ½ Sec.	D.C. M.A.	Mtg. Type	Wt. Lbs.
E-1029	$3.54	AB2 AB1	5:1	80	E	2.7
B8-833	2.52	B	5:1	15	B8	1
A4-763	1.77	B	4:1	15	A4	10 oz.
B8-830	2.40	AB	3:1	30	B8	1
E-1045	3.30	AB	3:1	40	E	2½
E4-1025	3.42	AB	2.8:1	15	E4	2½
A4-762	1.38	B	2.5:1	15	A4	10 oz.
A4-764	1.56	AB	2:1	15	A4	10 oz.
S-302	4.38	A	2:1	90	S	3.7

AUDIO INTERSTAGE, CLASS A

Item No.	Dealer Net	Applic.	Impedance Pri.	Impedance Sec.	D.C. M.A.	Ratio	Mtg. Type	Wt. Lbs.
A4-751	$1.47	Single	10,000	90,000	10	3:1	A4	10 oz.
E-1047	3.90	Single	10,000	90,000	15	3:1	E	2½
B4-805	1.68	Single	10,000	66,500	10	2.5:1	B4	1½
B4-810	1.80	PP	10,000	160,000	10	4:1	B4	1
A4-761	1.56	PP	10,000	122,500	10	3.5:1	A4	10 oz.
B4-893	1.98	PP	10,000	90,000	10	3:1	B4	1
A4-760	1.56	PP	10,000	90,000	10	3:1	A4	10 oz.
A4-703	1.59	PP	10,000	40,000	10	2:1	A4	10 oz.
B4-811	2.25	PP to PP	20,000	45,000	10	1.5:1	B4	1
B4-818	2.34	PP to PP	10,000	90,000	10	3:1	B4	1
C4-918	2.76	PP to PP	10,000	90,000	10	3:1	C4	2

MICROPHONE, LINE AND MIXER, ETC.

Item No.	Dealer Net	Application	Impedance Pri.	Impedance Sec.	Mtg. Type	Wt. Lbs.
E-1040	$4.14	Mic. L. or Mix. to G.	*500 C.T., 250 *200 C.T., 50	50,000	E	2½
B5-812	1.92	Double B to Grid	200 C.T.	125,000	B5	1
B5-821	1.68	Single B. to Grid	100	125,000	B5	1½
B8-835	2.97	1-2-3-4- Cir. Mix.	200-400-600-800	125,000	B8	1½
E-1041	4.50	Line to Line or Line to V.C.	*500 C.T., 250 *200 C.T., 50	4-8-15-500	E	2½
E-1035	5.64	Line to Line	500-333-200-125-50	500-333-200-125-50	E	2¾
C7-965	3.24	Line to V.C.	500	15-8-4-2.6-2-1.5-.7-	C7	2½
C7-964	3.90	Tube to Line	14,000-12,000-10,000-8,000	500	C7	2½
E-1036	4.50	Line to Crystal hd.	500	75,000	E	2¾
A4-753	1.77	Transceiver	200-5000	60,000	A4	7 oz.
D4-607	1.44	Intercom.	3-6	35,000	D4	½
D4-610	1.26	Mic. to Grid.	200 C.T.	35,000	D4	½

*Inductive and Capacitative Balance to Center Tap.

OUTPUT TRANSFORMERS

Item No.	Dealer Net	Impedance Primary	Impedance Secondary	Pri. M.A.	Watts	Mtg. Type	Wt. Lbs.
D4-608	$1.29	1500	3-6-8	50	4	D4	8 oz.
D4-605	1.05	2000	3 to 6	50	4	D4	8 oz.
D4-605A	1.11	2000	3 to 6	50	4	D4	8 oz.
B4-856	1.65	2500	4-8-15	60	10	B4	1
B5-857	1.80	3000	4-8-15	80	10	B5	1
S-72A	5.94	3800	4-8-15-125-200-333-500	250	50	S	5¾
B4-850	1.62	4000	4-8-15	40	10	B4	1
S-71	5.28	4300	2-4-8-15-500	250	50	S	5½

(Continued in next column)

OUTPUT TRANSFORMERS—Continued

Item No.	Dealer Net	Impedance Primary	Impedance Secondary	Pri. M.A.	Watts	Mtg. Type	Wt. Lbs.
S-86	$3.96	4000	4-8-15-500	70	10	S	2½
D4-601	1.02	4500	3 to 6	35	5	D4	8 oz.
B4-870	1.68	5000	4-8-15	50	8	B4	1
B5-871	1.77	5000	4-8-15	80	15	B5	1
B4-778	1.80	5000	4-8-15	100	18	B4	1½
E-1042	5.04	6000	4-8-15-500	150	30	E	2½
K4-800	.81	6000	3 to 6	5	2	K4	6 oz.
S-81	5.34	6600	4-8-15-500	150	35	S	4¾
B4-851	1.62	7000	4-8-15	40	10	B4	1
D4-600	.93	7000	3 to 6	35	5	D4	8 oz.
A5-700	1.50	9000	2-4-8	80	8	A5	10 oz.
D4-609	1.05	9000	3 to 6	10	4	D4	10 oz.
B5-853	1.56	10000	4-8-15	80	12	B5	1
D4-602	.99	10000	3 to 6	30	5	D4	8 oz.
B5-854	1.86	14000	4-8-15	30	15	B5	1
D4-606	.99	16000	3 to 6	10	4	D4	8 oz.
B5-855	1.86	20000	4-8-15	25	15	B5	1
A4-775	1.32	25000	3 to 6	10	5	A4	10 oz.
A4-776	1.68	50000	3 to 6	20	8	A4	10 oz.

UNIVERSAL OUTPUTS

Item No.	Dealer Net	Application	Pri. M.A.	Watts	Mtg. Type	Wt. Lbs.
A5-772	$1.56	S. and P.P. Pls. (4, 7, 10, 14, 20 M) to V.C. 3 to 6	50	8	A5	10 oz.
E-603	4.11	P.P. Pls. (8, 10, 12, 14 M) to 4-8-15-500	50	10	E	2¼
D4-604	1.35	Single or P.P. Pls. (2500 to 14000 ohms) to V.C.	30	4	D4	8 oz.
B4-816	2.31	Single or P.P. Pls. (2500 to 14000 ohms) to V.C.	60	12	B4	1
B5-816-A	1.92	Single or P.P. Pls. (2500 to 14000 ohms) to V.C.	50	10	B5	1
B6-816-A	1.92	Single or P.P. Pls. (2500 to 14000 ohms) to V.C.	50	10	B6	1
A5-773	1.65	Single or P P. Pls. (8000 to 20000) to V.C.	10	5	A5	10 oz.
E5-1057	2.91	Single or P.P. Pls. (4000 to 13500) to V.C.	60	20	E5	3

SPEAKER MATCHING

T-4307	$2.25	500-1000-1500-2000 3.2 & 8	100	18	B5	1.2
B5-848	2.10	500-1000-1500-2000 8 ohms	80	12	B5	1
B5-849	2.22	2500-4000-6000-8000 8 ohms	80	12	B5	1
T-4274	1.38	500-1000-1500-2000 8 ohms	60	5	A5	10 oz.

PLATE SUPPLY TRANSFORMERS

Item No.	Dealer Net	Secondary A.C. Plate Voltage	D.C. M.A.	Pri. Volts	Mtg. Type	Wt. Lbs.
S-200	$ 6.90	600-500-O-500-600	250	117	S	9½
G-203	15.60	900-750-O-750-900	200	117	G	
G-204	19.80	1000-750-O-750-1000	300	117	G	
H-206	51.60	1500-1250-O-1250-1500	500	117	H	45

ADJUSTABLE IMPEDANCE MODULATION TRANS.

Item No.	Dealer Net	Adjustable Impedance	Pri. D.C. Per Side	Sec. D.C. Per Side	Watts	Mtg. Style	Wt. Lbs.
G-102	$ 6.60	Chart Supplied	.060	.060	15	G	3½
G-120	6.90	Chart Supplied	.080	.080	30	G	5
G-140	11.05	Chart Supplied	.200	.200	125	G	12
G-209	23.40	Chart Supplied	.225	.225	160	G	20

FILAMENT TRANSFORMERS

Item No.	Dealer Net	Pri. V.	Sec. V.	Sec. A.	Mtg. Type	Wt. Lbs.
A4-701	$ 1.77	117	2.5 C.T.	2.5	A4	10 oz.
C4-901	2.82	117	2.5 C.T.	5	C4	1½
B5-861	1.92	117	2.5 C.T.	6	B5	1
S-230	3.36	105-115-125	2.5 C.T.	10	S	9
E-1053	3.30	117	5.0 C.T.	3	E	2½
B5-859	2.10	117	5.0 C.T.	3	B5	1
U5-900	3.12	107-117	5.0 C.T.	6	U5	2¾
N-238*	11.10	107-117	5.0 C.T.	14	N	11
N-231*	11.76	107-117	5.0 C.T.	22	N	13
A4-702	1.56	117	6.3 C.T.	1.5	A4	10 oz.
B5-860	1.95	117	6.3 C.T.	3	B5	1
U5-1153	3.42	107-117	6.3 C.T.	6	U5	2½
N-239*	10.20	117	6.3 C.T.	10	N	12
U5-1300	7.44	117	6.3 C.T.	20	U5	7½
B5-862	1.86	117	7.5 C.T.	2.5	B5	1
N-232*	11.10	105-115-125	10.0 C.T.	7	N	10
U5-1306	4.68	117	10.0 C.T.	8	U5	5

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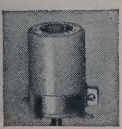

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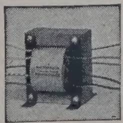

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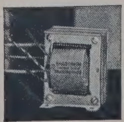

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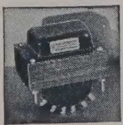

L and L2

N3

HALLDORSON *Vacuum Sealed* TRANSFORMERS

FILAMENT TRANSFORMERS—Continued

Item No.	Dealer Net	Pri. V.	Sec. V.	Sec. A.	Mtg. Type	Wt. Lbs.
N-233*	$11.76	107-117	11.0 C.T.	10	N	9½
U5-1055	3.30	117	12.6 C.T.	3	U5	3½
S-25	4.74	117	5.0 C.T.	3	S	3½
			6.3 C.T.	6		
S-28	6.30	107-117	5.0 C.T.	6	S	4¼
			6.3 C.T.	6		
S-26	4.50	117	5.0 C.T.	3	S	3.0
			7.5 C.T.	3.25		
S-27	4.62	117	2.5 C.T.	12	S	3.0
			2.5 C.T.	3		
			5.0 C.T.	3		

*7500 Volt Insulation Test.

CHOKES

Item No.	Dealer Net	D.C. Res.	Henries	M.A. D.C.	Mtg. Type	Wt. Lbs.
A4-838	$1.38	5000	300	5	A4	1
T-1225	1.56	3000	60	16	B8	1⅛
T-341	1.02	400	12	30	D4	6 oz.
T-343	.87	200	5.5	35	D4	6 oz.
T-1001	1.02	400	12	40	A4	10 oz.
B4-837	1.29	400	15	40	B4	1
T-336	1.08	500	10	50	A4	10 oz.
T-1002	1.05	300	8	50	A4	10 oz.
T-334	1.02	250	5	50	A4	10 oz.
C4-968	1.89	1400	50	60	C4	1½
B4-839	1.29	275	10	60	B4	1
C4-967	1.74	350	20	80	C4	1½
C4-966	1.92	250	8	85	C4	1½
B4-842	1.47	300	5	100	B4	1
E-1030	2.28	250	23	110	E	2½
E-1034	3.12	100	8	130	E	2½
S-246	3.06	100	4	175	S	3½
E-1033	3.78	125	8	200	E	3¾
S-240	4.68	150	15	200	S	5½
S-243	4.50	70	4	250	S	5
S-244	6.30	75	7	300	S	8½
S-242	8.28	150	15	350	S	11
S-241	9.48	60	8	400	S	13
S-252	3.30	130	5-10	150	S	3
S-251	4.38	65	5-8	250	S	3½
C4-216	1.74	200	2	60	C4	1½
S-450	3.60	11,000	500	10	S	2½
S-451	5.76	1,000	30	150	S	8

TELEVISION TRANSFORMERS

Item No.	Dealer Net	Plate A.C. Load V.	D.C. M.A.	Filament		Filament		Mtg. Type	Wt. Lbs.
				Volt	Amp.	Volt	Amp.		
S-213	$ 6.30	1700	2	2.5	1.75			S	4¼
S-214	7.98	2000	2	2.5	1.75	6.3	.9	S	4¼
S-215	8.70	2500	5	2.5	1.75	2.5	2	S	4½
L-211	12.90	365-O-365	250	5	2	5	3	L2	13½
						6.3	.8		
						6.3	6		
L-212	15.60	365-O-365	295	5	2	5	6	L2	17
						12.6	5 C.T.		
J-96	3.90	Vertical Output Trans.						J	2¾
D4-611	1.68	Hor. Block. Oscillator Trans.						D4	½
D4-612	1.50	Vert. Block. Oscillator Trans.						D4	½

Television Chokes—No. C4-216, S-450, S-451 listed under Chokes.

POWER TRANSFORMERS

Item No.	Dealer Net	Plate A.C. Load Volts	D.C. M.A.	Rect. Fil.		Amp. Fil.		Mtg. Type	Wt. Lbs.
				Volt	Amp.	Volt	Amp.		
L-48	$3.39	325-O-325	40	5	3	2.5	1.75	L	2½
						2.5	3.5		
L-476X	3.78	250-O-250	40	5	2	6.3	1.6 C.T.	L	2½
M-44	3.78	225-O-225	40	5	2	6.3	1 C.T.	M	2½
S-49	3.45	325-O-325	40	5	2	2.5	5.2 C.T.	S	2½
L-85	3.96	280-O-280	50	5	3	6.3	1.5	L	3½
						6.3	.6		
L-60	5.10	325-O-325	50	5	3	2.5	1.75 C.T.	L	5
						2.5	5.25		
S-66	3.96	325-O-325	50	5	3	6.3	2 C.T.	S	3¾
S-660	4.32	325-O-325	50	5	3	2.5	1.75 C.T.	S	3½
						6.3	1.9 C.T.		
						2.5	5.25 C.T.		
L-45A	4.74	300-O-300	60	6.3	.6	6.3	2.8 C.T.	L	3½
L-46	4.92	300-O-300	60	5	3	2.5	7.5 C.T.	L	4½
						6.3	2.5 C.T.		
M-21	3.96	250-O-250	60	5	2	6.3	2 C.T.	M	2½
P-2067	3.57	240-O-240	60			6.3	2.75 C.T.	P	2.5
S-61	4.80	350-O-350	60	5	3	2.5	7.0 C.T.	S	5

(Continued in next column)

POWER TRANSFORMERS—Continued

Item No.	Dealer Net	Plate A.C. Load Volts	D.C. M.A.	Rect. Fil.		Amp. Fil.		Mtg. Type	Wt. Lbs.
				Volt	Amp.	Volt	Amp.		
L-20	$4.38	350-O-350	70	5	3	6.3	2.5 C.T.	L	4½
S-51	4.86	350-O-350	70	5	3	2.5	10 C.T.	S	5
L-82	5.40	265-O-265	70	5	3	5	.5 C.T.	L	5
						2.5	11 C.T.		
S-67	4.62	350-O-350	70	5	3	6.3	3 C.T.	S	5
S-67A	4.92	275-O-275	70	5	3	6.3	3 C.T.	S	5
S-57	5.10	300-O-300	80	5	3	5	½ C.T.	S	5
						2.5	10.5 C.T.		
S-56	6.00	350-O-350	90	5	3	2.5	3.5 C.T.	S	7¼
						2.5	8.75 C.T.		
S-87	5.70	350-O-350	90	5	3	6.3	3.5 O.T.	S	5¼
S-58	6.00	350-O-350	100	5	3	6.3	5 C.T.	S	7½
S-76	6.90	350-O-350	100	5	3	2.5	2.0 C.T.	S	6
						2.5	3.0 C.T.		
						1.5	5		
						1.5	1		
S-53	6.72	350-O-350	110	5	3	2.5	12.5 C.T.	S	9
L-83	6.96	350-O-350	120	5	3	2.5	4 C.T.	L	7¼
						2.5	9.5		
S-59	7.08	400-O-400	120	5	3	2.5	3.5 C.T.	S	9
						2.5	14.5 C.T.		
S-40	5.04	290-O-290	125	5	3	6.3	4.5 C.T.	S	5
L-74	6.24	372-O-372	145	5	3	6.3	5 C.T.	L	9
S-74	7.14	372-O-372	145	5	3	6.3	5 C.T.	S	9
L-31	6.96	375-O-375	150	5	3	6.3	5 C.T.	L	7
							50-24-18V—25W		
S-75	6.96	375-O-375	180	5	3	2.5	6 C.T.	S	8
						6.3	3.5 C.T.		
S-77	8.22	400-O-400	200	5	4	6.3	5.5 C.T.	S	9

SPECIAL APPLICATION—HIGH VOLTAGE PLATE AND FIL. SUPPLY TRANSFORMERS

SCALERS, COUNTERS, INDICATORS

Item No.	Dealer Net	Plate A.C. Load Volts	D.C. M.A.	Rect. Fil.		Amp. Fil.		Mtg. Type
				Volt	Amp.	Volt	Amp.	
P-1850	$8.70	320-O-320	150	5	3	6.3	3	S
						6.3	1	
						6.3	8	
P-1930A	8.70	1600	2	2.0	1.75	6.3	.3	S
				1.25		6.3	.3	
P-1931A	9.48	2700	2	2.0	1.75	6.3	.3	S
				1.25		6.3	.3	

The above units are designed for 117 Volts 50-60 Cycle; for 25 Cycle and 220 Volt 50-60 Cycle, prices furnished on request.

6 VOLT-VIBRATOR TRANSFORMERS

Item No.	Dealer Net	Sec. D.C. V. to Filter	Sec. M.A.	Mtg. Type	Wt. Lbs.
J-95	$2.55	150	40	C5	1¼
J-90	2.94	225	40	C5	1½
J-91	3.30	250	50	J	2¼
N-91	4.44	250	50	N3	3
J-92	3.42	250	60	J	2
J-93	3.54	250	70	J	2½
J-94	3.90	285	75	J	2¾

6 VOLT D. C. OR 115 VOLT A. C. VIBRATOR TRANS.

S-500	$7.56	350 Fil. 6.3 V. C.T.	135 4.75 Amp.	S	10

ISOLATION TRANSFORMERS

Item No.	Dealer Net	Pri. V	Sec. V	Watts	Mtg. Type	Wt. Lbs.
P-2042	$ 5.10	115	115	50	S2	6
P-1596	8.94	115	115	100	S2	7½
P-1596B	9.90	115	115	150	S2	8.5
P-1596A	19.20	115	115	250	S2	13½

STEP-DOWN AUTO TRANSFORMERS

P-1964	$ 4.50	220	110	65	S2	2½
P-612	5.76	220	110	100	S2	3½
P-610	6.42	220	110	160	S2	5
P-613	7.68	220	110	250	S2	7½
P-614	11.34	220	110	500	S2	12

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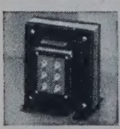

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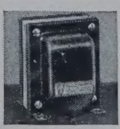
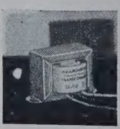


A5, Etc. Vert.
A4, Etc. Hor.



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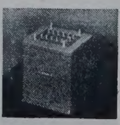

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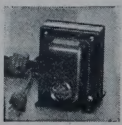
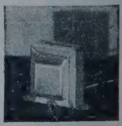


A7, Etc. Vert.
A8, Etc. Hor.



United Transformer Co. PRICE LIST

Type No.	List Price
A-10	$15.00
A-11	16.00
A-12	15.00
A-14	14.00
A-16	13.00
A-18	14.00
A-19	18.00
A-20	15.00
A-21	16.00
A-24	15.00
A-25	14.00
A-26	15.00
A-27	15.00
A-30	10.00
A-31	5.00
CG-1C	60.00
CG-1S	60.00
CG-2L6	19.00
CG-4L6	29.00
CG-15	11.00
CG-16	11.00
CG-19	11.00
CG-34	11.50
CG-40	8.50
CG-41	8.50
CG-44	8.50
CG-45	8.50
CG-48C	8.50
CG-50	16.00
CG-51AX	10.50
CG-53AX	12.50
CG-59AX	12.50
CG-100	9.00
CG-101	9.00
CG-102	14.00
CG-103	14.00
CG-104	21.00
CG-105	21.00
CG-108	37.00
CG-109	37.00
CG-120	15.00
CG-121	21.00
CG-122	18.00
CG-124	18.00
CG-125	21.00
CG-126	33.00
CG-131	9.50
CG-132	10.00
CG-133	12.50
CG-134	12.50
CG-135	13.50
CG-136	13.50
CG-137	10.00
CG-140	12.00
CG-141	13.50
CG-233	11.00
CG-235	17.50
CG-238AX	32.00
CG-300	18.00
CG-301	25.00
CG-302	30.00
CG-303	45.00
CG-304	120.00
CG-305	68.00
CG-306	120.00
CG-307	105.00
CG-308	144.00
CG-309	250.00
CG-310	185.00
CG-311	68.00
CG-312	67.00
CG-315	15.00
CG-316	25.00
CG-333	11.00
CG-422	19.00
CG-428	25.00
CG-429	27.50
CG-431	40.00
CG-433	12.00
CG-512	30.00
CG-710	11.00
CGE-1	25.00
CVA-1	10.00
CVA-2	13.00
CVA-3	17.50
CVA-4	26.00

Type No.	List Price
CVA-5	$36.00
CVL-1	8.00
CVL-2	11.50
CVL-3	17.50
CVL-10	8.00
CVL-11	11.50
CVL-12	17.50
CVM-0	8.50
CVM-1	14.00
CVM-2	20.50
CVM-3	30.00
CVM-4	50.00
CVM-5	115.00
CVP-1	9.00
CVP-2	14.00
CVP-3	20.00
CVP-4	29.00
CVP-5	50.00
FT-1	2.70
FT-2	2.70
FT-3	3.00
FT-4	3.25
FT-5	3.25
FT-6	3.25
FT-7	3.25
FT-8	6.00
HA-100	19.00
HA-100X	24.00
HA-101	22.00
HA-101X	27.00
HA-103A	22.00
HA-104	20.00
HA-105	14.00
HA-106	16.00
HA-107	24.00
HA-108	19.00
HA-108X	24.00
HA-111	19.00
HA-113	18.00
HA-114	19.00
HA-130X	27.00
HA-133	18.00
HA-134	20.00
HA-135	19.00
HA-137	22.00
HC-115	13.00
HC-116	20.00
HC-117	12.00
HP-122	13.00
HP-123	20.00

Type No.	Net Price
HQA-1	$7.00
HQA-2	7.00
HQA-3	7.50
HQA-4	7.50
HQA-5	8.00
HQA-6	8.00
HQA-7	9.00
HQA-8	9.00
HQA-9	10.00
HQA-10	10.00
HQA-11	10.00
HQA-12	11.00
HQA-13	11.00
HQA-14	13.00
HQA-15	14.00
HQA-16	15.00
HQA-17	16.00
HQA-18	17.00
HQB-1	16.00
HQB-2	16.00
HQB-3	16.00
HQB-4	17.00
HQB-5	17.00
HQB-6	18.00
HQB-7	19.00
HQB-8	20.00
HQB-9	21.00
HQB-10	22.00
HQB-11	23.00
HQB-12	24.00

Type No.	Net Price
HQC-1	$13.00
HQC-2	13.00
HQC-3	13.00
HQC-4	13.00
HQC-5	13.00
HQD-1	15.00
HQD-2	15.00
HQD-3	15.00
HQD-4	15.00
HQD-5	15.00

Type No.	List Price
LS6L1	$42.00
LS6L3	28.00
LS6L4	50.00
LS-5	42.00
LS-6	31.00
LS-7	31.00
LS-8	40.00
LS-10	25.00
LS-10X	32.00
LS-12	28.00
LS-12X	35.00
LS-14	28.00
LS-14X	35.00
LS-15	28.00
LS-15X	35.00
LS-18	31.00
LS-19	24.00
LS-20	21.00
LS-21	24.00
LS-22	31.00
LS-25	28.00
LS-26	25.00
LS-27	24.00
LS-30	25.00
LS-30X	32.00
LS-31	28.00
LS-31X	35.00
LS-32	28.00
LS-33	28.00
LS-34	42.00
LS-38	32.00
LS-39	25.00
LS-40	24.00
LS-47	35.00
LS-48	50.00
LS-49	42.00
LS-50	24.00
LS-51	24.00
LS-52	28.00
LS-54	20.00
LS-55	28.00
LS-56	28.00
LS-57	20.00
LS-58	50.00
LS-60A	35.00
LS-61	28.00
LS-62A	35.00
LS-63	20.00
LS-66	100.00
LS-67	100.00
LS-70	34.00
LS-72	40.00
LS-73	54.00
LS-80	23.00
LS-82	30.00
LS-83	60.00
LS-84	23.00
LS-88	11.00
LS-89A	87.00
LS-90	14.00
LS-91	14.00
LS-92	23.00
LS-93	40.00
LS-94	14.00
LS-96	67.00
LS-98	40.00
LS-99	100.00
LS-102	70.00
LS-103	98.00
LS-104A	500.00
LS-105	100.00
LS-106	250.00
LS-120	43.00
LS-121Y	54.00
LS-140	35.00

Type No.	List Price
LS-141	$28.00
LS-142	35.00
LS-143	28.00
LS-150	25.00
LS-151	25.00
LS-180	17.00
LS-180H	21.00
LS-181	67.00
LS-182	87.00
LS-183	110.00
LS-184	170.00
LS-185	400.00
LS-190	27.00
LS-691	350.00
LS-692	700.00
LS-693	1500.00
LS-950	14.00
LS-980	40.00
MA-1	14.00
MC-1	13.00
MC-2	17.00
O-1	13.25
O-2	13.25
O-3	12.00
O-4	10.50
O-5	10.50
O-6	12.00
O-7	12.00
O-8	13.25
O-9	13.25
O-10	13.25
O-11	13.25
O-12	12.00
O-13	9.50
O-14	13.25
O-15	13.25
P-1	14.50
P-2	14.50
P-3	13.25
P-4	12.00
P-5	12.00
P-6	13.25
P-7	13.25
P-8	14.50
P-9	14.50
P-10	14.50
P-11	14.50
P-12	13.25
P-13	10.50
P-14	14.50
P-15	14.50
PF-1	10.00
PF-2	10.00
PF-3	4.50
R-1	6.10
R-2	7.40
R-3	9.00
R-4	10.70
R-5	13.00
R-6	6.10
R-7	7.80
R-8	9.50
R-9	11.00
R-10	14.00
R-11	9.50
R-12	10.80
R-13	15.50
R-14	2.10
R-15	2.10
R-16	2.10
R-17	2.80
R-18	2.80
R-19	3.90
R-20	4.30
R-21	4.30
R-22	3.90
R-23	4.10
R-24	4.30
R-25	4.50
R-26	4.50
R-27	4.10
R-28	5.80
R-29	4.30
R-30	11.00
R-31	3.50

Type No.	List Price
R-32	$5.00
R-33	2.90
R-34	3.00
R-35	3.70
R-36	3.70
R-37	3.90
R-38A	3.00
R-39	3.80
R-40	5.50
R-41	7.50
R-42	8.50
R-43	9.50
R-44	12.50
R-45	20.00
R-46	35.00
R-47	10.00
R-48	13.50
R-53	3.70
R-54	6.60
R-55	1.75
R-56	3.70
R-57	5.80
R-58	3.00
R-59	3.50
R-60	3.70
R-64	70.00
R-72	8.50
R-73	13.00
R-74	24.00
R-75	35.00
R-76	55.00
R-77	95.00
R-78	18.00
R-79	22.00
R-80	30.00
R-81	60.00
R-83	18.00
R-84	22.00
R-85	30.00
R-86	60.00
R-90	3.00
R-91	7.00
R-92	7.00
R-93	14.00
R-94	20.00
R-95	15.00
SO-1	5.60
SO-2	5.60
SO-3	5.60
SO-4	5.60
SO-5	5.10

Type No.	Net Price
S-1	$3.30
S-2	3.80
S-3	3.10
S-4	5.20
S-5	4.25
S-6	3.10
S-7	5.00
S-8	4.00
S-9	5.20
S-10	4.70
S-11	4.25
S-12	4.70
S-13	6.20
S-14	4.50
S-15	4.70
S-16	6.20
S-17	7.50
S-18	5.00
S-19	7.50
S-20	11.00
S-21	15.50
S-22	24.00
S-23	3.40
S-24	3.70
S-25	3.10
S-26	3.10
S-27	3.80
S-28	3.80
S-29	3.80
S-30	3.80
S-31	5.00
S-32	5.00
S-33	7.00
S-34	7.00
S-35	10.50
S-36	10.50

Type No.	Net Price
S-37	$14.00
S-38	14.00
S-39	10.50
S-40	10.50
S-41	9.50
S-42	12.50
S-43	17.50
S-44	15.50
S-45	12.00
S-46	15.00
S-47	19.00
S-48	28.00
S-49	26.50
S-50	37.00
S-51	9.00
S-52	12.00
S-53	3.20
S-54	3.20
S-55	3.20
S-56	3.20
S-57	4.50
S-58	5.50
S-59	4.50
S-60	10.00
S-61	4.50
S-62	5.50
S-63	10.00
S-64	5.50
S-65	5.50
S-66	5.50
S-67	5.50
S-68	6.00
S-69	6.00
S-70	6.00
S-71	10.00
S-72	6.30
S-74	16.50
V-0	11.50
V-0-B	15.00
V-1	17.50
V-1-M	29.00
V-2	15.00
V-2-B	18.00
V-3	22.00
V-3-B	29.00
V-4	32.00
V-4-B	40.00

Type No.	List Price
VI-C1	$11.00
VI-C2	11.00
VI-C3	11.00
VI-C4	11.00
VI-C5	11.00
VI-C6	11.00
VI-C7	14.00
VI-C8	14.00
VI-C9	14.00
VI-C10	14.00
VI-C11	14.00
VI-C12	14.00
VI-C13	14.00
VI-C14	14.00
VI-C15	16.50
VI-C16	16.50
VI-C17	16.50
VI-C18	16.50
VI-C19	16.50
VI-C20	16.50
VI-C21	17.50
VI-C22	18.50

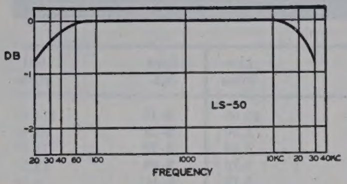
FILTERS AND EQUALIZERS

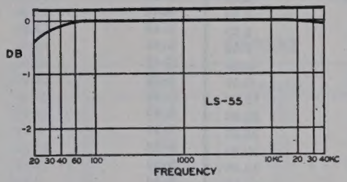
Type No.	Net Price
3A	$125.00
3AX	205.00
4C	185.00
5A	185.00
BPI	35.00
BPL	35.00
HPI	35.00
HPL	35.00
LPI	35.00
LPL	35.00

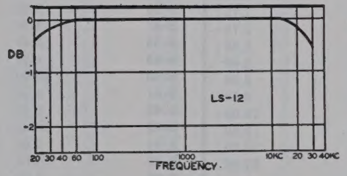
Prices shown are as of May 1949 and are subject to change without notice.

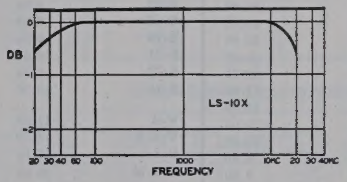
LINEAR STANDARD AUDIO TRANSFORMERS

The ever increasing use of wide range equipment for broadcast service has reached the point where the major limiting factor is the frequency range of the transformers employed. UTC Linear Standard components represent the closest approach to the ideal transformer from the standpoint of uniform frequency response, low wave form distortion, high efficiency, thorough shielding, and dependability.









LINEAR STANDARD AUDIO UNITS FEATURE:

UNIFORM FREQUENCY RESPONSE . . . at low frequencies, is effected through the use of HIPERM-ALLOY, a STABLE nickel iron alloy of very high initial permeability. Uniform high frequency response is the result of multiple section interleaved windings arranged in a semi-toroidal coil structure. This, plus special winding methods and insulations, assures a minimum of distributed capacity and leakage reactance.

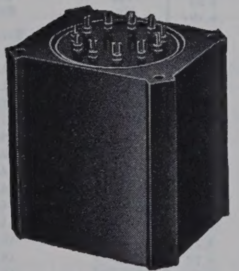
UTC LINEAR STANDARD transformers are the ONLY audio units with a **GUARANTEED** uniform response . . . ± 1. DB from 20 to 20,000 cycles.

MINIMUM HUM PICKUP . . . is accomplished through the use of a hum balanced, semi-toroidal, coil structure which affords maximum neutralization of external fields. In addition, all low level units employ an internal high permeability alloy case as well as the high conductivity outer case for maximum shielding. For very low level applications, units whose code numbers end in X employ quadruple alloy shielding, making possible a transformer with the lowest inductive pickup commercially available.

NEGLIGIBLE WAVE FORM DISTORTION . . . is a function of proper impedance matching, minimum phase shift, and low flux density. These elements have been given great attention in the design of Linear Standard units. It is interesting to note that an output transformer reasonably flat from 20 to 20,000 cycles may show serious distortion at 30 and 10,000 cycles. For this reason, UTC high level units have a frequency range better than guaranteed value in some instances up to 50,000 cycles.

MULTIPLE TAP WINDINGS . . . make possible a wide combination of impedance terminations without impairing fidelity or efficiency. Precision winding methods result in winding accuracy of .1% . . . perfect balance of inductance and capacity . . . exact impedance reflection. For all practical uses, 500 ohm termination may be used for 600 ohm requirements. For maximum efficiency and balance, 250 ohm lines are recommended to be connected to 200 ohm terminations.

DEPENDABILITY . . . is a function of external and internal structure. Linear Standard units are housed in rugged die cast cases of precise dimension with reversible mounting to permit above chassis or subchassis wiring. The solid terminal posts on low absorption bakelite are arranged in a circular layout so that a round chassis hole will clear all terminals. Coils are vacuum baked and impregnated. Semi-hermetic sealing is accomplished through the use of a high adhesion compound poured through the large opening opposite the terminal board after controlled preheating of the unit for full compound penetration.



LS-1 CASE

Length	3⅛"
Width	2⅝"
Height	3¼"
Mounting	1¹⁵⁄₁₆" x 2⁷⁄₁₆"
Screws	6-32
Cutout	1⅞" dia.
Unit Weight	3 lbs.

LOW IMPEDANCE TO GRID TRANSFORMERS

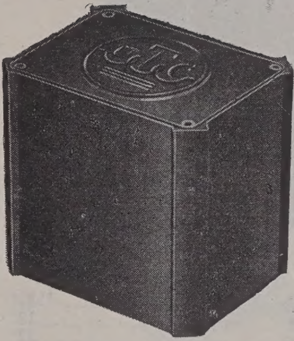
Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. Level	Relative* hum-pickup reduction	Max. Unbalanced DC in prim'y	Case No.
LS-10	Low impedance mike, pickup, or multiple line to grid	50, 125/150, 200, 250, 333, 500/600 ohms	60,000 ohms in two sections	20-20,000	+15 DB	—74 DB	5 MA	LS-1
LS-10X	As above.	As above	50,000 ohms	20-20,000	+14 DB	—92 DB-Q	5 MA	LS-1
LS-12	Low impedance mike, pickup, or multiple line to push pull grids	50, 125/150, 200, 250, 333, 500/600 ohms	120,000 ohms overall, in two sections	20-20,000	+15 DB	—74 DB	5 MA	LS-1
LS-12X	As above	As above	80,000 ohms overall, in two sections	20-20,000	+14 DB	—92 DB-Q	5 MA	LS-1
LS-14	Low impedance mike, pickup or parallel mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	60,000 ohms in two sections	20-20,000	+15 DB	—74 DB	5 MA	LS-1
LS-14X	As above	As above	50,000 ohms	20-20,000	+14 DB	—92 DB-Q	5 MA	LS-1
LS-15	Three isolated lines or pads to one or two grids	30, 50, 200, 250 ohms each primary	60,000 ohms overall, in two sections	20-20,000	+15 DB	—74 DB	5 MA	LS-1
LS-15X	As above	As above	As above	20-20,000	+14 DB	—92 DB-Q	5 MA	LS-1
LS-18	High level multiple line to push pull grids	50, 125/150, 200, 250, 333, 500/600 ohms	50,000 ohms overall, in two sections	20-20,000	+30 DB	—50 DB	5 MA	LS-2
LS-26	Bridging line to single or push pull grids	5,000 ohms	60,000 ohms in two sections	15-20,000	+20 DB	—74 DB	0	LS-1

The values of unbalanced DC shown will effect approximately 1.5 DB loss at 30 cycles.
* Comparison of hum balanced unit with magnetic shielding to normal uncased type.
Q Quadruple alloy magnetic shield.

(Refer to Page N-37 for UTC Prices)

INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. Level	Relative* hum-pickup reduction	Max. Unbal-anced DC in prim'y	Case No.
LS-19	Single plate to push pull grids like 2A3, 6L6, 300A. Split secondary	15,000 ohms	95,000 ohms; 1.25:1 each side	20-20,000	+17 DB	—50 DB	0 MA	LS-1
LS-20	Single plate to single grid	15,000 ohms	60,000 ohms; 2:1 turn ratio	20-20,000	+14 DB	—74 DB	0 MA	LS-1
LS-21	Single plate to push pull grids. Split primary and secondary	15,000 ohms	135,000 ohms; turn ratio 3:1 overall	20-20,000	+14 DB	—74 DB	0 MA	LS 1
LS-40	Single plate to push pull grids. Split secondary	15,000 ohms	135,000 ohms; turn ratio 3:1 overall	30-20.000	+20 DB	—74 DB	8 MA	LS-1
LS-22	Push pull plates to push pull grids. Split primary and secondary	30,000 ohms plate to plate	80,000 ohms; turn ratio 1.6:1 overall	20-20,000	+26 DB	—50 DB	.25 MA	LS 2
LS-25	Push pull plates to push pull grids. Medium level. Split primary and secondary	30,000 ohms plate to plate	50,000 ohms; turn ratio 1.3:1 overall	20-20,000	+17 DB	—74 DB	1 MA	LS-1
LS-26	Bridging line to 1 or 2 grids	5000	60,000 in two sections	15-20,000	+20 DB	—74 DB	0	LS 1

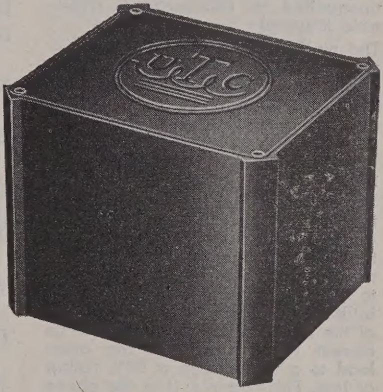


LS-2 CASE

Length	4 7/16"
Width	3 1/2"
Height	4 3/16"
Mounting	2 11/16" x 3 11/16"
Screws	8-32
Cutout	2 3/4" dia.
Unit Weight	7.5 lbs.

MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. Level	Relative* hum-pickup reduction	Max. Unbal-anced DC in prim'y	Case No.
LS-30	Mixing, low impedance mike, pickup, or multiple line to multiple line	50, 125/150, 200, 250, 333, 500/600 ohms	50, 125, 200, 250, 333, 500/600 ohms	20-20,000	+17 DB	—74 DB	5 MA	LS-1
LS-30X	As above	As above	As above	20-20,000	+15 DB	—92 DB-Q	3 MA	LS-1
LS-31	Three isolated lines or pads to multiple line	30, 50, 200, 250 ohms each primary	50, 125/150, 200, 250, 333, 500/600 ohms	20-20,000	+15 DB	—74 DB	5 MA	LS-1
LS-31X	As above	As above	As above	20-20,000	+14 DB	—92 DB-Q	3 MA	LS-1
LS-32	Mixing, low impedance mike, pickup, or parallel mixer to multiple line	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	20-20,000	+15 DB	—74 DB	5 MA	LS-1



LS-3 CASE

Length	5 13/16"
Width	5"
Height	4 11/16"
Mounting	4 3/16" x 5 1/32"
Screws	10-3
Cutout	3 3/4" dia.
Unit Weight	15 lbs.

PLATE, CRYSTAL, PHOTOCELL, AND BRIDGING TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. Level	Relative* hum-pickup reduction	Max. Unbal-anced DC in prim'y	Case No.
LS-27	Single plate to multiple line	15,000 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	30-12,000 cycles	+20 DB	—74 DB	8 MA	LS-1
LS-50	Single plate to multiple line	15,000 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	20-20,000	+17 DB	—74 DB	0 MA	LS-1
LS-51	Push pull low level plates to multiple line	30,000 ohms plate to plate	50, 125/150, 200, 250, 333, 500/600 ohms	20-20,000	+20 DB	—74 DB	1 MA	LS-1
LS-38	Crystal microphone pickup to multiple line, with internal equalizer	100,000 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	Equalized for crystal	+14 DB	—74 DB	0 MA	LS-1
LS-39	Photocell, high-mu triode, diode or overbiased detector to multiple line	100,000 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	20-20,000	+14 DB	—74 DB	0 MA	LS-1
LS-150	Bridging transformer from 50 to 500 ohm line to line	4,000 ohms, bridging	50, 125/150, 200, 250, 333, 500/600 ohms	15-30,000	+20 DB	—74 DB	1 MA	LS-1
LS-151	Bridging transformer from 50 to 500 ohm line to line	16,000 ohms, bridging	50, 125/150, 200, 250, 333, 500/600 ohms	15-30,000	+22 DB	—74 DB	1 MA	LS-1

SPECIAL LS UNITS

Custom built LS units are available for any frequency from ½ cycle to 300 Kc. and for levels from —160 DB to 100 Kw. One of the many unusual LS designs is described below.

HYBRID AND REPEAT COILS

Type No.	Application	Pri. and Sec. Impedances	± 1 db from	Max. Level	Hum* Reduction	Max. Unbalanced DC in prim'y	Case No.
LS-140	Line to line for isolating balanced and unbalanced circuits; balanced for maximum reduction cross talk (70 DB)	500/600 ohms split 500/600 ohms split	30-20,000	+10 DB	—92 DB Quadruple alloy shield	0 MA	LS-1
LS-141	Three sets of balanced windings for hybrid service, centertapped	500/600 ohms 500/600 ohms	30-15,000	+10 DB	—74 DB	0 MA	LS-1
LS-142	Line to line and to push pull grids for hybrid service	500/600 ohms 500/600 ohms 60,000 ohms	30-15,000	+10 DB	—74 DB	0 MA	LS-1
LS-143	High efficiency ring and talk repeat coil, for low frequency ringing	500/600 ohms 500/600 ohms	Efficient 15/12,000 cycles	+25 DB	—74 DB	5 MA	LS-2

BOLOMETER TRANSFORMER

Frequency Range
½ cycle to 20 cycles
Primary Impedance..........10 ohms C. T.
Secondary Impedance
.75 megohms C. T.
Secondary Impedance
.75 meghenries
Shielding..........for —160 DB operation
Case..........RC-112 (See pg. N-48)
Type D-1515..........Net Price $80.00

(Refer to Page N-37 for UTC Prices)

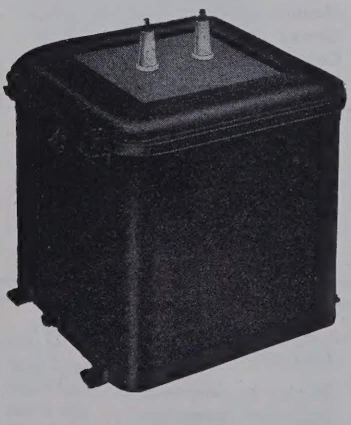
LS-6 CASE

Length	15¾"
Width	13"
Height	22"
Mounting	7⅜" x 14 5/16"
Mounting Hole	⅜" dia.
Unit Weight	350 lbs.

OUTPUT TRANSFORMERS

Linear Standard output and matching transformers employ large cores of high permeability steel and precisely balanced, highly interleaved coil structures. The frequency response and harmonic distortion are unequalled in commercially available material.

The multiple tap windings afford a wide range of impedances for every application. The impedance values given are for one load. Where it is desired to feed two loads simultaneously, with equal power, it is necessary to connect the loads to terminations of half the impedance value. For example, if it is desired to split the output between a 500 ohm line and a 15 ohm voice coil, connect the the 500 ohm line to 250 ohm termination and the 15 ohm speaker to the 7.5 ohm termination. If the bulk of the output is desired in one of the loads, connect this load to its correct termination and the other load to a termination of 20% rating or less. For example, if in the above case, the speaker were used solely for monitoring, connect 500 ohm line to 500 ohm termination and 15 ohm voice coil to 2.5 ohm termination.



LS-7 CASE

Length	20⅜"
Width	17¾"
Height	26"
Mounting	11⅝" x 19⅜"
Mounting Hole	⅜" dia.
Unit Weight	500 lbs.

DRIVER TRANSFORMERS

Type No.	Application	Primary Impedance	Reflected Secondary Impedance	± 1 db from	Max. Level	Max. Unbalanced DC In Primary	Case No.
LS-5	Driver, multiple line to class B 838's, 805's, ZB-120's, 203A's and similar tubes	50, 125, 200, 250, 333, 500/600 ohms	2,000 ohms; 1:2 overall turns ratio	20-20 000	+36 DB	5 MA	LS-2
LS-6	Driver, push pull 45's, 59's, 2A3's, 6A5G's, etc., to push pull 845 or 211D grids	5,000 ohms plate to plate	2.25 primary impedance; turns ratio 1.5:1 overall	20-20,000	+33 DB	5 MA	LS-2
LS-7	Push pull 56, 6C5 or similar plates to A prime 45's, 42's, 6F6's, 2A3's, 6L6's	30,000 ohms plate to plate	.45 primary impedance turn ratio 1.5:1 Pri. to Sec.	20-20,000	+25 DB	1 MA	LS-2
LS-47	Driver from push pull 2A3's, 6A5G's, or 300A's to class B 838's, 203A's, 805's, or ZB120's	5,000 ohms plate to plate	.1 pri. impedance turns ratio., Pri./½ Sec. 3.2:1	20-20,000	+33 DB	5 MA	LS-2
LS-48	Driver transformer push pull 845's to 204 or 849 grids in class B.	12,000 ohms plate to plate	.038 pri. impedance turns ratio, Pri./½ Sec. 5.1:1	20-20,000	+42 DB	15 MA	LS-3
LS-49	Push pull parallel 2A3, 6A5G, or 300A tubes to four 838, 203A, 805, or ZB120 tubes.	2,500 ohms plate to plate	Ratio Pri./½ Sec. 4:1 and 2.5:1	20-20,000	+39 DB	10 MA	LS-3

OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

Type No.	Primary will match following typical tubes	Primary Impedance	Secondary Impedance	*±.2 db from	Max. Level	Case No.
LS-52	Push pull 245, 250, 6V6, 42 or 2A5 A prime	8,000 ohms	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	15 watts	LS-2
LS-54	Same as above	8,000 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	15 watts	LS-2
LS-55	Push pull 2A3's, 6A5G's, 300A's, 275A's, 6A3's, 6L6's	5,000 ohms plate to plate and 3,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20 000	20 watts	LS-2
LS-57	Same as above	5,000 ohms plate to plate and 3,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20 000	20 watts	LS-2
LS-58	Push pull parallel 2A3's, 6A5G's, 300A's, 6A3's	2,500 ohms plate to plate and 1,500 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	40 watts	LS-3
LS-60A	Push pull 2A3's, 6A3's, 6B4G's fixed bias, cathode follower drive	4,600 ohms plate to plate	15, 10, 7.5, 5, 3.75, 2.5, 1.2	20-20,000	30 watts	LS-3
LS-62A	Same as above	As above	500, 125	20-20,000	30 watts	LS-3
LS-61	Push pull 6B5, 6A6, 53, 6F6, 71A, 59, 79, 89, class B46, 59's	10,000 ohms plate to plate and 6,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	15 watts	LS-2
LS-63	Same as above	10,000 ohms plate to plate and 6,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	15 watts	LS-2
LS-6L1	Push pull 6L6's self bias AB1	9,000 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	30 watts	LS-3
LS-6L3	Same as above	9,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	30 watts	LS-3
LS-6L4	Push pull 6L6's fixed bias or push pull parallel 6L6's self bias	3,800 ohms plate to plate and 4,500 ohms plate to plate	500, 333, 250, 200, 125, 50, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	55 watts	LS-3

*Note: Actual frequency response is 10.-50,000 cycles. Values shown indicate recommended range for minimum distortion.

OUTPUT TRANSFORMERS TO HIGH IMPEDANCE (RF) LOAD

Type No.	Primary will match following typical tubes	Primary Impedance	Secondary Impedance	*±.4 db from	Max. Level	Case No.
LS-56	Push pull 2A3's, 6A5G's, 300A's, 275A's, 6A3's	5,000 ohms plate to plate and 3,000 ohms plate to plate	6000, 5000, 4000, 1800, 1500, 1000, 30, 20, 15, 10, 7.5, 5, 2.5, 1.2	25-20,000	20 watts	LS-2
LS-66	Class B 203A, 838, ZB120, 805	9,000 ohms plate to plate	5000, 4200, 4100, 3500, 3300, 2650, 2500, 2100, 1250, 600	25-20,000	260 watts	See chart next page
LS-67	Class B 203A, 838, ZB120, 805	9,000 and 6900 ohms plate to plate	10000, 2500	25-20,000	260 watts	See chart next page
LS-691	Class B 849, 833, 250TH	10,400 ohms plate to plate	4500, 4000, 3500, 2750, 2000	25-20,000	1000 watts	LS-6
LS-692	Class B push pull parallel 833's	3,650 ohms plate to plate	2500, 2000, 1750, 1500, 1250	25-20,000	2500 watts	LS-7
LS-693	To specifications			25-20,000	5000 watts	Spec.

HIGH LEVEL MATCHING TRANSFORMERS

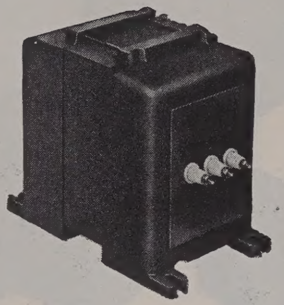
Type No.	Application	Primary Impedance	Secondary Impedance	*±.2 db from	Max. Level	Case No.
LS-33	High level line matching	50, 125, 200, 250, 333, 500/600 ohms	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500/600	20-20 000	15 watts	LS-2
LS-34	High level line matching	50, 125, 200, 250, 333, 500/600 ohms	1.2, 2.5, 5, 7.5, 10, 15, 20, 30, 50, 125, 200, 250, 333, 500/600	20-20,000	30 watts	LS-3

LINEAR STANDARD POWER EQUIPMENT

In choosing power components for broadcast and commercial equipment, the first factor to be considered is dependability. Linear standard power components are very conservatively designed for maximum reliability. Designs provide for low temperature rise 40°, and high insulation safety factors. Only the finest of materials and workmanship are used throughout.

The low power components of the Linear Standard series are housed in the familiar rectangular LS case with top or bottom mounting facilities. High power components are housed in end castings which completely protect the winding, while directly exposing the laminations for maximum heat transfer.

All units have a deep grey finish to obtain the highest heat radiation co-efficient. Large components (up to 250 KVA) are housed in oil tanks.



DIMENSION CHART

Type No.	L	W	H	Mtg.	Wt.
LS-66	9¾	4¾	6¾	3⅞x 9⅛	37
LS-67	9¾	4¾	6¾	3⅞x 9⅛	37
LS-73	9½	4¾	6¾	3⅞x 8⅞	34
LS-83	8¾	4¾	6¾	3⅞x 8⅛	25
LS-89A	9⅝	7	9	6 x 8⅝	68
LS-96	10¼	4¾	6¾	3⅞x 9⅝	40
LS-99	14⅛	8½	10¼	7¼x13⅛	80
LS-102	9¾	4¾	6¾	3⅞x 9⅛	37
LS-103	13⅛	8½	10¼	7¼x12⅛	58
LS-104A	16½″ High—LS-7 Case				500
LS-105	13⅛	8½	10¼	7¼x12⅛	58
LS-121Y	8¼	3¾	5⅛	3x7-13/16	23
LS-181	9¾	4¾	6¾	3⅞x 9⅛	37
LS-182	10¾	4¾	6¾	3⅞x10⅛	45
LS-183	15½	10	13¼	8½x14½	70
LS-184	17¼	10	13¼	8½x16¼	102
LS-185	23	10	13¼	8½x22	230

PLATE TRANSFORMERS

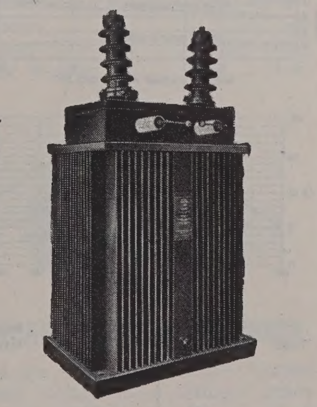
Type No.	Application	Primary Voltage 50/60 cycles	High Voltage	Approximate DC Voltage Out of Filter	DC Current
LS-181	For push pull 845, 800, etc.	100, 110, 120, 220, 230, 240	1500-1250-0-1250-1500	1250-1050	200 MA
LS-182	Class B 203, 838, ZB120, etc.	100, 110, 120, 220, 230, 240	1500-1250-0-1250-1500	1250-1050	350 MA
LS-183	Class B 805 or push pull parallel 203A's, etc.	100, 110, 120, 220, 230, 240	1750-1500-0-1500-1750	1500-1250	400 MA
LS-184	Class B 204A, 849, HF200, HF300, 250TH, HK354, 100TH, etc.	100, 110, 120, 220, 230, 240	3500-3000-2500-0-2500-3000-3500	3000-2500-2100	500 MA
LS-185	For combined class B and class C stages as above	100, 110, 120, 220, 230, 240	3500-3000-2500-0-2500-3000-3500	3000-2500-2100	1.2 amp.

COMBINED PLATE AND FILAMENT TRANSFORMERS

Type No.	Application	Primary Voltage 50/60 cycles	High Voltage	Filament Windings	Case No.
LS-180	For pre-amplifier service	110	225-0-225 15 MA	6.3 V.C.T.-2A 6.3 V.C.T.-.5A	LS-1
LS-180H	Same as above but in hum-balanced construction (dual coils symmetrically arranged to neutralize stray fluxes)				LS-1
LS-190	Low power amplifier and receiver service	100, 105, 110, 115, 120, 125	350-300-0-300-350 125 MA	5 V.C.T.-3A 2.5 V.C.T.-6A 6.3 V.C.T.-3A	LS-3
LS-70	High power amplifier service	100, 105, 110, 115, 120, 125	425-375-0-375-425 200 MA 70-0-70 50 MA	5 V.C.T.-3A 5 V.C.T.-2A 2.5 V.C.T.-10A 6.3 V.C.T.-1A 6.3 V.C.T.-3A	LS-3
LS-72	For fixed or self bias 6L6's, 300A's	100, 105, 110, 115, 120, 125	525-450-0-450-525 250 MA 70-0-70 50 MA	5 V.C.T.-3A 2.5 V.C.T.-3A 2.5 V.C.T.-3A 6.3 V.C.T.-1A 6.3 V.C.T.-3A tapped at 5 V.C.T.-6A	LS-3
LS-73	For push pull parallel 6L6's, 300A's, 2A3's	100, 105, 110, 115, 120, 125	500-400-0-400-500 500 MA 70-0-70 50 MA	5 V.C.T.-6A 2.5 V.C.T.-10A 2.5 V.C.T.-3A 6.3 V.C.T.-4A 6.3 V.C.T.-6A tapped at 5 V.C.T.-6A	See chart above, right

FILAMENT TRANSFORMERS

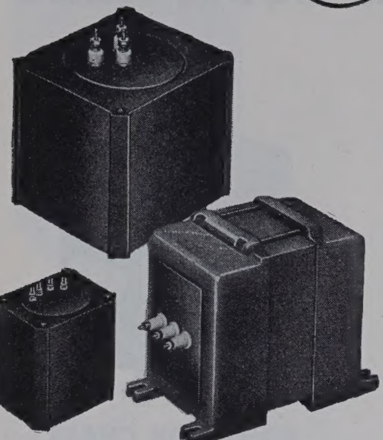
Type No.	Application	Primary Voltage 50/60 cycles	Secondary Voltage	Insulation Test Voltage	Case No.
LS-80	866 rectifiers	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A	10,000	LS-3
LS-82	872 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-20A	12,000	LS-3
LS-84	203A, 845, etc. HF200, HF300	100, 110, 120, 220, 230, 240	10 V.C.T.-8A	10,000	LS-3
LS-88	6.3 volt tubes	105, 115, 125	6.3 V.C.T.-2A	2,500	LS-1
LS-120	866 Bridge rectifier	100, 110, 120, 220, 230, 240	2.5 V.C.T.-10A 2.5 V.C.T.-5A 2.5 V.C.T.-5A	12,000	LS-3
LS-121Y	872 Bridge rectifier	100, 110, 120, 220, 230, 240	5 V.C.T.-20A 5 V.C.T.-10A 5 V.C.T.-10A	12,000	See chart
LS-83	872A, 575 or 869 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-20A	35,000	See chart
LS-89A	Three 869 rectifiers	100, 110, 120, 220, 230, 240	5 V.C.T.-60A	35,000	See chart



A considerable number of power supply applications require special components. These can be made to your specifications. The filter choke illustrated (for a 100 KW broadcast transmitter) is typical of the high power custom LS components.

LINEAR STANDARD FILTER, SWINGING, AND AUDIO CHOKES

(Inductance values are at D.C. current shown)



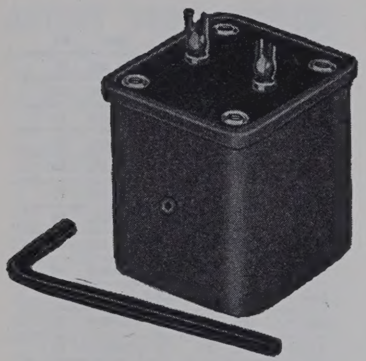
Type No.	Application	Inductance	DC Current	DC Resistance	Insulation Test Voltage	Case No.
LS-90	Filter choke with hum bucking tap	Series-50 hy Parallel-12.5 hy	50 MA 100 MA	510 ohms 128 ohms	2000	LS-2
LS-91	Filter choke with hum bucking tap	Series-14 hy Parallel-3.5 hy	125 MA 250 MA	200 ohms 50 ohms	2000	LS-2
LS-92	Filter choke with hum bucking tap	Series-16 hy Parallel-4 hy	175 MA 350 MA	96 ohms 24 ohms	2500	LS-3
LS-93	Filter choke with hum bucking tap	Series-26 hy Parallel-6.25 hy	200 MA 400 MA	112 ohms 28 ohms	3500	LS-3
LS-94	Parallel feed and filter choke	Series-320 hy Parallel-80 hy	3 MA 6 MA	6400 ohms 1600 ohms	1500	LS-1
LS-950	Filter choke with hum bucking tap	Series-100 hy Parallel-25 hy	35 MA 70 MA	1000 ohms 200 ohms	1500	LS-2
LS-96	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	500 MA 1 amp	90 ohms 22.5 ohms	7500	*
LS-980	Filter choke with hum bucking tap	Series-14 hy Parallel-3.5 hy	400 MA 800 MA	100 ohms 25 ohms	5000	LS-3
LS-98	Swinging choke	8-40 hy	400 MA	90 ohms	5000	LS-3
LS-99	Filter choke with hum bucking tap	Series-20 hy Parallel-5 hy	1 amp 2 amp	50 ohms 12.5 ohms	10000	*
LS-105	Swinging choke	8-40 hy	1 amp	50 ohms	10000	*

* See chart on preceding page.

MODULATION REACTORS

Type No.	Application	Inductance	DC Current	DC Resistance	Insulation Test Voltage	Case No.
LS-102	Modulation reactor	50 hy	350 MA	250 ohms	5000	*
LS-103	Modulation reactor	50 hy	500 MA	175 ohms	7500	*
LS-104A	Modulation reactor	50 hy	1.3 amp	75 ohms	20000	*
LS-106	Modulation reactor	50 hy	750 MA	120 ohms	10000	Special

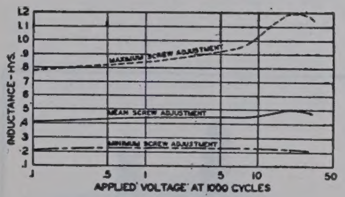
* See chart on preceding page.

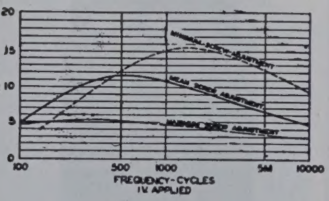


UTC
VARIABLE INDUCTORS

UTC type VIC variable inductors offer a revolutionary approach to the problem of tuned audio circuits. By adjusting a set screw in the side of the case, an inductance value of +90%, —50% from mean value is obtainable. Setting is positive. Effective Q for a wide frequency range and variation of inductance with applied AC voltage are shown on the illustrated curves, for a typical VIC unit.

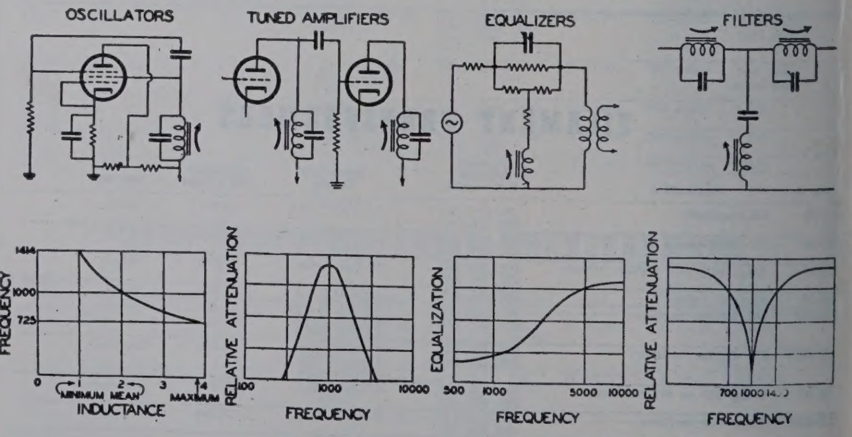
The VIC inductor is housed in a rugged die cast case 1$\frac{11}{32}$" long, 1¼" wide and 1$\frac{7}{16}$" high with mounting centers on terminal board side $\frac{13}{16}$" by $\frac{29}{32}$". Weight is 5½ oz.



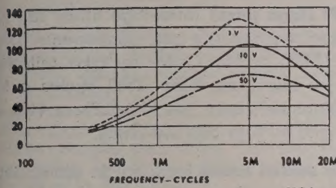


Type	Mean Hys	Type	Mean Hys.
VI-C1	.0085	VI-C12	1.3
VI-C2	.013	VI-C13	2.2
VI-C3	.021	VI-C14	3.4
VI-C4	.034	VI-C15	5.4
VI-C5	.053	VI-C16	8.5
VI-C6	.084	VI-C17	13.
VI-C7	.13	VI-C18	21.
VI-C8	.21	VI-C19	33.
VI-C9	.34	VI-C20	52.
VI-C10	.54	VI-C21	83.
VI-C11	.85	VI-C22	130.

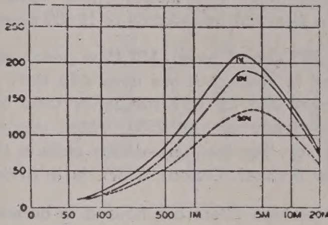
TYPICAL VIC APPLICATIONS



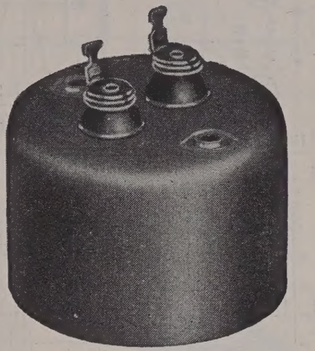
UTC HIGH Q TOROID INDUCTORS



HQA

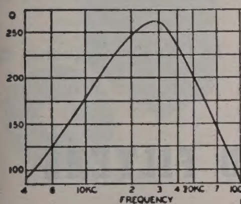


HQB

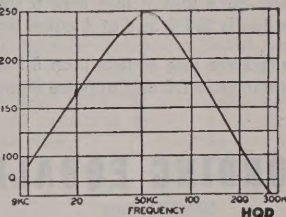


HQA, HQC, HQD CASE

Diameter	1$\frac{13}{16}$"
Height	1$\frac{3}{16}$"
Mounting	1$\frac{1}{8}$"
Screws	6-32
Cutout	$\frac{9}{16}$" x 1$\frac{3}{16}$"
Weight	5 oz.



HQC



HQD

HQB CASE

Length	2$\frac{5}{8}$"
Width	1$\frac{5}{8}$"
Height	2$\frac{1}{2}$"
Mounting	1$\frac{11}{64}$" x 2$\frac{11}{64}$"
Screws	6-32
Cutout	$\frac{9}{16}$" x 1$\frac{1}{8}$"
Unit Weight	14 oz.

Type No.	Inductance Value	*DC MA Max.
HQA-1	5 mhy.	400
HQA-2	12.5 mhy.	260
HQA-3	20 mhy.	200
HQA-4	30 mhy.	160
HQA-5	50 mhy.	130
HQA-6	80 mhy.	100
HQA-7	125 mhy.	85
HQA-8	200 mhy.	65
HQA-9	300 mhy.	50
HQA-10	.5 hy.	40
HQA-11	.75 hy.	35
HQA-12	1.25 hy.	26
HQA-13	2. hy.	20
HQA-14	3. hy.	16
HQA-15	5. hy.	13
HQA-16	7.5 hy.	10
HQA-17	10. hy.	9
HQA-18	15. hy.	8
HQB-1	10 mhy.	410
HQB-2	30 mhy.	240
HQB-3	70 mhy.	170
HQB-4	120 mhy.	120
HQB-5	.5 hy.	60
HQB-6	1. hy.	41
HQB-7	2. hy.	30
HQB-8	3.5 hy.	22
HQB-9	7.5 hy.	16
HQB-10	12. hy.	11
HQB-11	18. hy.	9
HQB-12	25. hy.	8
HQC-1	1 mhy.	
HQC-2	2.5 mhy.	
HQC-3	5 mhy.	
HQC-4	10 mhy.	
HQC-5	20 mhy.	
HQD-1	.4 mhy.	
HQD-2	.1 mhy.	
HQD-3	2.5 mhy.	
HQD-4	5 mhy.	
HQD-5	15 mhy.	

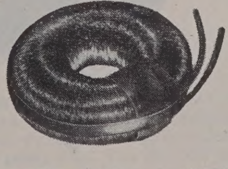
There are many applications in the audio, carrier, and supersonic fields requiring inductors of high Q and great stability. The HQ series of permalloy dust toroid units developed for these applications have remarkable characteristics.

HQA coils have maximum Q (100) at approximately 5,000 cycles. **HQB** coils have maximum Q (200) at approximately 4,000 cycles. **HQC** coils have maximum Q (200) at approximately 30 Kc. **HQD** coils have maximum Q (200) at approximately 60 Kc. The stability is excellent and types are available for all high Q applications from 300 cycles to 300 Kc.

Stability is excellent. For the HQA-7 coil illustrated inductance change is less than 1% for applied voltages from .1 to 25 volts. For the HQB-5 coil illustrated the inductance change is less than 1% for applied voltage from .1 to 50 volts. DC is permissible through the coil. Inductance is virtually independent of frequency, temperature, and vibration.

Hum pickup is extremely low due to the toroidal winding structure . . . 70 microvolts per gauss for the HQA, 140 microvolts per gauss for the HQB. The cased toroid structure permits close spacing of units, effecting a coupling attenuation of approximately 80 DB.

All HQ coils are hermetically sealed. Units are laboratory adjusted to 1% tolerance.



UNCASED HIGH Q TOROIDS

We can supply any of the Toroids listed without case. Deduct $1.50. Specify type and inductance value when ordering.

SPECIAL TOROIDS

Sizes other than those shown in our stock list can be supplied on special order at price of next highest value.

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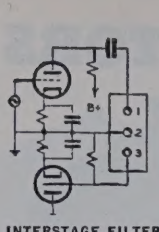
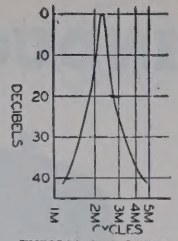
*This value of D.C. will drop the coil inductance 5%. Values of D.C. below this will show proportionately (linear) less inductance drop. For example HQA-8 will drop ½% in L with 6.5MA.

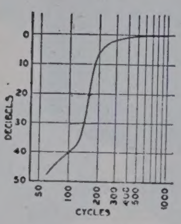
UTC INTERSTAGE FILTERS



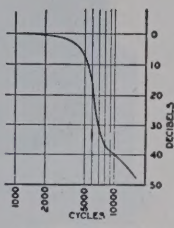
INTERSTAGE FILTER CONNECTIONS



TYPICAL BPI CURVE



TYPICAL HPI CURVE



TYPICAL LPI CURVE

Case for interstage filters same as HQB illustrated on preceding page.

Interstage filters lend themselves to effecting gain simultaneously with their frequency discrimination. UTC manufactures three basic types of filters for such application with a nominal impedance of 10,000 ohms to be used in a circuit as illustrated.

Type **BPI (band pass), LPI (low pass), and HPI (high pass)** interstage filters are not carried in stock, but are available from standardized designs and components. They are available for any frequency from 200 to 10,000 cycles. Order by type followed by frequency as: LPI-2500, which designates a low pass filter—2500 cycles cutoff frequency. For low impedance circuits (500/600 ohms), order as BPL, LPL or HPL in similar manner. Output of BPL is to grid; LPL and HPL to 500/600 ohms.

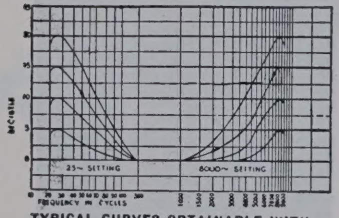
All interstage filters are housed in **hermetically sealed cases** identical in dimensions to HQB, but cutout is 5/8 x 2 inches. Dual alloy shielding reduces hum pickup to 150 MV per gauss at 60 cycles.

BPI units have 2:1 gain. They are sharply peaked, having approximately 2 DB attenuation at plus or minus 3% from mean frequency and attenuations of approximately 40 DB per octave. They are adjusted to zero phase shift at mean frequency.
HPI units have loss of less than 6 DB at cutoff frequency. At .67 cutoff frequency the attenuation is 35 DB and at .5 cutoff frequency, 40 DB.

LPI units have loss of less than 6 DB at cutoff frequency. At 1.5 cutoff frequency the attenuation is 35 DB and at twice cutoff frequency, 40 DB.

BROADCAST AND RECORDING EQUALIZERS AND FILTERS

500/600 ohms

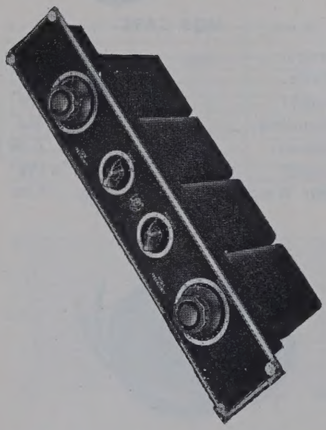


TYPICAL CURVES OBTAINABLE WITH 3A OR 3AX EQUALIZER

3AX UNIVERSAL EQUALIZER

The universal characteristics of the **UTC 3AX** equalizer have made it the most popular item for broadcast and recording equalization. This unique unit, with which most communications engineers are already familiar, is an accurately calibrated, quickly adjustable, combined low and high frequency equalizer. The low frequency controls include a switch for adjusting the maximum equalization frequency to **25, 50, or 100 cycles** and a calibrated T-pad for exact adjustment of the amount of equalization. The high frequency portion of this unit includes a switch to set maximum equalization point at **4000, 6000, 8000, 10,000 or 15,000 cycles,** and a similar calibrated control reading directly in DB. **Equalization up to 25 DB** available at any frequency selected.

Through a unique arrangement of compensating pads, changes in adjustment of the 3AX equalizer do not affect the insertion loss (50 DB). This permits rapid changes in tone color, with negligible change in volume. Where rapid change-over is required in service from one line to another, or from recording to play back, it is merely necessary to predetermine the required setting. The actual adjustment of the controls can be taken care of almost instantaneously. The construction is of the depressed chassis, etched panel, rack mount type. Thoroughly shielded against inductive pickup with UTC Trialloy Shielding. Dimensions of panel 3½" x 19". Depth 7½". Weight 15 lbs.



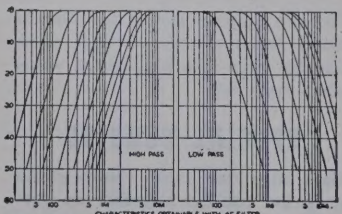
3A UNIVERSAL EQUALIZER

The **3A** equalizer is identical to the 3AX described above, except that it does not incorporate the compensating pads for constant insertion loss. The insertion loss is roughly proportional to the amount of equalization employed. All other characteristics identical with the 3AX unit, this item weighs 10 lbs.

4C SOUND EFFECTS FILTER

The use of filters to obtain unusual sound effects is now finding wide application in broadcast technique. The **Model 4C Filter** was originally developed for one of the large broadcast chains, and is now used extensively by most broadcast stations. Two controls are provided on the 5¼" x 19" panel, which is similar in appearance to the 3AX unit. The weight of the 4C unit is 20 lbs.

The **low pass** switch can be set for cutoff frequencies of **100, 250, 500, 1000, 2000, 3000, 4000, or 5000 cycles.** The **high pass** switch has identical frequency points. The great number of cutoff frequencies provides for a wide latitude of tone control. If desired, though not normally necessary, external potentiometers may be inserted in the circuit for attenuation control.



CHARACTERISTICS OBTAINABLE WITH 4C FILTER

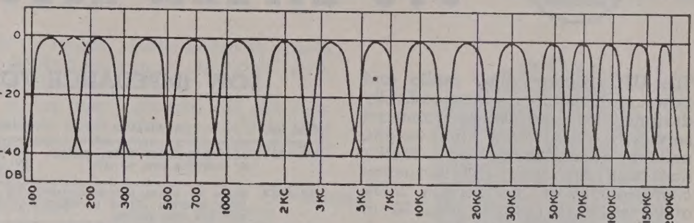
5A BOOST-DROP EQUALIZER

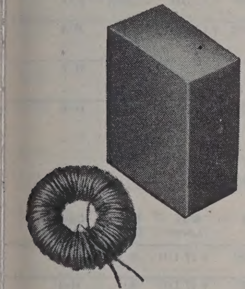
The **5A** equalizer, ideal for recording and reproduction, incorporates the 3A equalizer with control for drooping highs and lows where required. Up to **15 DB** attenuation can be effected at **25, 50, or 100 cycles** for the low end and **4000, 6000, 8000, or 10,000 cycles** for the high end.

UTC CUSTOM TOROID COIL FILTERS

UTC manufactures permalloy dust toroid filters for all applications. The stability of the inductors plus precision adjustment makes these filters ideal for all critical applications in the audio, carrier, and supersonic fields.

The curve illustrated shows a group of filters affording sixteen separate bands in the audio and supersonic region with 35 DB attenuation at the cross-over points. These have also been supplied spaced further apart (40 DB cross-over), with intermediate bands, permitting flat top band pass action for any selected range from 100 cycles to 200 KC.



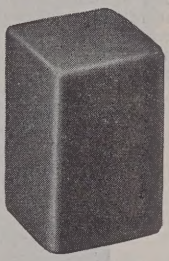


SUB-OUNCER PERMALLOY DUST TOROIDS

Weight ½ ounce uncased .8 ounce hermetically sealed. These miniatured HQE coils have characteristics similar to our standard HQA, C, and D coils with little reduction in Q considering minute size.

SUB-OUNCER TOROID FILTERS

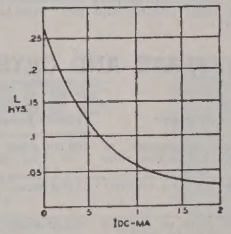
Filters employing SUB-OUNCER toroids and special condensers represent the optimum in stable miniaturized filter performance. The unit shown ... 1 x 1 x 2 ... employs 5 coils and 6 condensers for a complete band pass filter ... weight 6 ounces.

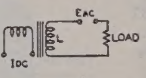


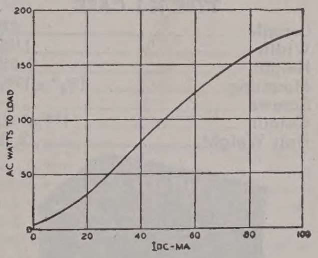
UTC SATURABLE REACTORS

Saturable reactors are used extensively for both power control and phase control. The left curve is that of a small (1" cube) sensitive unit indicating the variation of inductance with saturating DC. The right curve is that of a moderate size power control reactor indicating power to the load with saturating DC.

These units are supplied to customer's specifications only ... for all applications.

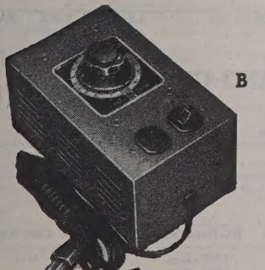






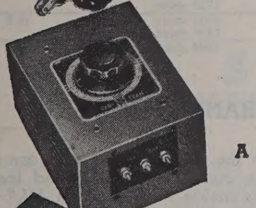
UTC VARITRAN CONTROL UNITS

For controlling: Rectifier output . . . motors . . . heaters . . . lights . . . line voltage



B

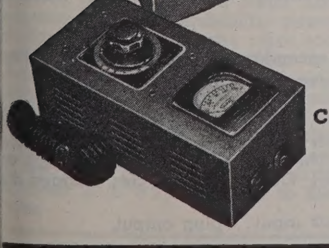
The UTC Varitran is a simple autotransformer whose turns are arranged on one layer with the insulation removed so that every exposed turn may be used as a tap of the winding. A special non-fusing contact can be moved to any position on the winding, permitting the exact voltage desired to be obtained. The regulation and efficiency are excellent and no distortion of wave form occurs. The output voltage is independent of load. In addition to its many laboratory uses, the Varitran is widely employed for controlling electric ovens, fans, soldering irons, furnaces and heaters, for photographic and enlarging lighting control, for life tests of lamps and for dimming illumination.



A

VARITRAN RATINGS

Standard Varitrans are designed for 115 or 230 volt service. The respective output voltages are 0-130 and 0-260 volts. The Varitran autotransformer current and wattage rating is based at 115 volts (115V. models). As the voltage is reduced, the wattage output is reduced correspondingly. The maximum current can be taken at any point from 0 to 20 volts and from 95 to 130 volts. Between 20 and 95 volts the current capacity tapers off from the two ends to approximately 60% of the rated maximum current at the 65 volt point. The mounting facilities are at both top and bottom of each unit to assure ease of mounting on panel, chassis or for laboratory bench service.



C

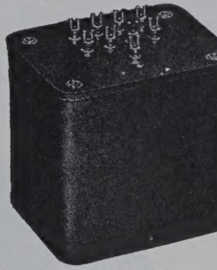
Type	Input Voltage	Output Voltage	Watts	Max. Amps.	Figure	Approx. Dimensions	Weight
V-0	115 volts	0-130	230	2	A	4¼ x 6½ x 4½	10
V-0-B	230 volts	0-260	230	1	A	4¼ x 6½ x 4½	11
V-1	115 volts	0-130	570	5	B	4⅞ x 8 x 3⅝	12
V-1-M	115 volts	0-130	570	5	C	4⅞ x 9⅞ x 3⅝	14
V-2	115 volts	0-130	570	5	A	4⅞ x 7½ x 3¾	13
V-2-B	230 volts	0-260	570	2.5	A	4⅞ x 7½ x 3¾	16
V-3	115 volts	0-130	850	7.5	A	4⅞ x 7½ x 3¾	16
V-3-B	230 volts	0-260	850	3.75	A	5½ x 7½ x 5½	20
V-4	115 volts	0 130	1250	11	A	6¼ x 10¾ x 5	34
V-4-B	230 volts	0-260	1250	5.5	A	6¼ x 10¾ x 5	36

UTC HIPERM ALLOY TRANSFORMERS

The UTC Hiperm alloy audio and power transformers are specifically designed for portable and compact service. While light in weight, neither dependability nor fidelity has been sacrificed. The frequency characteristic of the Hiperm alloy audio units is uniform from 30 to 20,000 cycles. They incorporate a Hiperm-alloy nickel iron core and hum balanced coil structure. The rugged die cast case is of high conductivity alloy finished in grey, arranged for mounting with the terminals either up or down. DC in Prim'y shown is maximum unbalanced.

TYPE H-1 CASE

Length	2⅜"
Width	1 15/16"
Height	3⅛"
Mounting	1⅜" x 1 13/16"
Screws	6-32
Cutout	1 13/16" dia.
Unit Weight	2 lbs.


TYPE H-2 CASE

Length	3 9/16"
Width	2 13/16"
Height	3½"
Mounting	2" x 2¾"
Screws	8-32
Cutout	2 11/16" dia.
Unit Weight	5 lbs.

UTC MICROPHONE CABLE TRANSFORMERS

UTC MIKE/HIGH IMPEDANCE ADAPTOR

LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. Level	DC in Prim'y	Case No.
HA-100	Low impedance mike, pickup, or multiple line to grid	50, 125/150, 200, 250, 333, 500/600 ohms	60,000 ohms in two sections	30-20,000	+15 DB	.5 MA	H-1
HA-100X	Same as above but with tri-alloy internal shield to effect very low hum pickup	as above	as above				H-1
HA-101	Low impedance mike, pickup, or multiple line to push pull grids	50, 125/150, 200, 250, 333, 500/600 ohms	120,000 ohms overall, in two sections	30-20,000	+15 DB	.5 MA	H-1
HA-101X	As above but with tri-alloy internal shield to effect very low hum pickup	as above	80,000 ohms overall, in two sections				H-1
HA-103A	Low impedance mike, pickup, or parallel mixer to grid	2.5, 5.5, 10, 15, 22, 30, 38, 60 ohms	60,000 ohms in two sections	30-20,000	+15 DB	5 MA	H-1
HA-108	Mixing, low impedance mike, pickup, or multiple line	50, 125/150, 200, 250, 333, 500/600 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	30-20,000	+15 DB	.5 MA	H-1
HA-108X	Same as above but with tri-alloy internal shield to effect very low hum pickup						H-1
HA-130X	Three isolated lines or pads to one or two grids with tri-alloy internal shield	30, 50, 200, 250 ohms each primary	60,000 ohms overall, in two sections	30-20,000	+15 DB	.5 MA	H-1

INTERSTAGE AUDIO TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. Level	DC in Prim'y	Case No.
HA-104	Single plate to P.P. grids like 2A3, 59, 6L6 (split secondary)	15,000 ohms	95,000 ohms 1.25:1	30-20,000	+17 DB	0 MA	H-1
HA-105	Single plate to single grid (split secondary)	15,000 ohms	60,000 ohms 2:1 turn ratio	30-20,000	+17 DB	0	H-1
HA-106	Single plate to push pull grids (split secondary)	15,000 ohms	135,000 ohms 3:1 ratio overall	30-20,000	+17 DB	0	H-1
HA-107	Push pull plates to push pull grids (split primary and secondary)	30,000 ohms plate to plate	80,000 ohms 1.6:1 turn ratio overall	30-20,000	+25 DB	.25 MA	H-2
HA-137	Push pull plates to push pull grids (split primary and secondary)	30,000 ohms plate to plate	68,000 ohms 1.5:1 turn ratio overall	30-20,000	+17 DB	0	H-1

PLATE AND CRYSTAL TO LINE TRANSFORMERS

Type No.	Application	Primary Impedance	Secondary Impedance	± 1 db from	Max. Level	DC in Primary	Case No.
HA-111	Crystal microphone or pickup, to multiple line	100,000 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	30-20,000 measured with resistive source	+ 4 DB	0	H-1
HA-113	Single plate to multiple line	15,000 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	30-20,000	+18 DB	0 MA	H-1
HA-133	Single plate to multiple line (D.C. in Pri.)	15,000 ohms	50, 125/150, 200, 250, 333, 500/600 ohms	30-20,000	+18 DB	8 MA	H-1
HA-114	Push pull low level plates to multiple line	30,000 ohms plate to plate	50, 125/150, 200, 250, 333, 500/600 ohms	30-20,000	+20 DB	1 MA	H-1
HA-134	Push pull 89's or 2A3's to line	5,000/9400 ohms plate to plate	50, 125/150, 200, 250, 333, 500/600 ohms	30-20,000	+32 DB	5 MA	H-2
HA-135	Push pull 2A3's to voice coil	5,000 ohms plate to plate	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	30-20,000	+36 DB	5 MA	H-2

POWER TRANSFORMERS AND CHOKES

Type No.	Application	Primary Voltage 50/60 cycles	High Voltage	Filament Windings	Case No.
HP-122	Pre-amp. power supply using 84 rectifier	115	220-0-220 15 MA	6.3 V.C.T.-.5A 6.3 V.C.T.-1.2A	H-1
HP-123	Pre-amp. or tuner power supply using 84 rectifier	115	275-0-275 35 MA	6.3 V.C.T.-.5A 6.3 V.C.T.-2A	H-2

Type No.	Application	Inductance	DC Current	DC Resistance	Insulation Test Voltage	Case No.
HC-115	Parallel feed and filter choke	Series-400 hy Parallel-100 hy	2.5 MA 5 MA	7000 ohms 1750 ohms	1500	H-1
HC-116	Parallel feed and filter choke	Series-600 hy Parallel-150 hy	8 MA 16 MA	4000 ohms 1000 ohms	1500	H-2
HC-117	Filter choke with hum bucking tap	60 hy	15 MA	3000 ohms	1500	H-1

UTC MICROPHONE CABLE TRANSFORMERS

UTC cable transformers are designed to be inserted in the cable circuit, and are ruggedly constructed to withstand mechanical abuse. The cable connections (supplied less cable) are made through spring strain relief to terminal boards inside the end caps. 1½" diameter . . . 2½" long . . . ½ lb.

Type MC-1—primary tapped 30/50 and 200/250 ohms, secondary to grid, standard fidelity.

Type MC-2—primary tapped 30/50 and 200/250 ohms, secondary to grid, high fidelity.

UTC MIKE/HIGH IMPEDANCE ADAPTOR is designed to match low impedance sources to an amplifier having high impedance input. Will match any source from 50 to 600 ohms, effecting a 15:1 step up ratio (225:1 impedance ratio). The plug on MA-1 goes into jack on amplifier . . . the plug from mike goes into jack on MA-1. Flat 40-10,000 cycles. Rugged die casting ⅞ x 1⅛ x 2⅛.

Type MA-1—primary 50 to 500 ohms . . . 15.1 ratio . . . jack input . . . plug output.

(Refer to Page N-37 for UTC Prices)

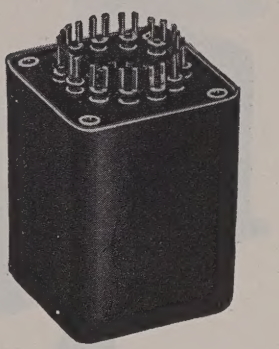
ULTRA COMPACT AUDIO UNITS

The UTC Ultra compact audio units are small and light in weight, ideally suited to remote amplifier and similar compact equipment. High fidelity is obtainable in all individual units, the frequency response being ± 2 DB from 30 to 20,000 cycles.

All units except those carrying DC in Primary employ a true hum balancing coil structure, which combined with a high conductivity outer case, effects good inductive shielding. The die-cast (Type A) case provides for top or bottom mounting. Maximum operating level + 10 DB.

Type No.	Application	Primary Impedance	Secondary Impedance	± 2 db from
A-10	Low impedance mike, pickup, or multiple line to grid	50, 125/150, 200/250, 333, 500/600 ohms	50,000 ohms	30-20,000
A-11	Low impedance mike, pickup, or line to 1 or 2 grids	50, 200, 500	50,000 ohms	50-20,000 multiple alloy shield for extremely low hum pickup
A-12	Low impedance mike, pickup, or multiple line to push pull grids	50, 125/150, 200/250, 333, 500/600 ohms	80,000 ohms overall, in two sections	30-20,000
A-14	Dynamic microphone to one or two grids	30 ohms	50,000 ohms overall, in two sections	30-20,000
A-16	Single plate to single grid	15,000 ohms	60,000 ohms, 2:1 turn ratio	30-20,000
A-18	Single plate to two grids. Split primary, can also be used for P.P. plates	15,000 ohms	80,000 ohms overall, 2.3:1 turn ratio overall	30-20,000
A-19	Single plate to two grids 8 MA unbalanced D.C.	15,000 ohms	80,000 ohms overall, 2.3:1 turn ratio overall	50-20,000
A-20	Mixing, low impedance mike, pickup, or multiple line to multiple line	50, 125/150, 200/250, 333, 500/600 ohms	50, 125/150, 200/250, 333, 500/600 ohms	30-20,000
A-21	Mixing, low impedance mike, pickup or line to line	50, 200/250, 500/600	50, 200/250, 500/600	50-20,000 multiple alloy shield for extremely low hum pickup
A-24	Single plate to multiple line	15,000 ohms	50, 125/150, 200/250, 333, 500/600 ohms	30-20,000
A-25	Single plate to multiple line 8 MA unbalanced D.C.	15,000 ohms	50, 125/150, 200/250, 333, 500/600 ohms	50-20,000
A-26	Push pull low level plates to multiple line	30,000 ohms plate to plate	50, 125/150, 200/250, 333, 500/600 ohms	30-20,000
A-27	Crystal microphone to multiple line	100,000 ohms	50, 125/150, 200/250, 333, 500/600 ohms	30-20,000 measured with non-inductive source
A-30	Audio choke, 300 henrys @ 2 MA 6000 ohms D.C., 75 henrys @ 4 MA 1500 ohms D.C., inductance with no D.C. 450 henrys			

A-31 ORIENTATION MOUNT. Type A-31 adaptor is a unique facility which permits rotating any ultra-compact unit after installation. 360 degrees in the horizontal plane and 40 degrees in the vertical plane can be effected. Consists of die-cast cap which fastens to terminal board side of A unit and incorporates lockable swivel joint which requires one ⅜ hole for mounting.

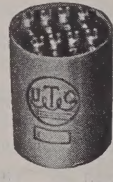


TYPE A CASE

Length	1½"
Width	1½
Height	2"
Mounting	1 5/32" sq.
Screws	4-40
Cutout	1⅜" dia.
Unit Weight	½ lb.

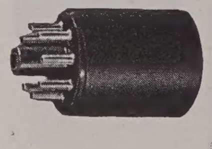
OUNCER AUDIO UNITS

OUNCER Type No.	Application	Pri. Imp.	Sec. Imp.	PLUG-IN Type No.
0-1	Mike, pickup or line to 1 grid	50, 200/250, 500/600	50,000	P-1
0-2	Mike, pickup or line to 2 grids	50, 200/250, 500/600	50,000	P-2
0-3	Dynamic mike to 1 grid	7.5/30	50,000	P-3
0-4	Single plate to 1 grid	15,000	60,000	P-4
0-5	Single plate to 1 grid, D.C. in Pri.	15,000	60,000	P-5
0-6	Single plate to 2 grids	15,000	95,000	P-6
0-7	Single plate to 2 grids, D.C. in Pri.	15,000	95,000	P-7
0-8	Single plate to line	15,000	50, 200/250, 500/600	P-8
0-9	Single plate to line, D.C. in Pri.	15,000	50, 200/250, 500/600	P-9
0-10	Push pull plates to line	30,000 ohms plate to plate	50, 200/250, 500/600	P-10
0-11	Crystal mike or pick-up to line	50,000	50, 200/250, 500/600	P-11
0-12	Mixing and matching	50,200/250	50, 200/250, 500/600	P-12
0-13	Reactor, 200 Hys.—no D.C.; 50 Hys.—2MA. D.C., 6000 ohms			P-13.
0-14	50:1 mike or line to 1 grid	200	½ megohm	P-14
0-15	10:1 single plate to 1 grid	15,000	1 megohm	P-15



OUNCER CASE

Diameter	⅞"
Height	1⅛"
Mounting	11/16"
Screws	2-56



PLUG-IN (P) CASE

Diameter	1 3/32"
Height	1 15/32"
Socket	Standard Octal

UTC OUNCER components represent the acme in compact quality transformers. These units, which weigh one ounce, are fully impregnated and sealed in a drawn aluminum housing ⅞" diameter . . . mounting opposite terminal board.

Ouncer items are ideal for portable broadcast, hearing aid, aircraft, concealed service, and similar applications. High fidelity characteristics are provided, uniform from 40 to 15,000 cycles, except for 0-14, 0-15, and units carrying DC which are intended for voice frequencies from 150 to 4,000 cycles. Maximum operating level 0DB.

"P" series units are identical to the UTC OUNCER units but are sealed in bakelite housings with plug in base to fit standard octal socket. While of submersion proof design, these units weigh but two ounces. Oversize pins in the base make it impossible to dislodge these units from their sockets, even when used upside down in portable equipment.

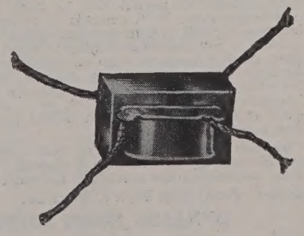
SUBOUNCER UNITS

FOR HEARING AIDS . . . VEST POCKET RADIOS . . . MIDGET DEVICES

TC Sub-Ouncer units weigh only ⅓
unce. Through unique construction,
owever, these miniature units have
erformance and dependability charac-
ristics far superior to any other com-
arable items. The coil is uniform layer
ound of Formex wire . . . On a molded
ylon bobbin . . . insulation is of cellu-
se acetate . . . leads mechanically an-
hored . . . core material Hiperm-alloy
. entire unit triple (waterproof) sealed.
he frequency response of these stand-
rd items is ± 3 DB from 200 to 5,000
ycles.

Type	Application	Level	Pri. Imp.	D.C. in Pri.	Sec. Imp.
SO-1*	Input	+ 4 V.U.	200 50	0	250,000 62,500
SO-2	Interstage/3:1	+ 4 V.U.	10,000	0	90,000
SO-3*	Plate to Line	+ 23 V.U.	10,000 25,000	3 mil. 1.5 mil.	200 500
SO-4	Output	+ 20 V.U.	30,000	1.0 mil.	50
SO-5	Reactor 50 HY at 1 mil. D.C. 3000 ohms D.C. Res.				

* Impedance ratio fixed. Can be employed with any primary impedance between values shown.

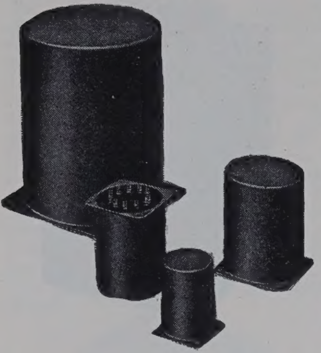


SUB-OUNCER UNIT

Dimensions	9/16" x ⅝" x ⅞"
Weight	⅓ oz.

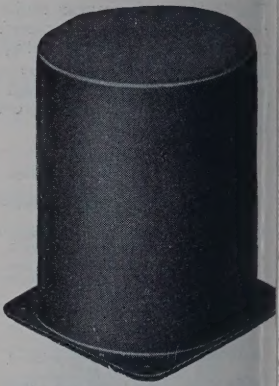
(Refer to Page N-37 for UTC Prices)

UTC COMMERCIAL GRADE COMPONENTS



The commercial grade series of transformers incorporate conservative design and rugged construction to assure dependability under continuous service operation in industrial and commercial grade communication equipment. These units are mounted in uniform drawn cases finished in light grey enamel, and intended for chassis mounting. All items are poured with special sealing compound in addition to vacuum impregnation of coil structures. The CG line was developed to replace our very popular PA series in a more rugged construction, with professional appearance. Type numbers are identical with the PA units except for the prefix "CG".

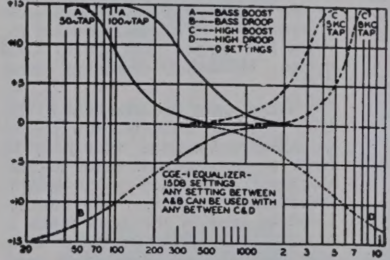
CG-134, 135 and 136 are of the hum-bucking type to assure low hum pick-up. All audio components are linear. ±1½ DB from 60 to 8,500 cycles (no unbalanced D.C.). Parallel feed low level interstage units with 50,000 ohms and .25 mfd. 200 ohm windings on input transformers are balanced and may be used for 250 ohm circuits.



INPUT, INTERSTAGE, MIXING AND LOW LEVEL OUTPUT TRANSFORMERS

(200 ohm windings are balanced and can be used for 250 ohms)

Type No.	Application	Primary Impedance Ohms	Secondary Impedance Ohms	Case No.
CG-131	1 plate to 1 grid	15,000	135,000 3:1 ratio	**RC-50**
CG-132	1 plate to 2 grids	15,000	135,000 centertapped 3:1 ratio overall	**RC-62**
CG-133	2 plates to 2 grids	30,000 P to P	80,000 overall 1.6:1 ratio overall	**RC-75**
CG-134	Line to 1 grid hum-bucking	50, 200, 500	80,000	**RC-50**
CG-135	Line to 2 grids hum-bucking	50, 200, 500	120,000 overall	**RC-50**
CG-235	Line to 1 or 2 grids, hum-bucking; multiple alloy shielded for low hum pickup	50, 200, 500 ohms	80,000 overall	**RC-75**
CG-136	Single plate and low impedance mike or line to 1 or 2 grids, hum-bucking	15,000, 50, 200	80,000 overall	**RC-62**
CG-233	PP 6C5, 56, similar triodes to AB 45's, 2A3's, 6L6's, etc.	30,000 P to P	25,000 overall .9:1 ratio overall	**RC-87**
CG-333	PP 6C5, 56, similar triodes to fixed bias 6L6's	30,000 P to P	7,500 overall .5:1 ratio overall	**RC-87**
CG-433	PP 45, 2A3, similar tubes to fixed bias 2 or 4 6L6's	5,000 P to P	1,250 overall .4:1 ratio overall	**RC-100**
CG-137	Mixing	50, 200, 500	50, 200, 500	**RC-50**
CG-140	Triode plate to line	15,000	50, 200, 500	**RC-50**
CG-141	PP triode plates to line	30,000 P to P	50, 200, 500	**RC-50**



Ask for free detailed manual.

UNIVERSAL INTERSTAGE EQUALIZER

This new UTC unit is the ideal device for any application requiring frequency response correction. Designed to be connected between two triode audio stages or will match a hign impedance (5000 to 30000 ohms) source to grid.

The CGE-1 equalizer is not a simple R-C tone control, but employs resonant circuits to permit low or high end equalization without effecting mid-frequencies. With controls in center, no equalization is effected. Moving one control to left increases bass; to right, drops bass. Moving other control to left increases highs; to right drops highs. Controls are independent so that bass may be raised and highs dropped simultaneously, etc Amount of equalization is continuously adjustable, up to 15 DB. The insertion loss effected is equal to the combined low frequency and high frequency settings plus 6 DB, or a maximum of 36 DB. Unless existent gain of equipment to which CGE-1 is added is high, an additional audio stage may be required.

This unit comes complete so that controls with etched panel (calibrated in DB) can be mounted on a chassis (2½ inch minimum) or a panel with case containing the electrical elements held by etched panel screws.

CGE-1 Panel Dim. 2⅜ x 4. Wt. 2 Lb.

DYNAMIC NOISE SUPPRESSION INDUCTOR

Incorporates two accurate High Q coils (.8 hy. and 2.4 hy.) for use in dynamic noise suppression circuits. Excellent circuit accompanies unit. Type CG-50. RC-75 Case.

COMMERCIAL GRADE CASE

Case No.	Base Dim. (Sq.)	Mounting Dim. (Sq.)	Height	Cutout Dia.	Unit Weight (Lbs.)
RC-50	1⅝	1-5/16	2¼	1½	½
RC-62	1-13/16	1½	2½	1½	¾
RC-75	2-3/16	1-13/16	2⅞	1½	1½
RC-87	2-9/16	2-3/32	3¼	2	2
RC-100	3	2⅜	3¾	2	3
RC-112	3-7/16	2-11/16	4⅛	3	4½
RC-125	3¾	3	4½	3	5½
RC-150	4½	3-9/16	5½	3	10
RC-152	5⅛	4⅛	5½	4	15
RC-175	5¾	4⅞	7⅛	4	20

OUTPUT TRANSFORMERS

Secondary Impedances: 500, 200, 70, 16, 8, 5, 3, 1.5 ohms

Type No.	Imped. P.P. Ohms, Overall	Typical Tubes	Max. Watts	Case No.
CG-15	8,000	45, 48, 6F6 triode	20	**RC-1**
CG-16	3,000/5,000	2A3, 6A3, 48, 6B4	20	**RC-1**
CG-19	6,000/10,000	6N7, 6A6, 6F6, 89, 46, 6V6	20	**RC-1**
CG-710	14,000/20,000	41, 42, 47, 49, 6K6, 7B5	20	**RC-1**
CG-2L6	9,000	6L6's, AB1	30	**RC-1**
CG-4L6	3,800/4,500	2-6L6's, AB1 or 4-6L6's AB1	55	**RC-1**

CG VARIMATCH OUTPUTS FOR P. A.

Universal units designed to match **any tubes** within the rated outp power, to line or voice coil. Output impedance 500 200, 50, 16, 8, 5, 3, 1. ohms. Primary impedance 3000, 5000, 6000, 7000, 8000, 10,000, 14,000 ohm

Case No.	Audio Watts	Typical Tubes	Case No.
CVP-1	12	42, 43, 45, 47, 2A3, 6A6, 6F6, 25L6	**RC-100**
CVP-2	30	42, 45, 2A3, 6L6, 6V6, 6B5	**RC-125**
CVP-3	60	46's, 50's, 300A's, 6L6's, 801, 807	**RC-150**
CVP-4	125	800's, 801's, 807's, 4-6L6's, 845's	**RC-152**
CVP-5	300	211, 242A's, 203A's, 838's, 4-845's, ZB-120's	**RC-175**

CG VARIMATCH LINE TO VOICE COIL TRANSFORMERS

The UTC VARIMATCH line to voice coil transformers will match any voic coil or group of voice coils to a 500 ohm line. More than 50 voice coi combinations can be obtained, as follows:

.2, .4, .5, .62, 1, 1.25, 1.5, 2, 2.5, 3, 3.3, 3.8, 4, 4.5,
5, 5.5, 6, 6.25, 6.6, 7, 7.5, 8, 9, 10, 11, 12, 14, 15,
16, 18, 20, 25, 28, 30, 31, 40, 47, 50, 63, 69, 75.

Where speakers are to be connected in groups to one transformer, it i preferable that parallel connection be used to eliminate the possibility o multiple resonance. If two speakers of different impedances are connecte in parallel, the lower impedance speaker will develop greater power. I connected in series, the higher impedance speaker will develop greate power.

Type No.	Audio Watts	Primary Impedance	Secondary Impedance	Case No.
CVL-1	15	500 ohms	.2 to 75 ohms	**RC-87**
CVL-2	40	500 ohms	.2 to 75 ohms	**RC-125**
CVL-3	75	500 ohms	.2 to 75 ohms	**RC-150**

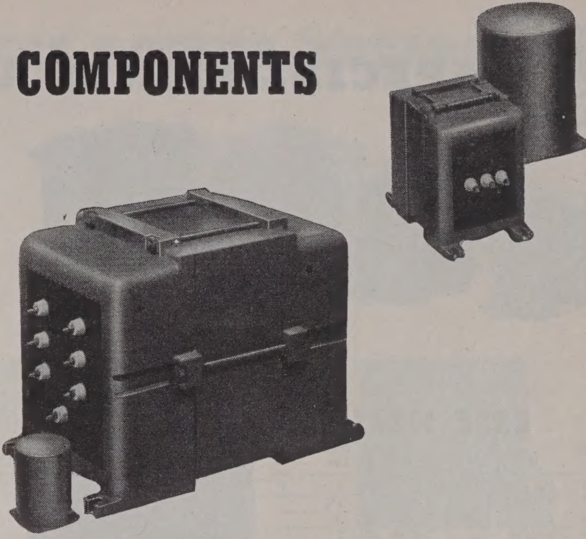
CG VARIMATCH LINE AUTOFORMERS

UTC Varimatch Line Autoformer will match one to ten 500 ohm lines o CGL windings to the 500 ohm output of an audio amplifier. The CGA-1 to 12 autoformers have impedances of 500, 250, 167, 125, 100, 83, 71, 6 50 ohms.

Type No.	Audio Watts	Case No.
CVL-10	15	**RC-87**
CVL-11	30	**RC-125**
CVL-12	60	**RC-150**

(Refer to Page N-37 for UTC Prices)

COMMERCIAL GRADE COMPONENTS



UTC CG power transformers, Varimatch units and chokes are designed to A.I.E.E. commercial standards. Ratings are conservative for continuous duty. Designs provide temperature rise less than 55 degrees C Units are tested for breakdown at twice maximum working voltage plus 1000 volts. Plate transformers are given a surge test of 250% normal voltage at 200 cycles. All items are vacuum impregnated and sealed with special insulating compound.

The conservative design and manufacturing procedure of these units make them suitable for virtually all types of commercial equipment as well as ideally suited for quality amateur and public address service.

CG VARIMATCH MODULATION UNITS

Will match any modulator tubes to any RF load.

The ever increasing number of vacuum tubes available for audio and RF applications has increased the difficulty of obtaining transformers suitable for matching to the various correct tube loads. If a standard transformer having a limited impedance range is purchased and used for a specific purpose as the "nearest thing" available, comparatively high distortion is inevitable. While a 20% mismatch caused by such an occurrence does not represent a serious loss in power, it greatly reduces the undistorted power available from a class B modulator because optimum plate load is not reflected to the tubes. The UTC Varimatch transformer eliminates this difficulty through the use of a combination of tapped windings affording an extremely wide range in impedance matching. Designs provide that for any load impedance employed, full class C plate current can be carried by secondary winding

Primary impedances from 500 to 20,000 ohms
Secondary impedances from 30,000 to 300 ohms

Type No.	Max. Audio Watts	Max. Class C Input	Typical Modulator Tubes	Case No.
CVM-0	12	25	30, 49, 79, 6A6, 53, 2A3, 6B5	RC-100
CVM-1	30	60	6V6, 6B5, 2A3, 42, 46, 6L6, 210	RC-125
CVM-2	60	125	801, 6L6, 809, 4-46, T-20, 1608	RC-150
CVM-3	125	250	800, 807, 845, TZ-20, RK-30, 35-T	RC-152
CVM-4	300	600	50-T, 203A, 805, 838, T-55, ZB-120	RC-175
CVM-5	600	1200	805, HF-300, 204A, HK-354, 250TH	7x12x9H 60 lbs.

CG VARIMATCH DRIVER TRANSFORMERS

Type No.	Primary	Typical Output Tubes	Case No.
CG-51AX	All single tubes like: 6C5, 30, 49, 53, 79, 89, 6A6, 45, 46, 2A3	19, 30, 49, 79, 89, 2A3, 45, 46, 6L6, 42, 59	RC-87
CG-53AX	P. P. tube like: 45, 59, 2A3, 6B5, 6L6	46, 4-46, 841, 210, 801, RK-18, 800, 203A, 838, 805, 50T, 830B	RC-112
CG-59AX	50, 200, 500 ohm line	805, 838, 203A, ZB-120, 100TH, 800, 55T, RK-18	RC-112
CG-238AX	4-2A3, 4-45, 4-50, 2-211A, 2-845	4-805's, 4-838's, 4-203A's, 2-204's, 2-849's, 2-HF300's, 2-HF200's, 2-250TH's, 2-450TH's	RC-150
CG-512	50, 200, 500 ohm line	2-250TH, 2-450TH, 2-HF200, 2-HF300, 2-204A, 2-849	RC-150

VARIPOWER AUTO-FORMERS

Designed for line voltage control, filament control and reduced power operation. Output voltage from 0 to 130 volts, 50/60 cycles. Varipower units permit control of filament voltage at the **tube socket** to within 2½% of desired value simultaneously with line voltage control and plate voltage control. Can be used to reduce or increase voltages on filament transformers. Taps at 25, 55, 75, 95, 100, 105, 110, 115, 120, 125 and 130 volts permit output voltages from 0 to 130 volts in 5 volt steps.

Type No.	Watts Output	Case No.
CVA-1	150	RC-112
CVA-2	250	RC-125
CVA-3	500	RC-150
CVA-4	1000	RC-152
CVA-5	2000	RC-175

POWER AND BIAS TRANSFORMERS

Primary 115 volts 50/60 cycles

Type No.	High Voltage	DC MA.	Fil. 1	Fil. 2	Fil. 3	Fil. 4	Case No.
CG-422	435-365-0-365-435 125-0-125	125 25	5V-3A	5V-2A	6.3 VCT-3A	2.5 VCT-5A	RC-150
CG-428	500-0-500 80-0-80	250 100	5V-3A	5V-2A	6.3 VCT-4A	6.3 VCT-3A, tapped 2.5 VCT-3A	RC-152
CG-429	600-525-0-525-600	250	5V-3A	6.3 VCT-3-A	7.5 VCT-3A, tapped 6.3 VCT-3A		RC-152
CG-431	500-400-0-400-500 80-0-80	500 100	5V-3A	5V-2A	6.3 VCT-5A	6.3 VCT-3A	RC-175
CG-315	Tapped for any DC voltage from 15 to 100 volts within 6% — 250 MA						RC-125
CG-316	Tapped for any DC voltage from 75 to 400 volts within 6% — 250 MA						RC-152

CG PLATE TRANSFORMERS

Primaries for 105, 115, 220, 230 volts, 50/60 cycles. For reduced power, secondary voltages can be reduced to half by using 220V. Pri. on 110 volts. These transformers may be used on 25 to 43 cycles if 220V Pri. is used on 110 volts. Secondary voltage is simultaneously halved.

Type No.	High Voltage	DC Voltage	DC MA	Case No.
CG-300	625-515-0-515-625	500/400	200	RC-150
CG-301	580-530-300-0-300-530-580	475/425/250	420	RC-152
CG-302	950-750-0-750-950	760/610	360	RC-175
CG-303	1500-1235-400-0-400-1235-1500	1250/1000 300	260 175	RC-175

TYPE EC CASE UNITS

Type No.	High Voltage	DC Voltage	DC MA	L	W	H	Wt. Lbs.
CG-304	1500-1235-0-1235-1500	1250/1000	800	15	8½	10⅜	100
CG-305	2400-1750-0-1750-2400	2000/1500	300	10½	4¾	6⅞	50
CG-306	2400-1750-0-1750-2400	2000/1500	500	15	8½	10⅜	100
CG-307	3500-3000-2400-0-2400-3000-3500	3000/2500 2000	300	14½	8½	10⅜	90
CG-308	3500-3000-2400-0-2400-3000-3500	3000/2500 2000	500	16½	8½	10⅜	125
CG-309	3500-3000-2400-0-2400-3000-3500	3000/2500 2000	1000	21	10	13¼	185
CG-310	4600-4050-3500-0-3500-4050-4600	4000/3500 3000	600	19	10	13¼	150
CG-311	1500-1235-0-1235-1500	1250/1000	500	10½	4¾	6⅞	50
CG-312	1800-1500-0-1500-1800	1500/1250	400	10½	4¾	6⅞	50

FILTER CHOKES

INDUCTANCE SHOWN IS AT RATED DC MA

Type No.	Inductance Henrys	DC MA	DC Res. Ohms	Test Volts	Case No.
CG-40	10	200	110	1750	RC-112
CG-41	4-20	200	110	1750	RC-112
CG-44	30	100	400	1750	RC-100
CG-45	250	15	5000	1750	RC-87
CG-48C	75	50	2500	1750	RC-87
CG-100	12	150	120	2500	RC-125
CG-102	12	250	105	3000	RC-150
CG-104	10	350	90	5000	RC-152
CG-108	10	500	55	7000	RC-175
CG-1S	10	1000	45	9000	11½x4¾x 6⅞ H, 60 lb.

SWINGING INPUT CHOKES

INDUCTANCE SHOWN IS FROM 100% TO 10% OF RATED DC MA

Type No.	Inductance Henrys	DC MA	DC Res. Ohms	Test Volts	Case No.
CG-101	5-25	150	120	2500	RC-125
CG-103	5-25	250	105	3000	RC-150
CG-105	5-25	350	90	5000	RC-152
CG-109	5-25	500	55	7000	RC-175
CG-1C	5-25	1000	45	9000	11½x4¾x 6⅞ H, 60 lb.

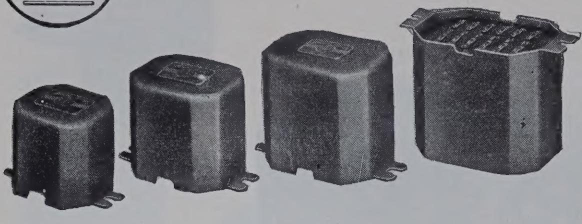
FILAMENT TRANSFORMERS

Primary for 105, 115, 220, 230 volts, 50/60 cycles. These transformers may be used on 25 to 43 cycles if 220 volt primary is used on 110 volts Secondary voltage is simultaneously reduced to half

* Two Windings.

Type No.	Sec. Volts C. T.	Sec. Amps.	Working Voltage	Test Voltage	Case No.
CG-34	2½	10	2500	6000	RC-112
CG-120	2½	10	5000	11000	RC-125
CG-121	5	22	5000	11000	RC-150
CG-122	7.5/6.3	10	1500	4000	RC-125
CG-124	10	10	1500	4000	RC-150
CG-125	14/12/11	10	1500	4000	RC-150
CG-126	*14/11/10 14/11/10	10 10	1500	4000	RC-152

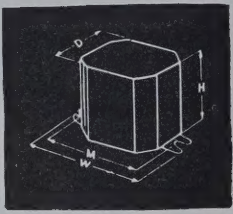
SPECIAL SERIES AUDIO TRANSFORMERS



UTC Special Series transformers are specifically designed for amateur and popular-priced PA service. The Special units are finished in a rich, commercial type medium gray enamel. A recessed terminal strip is provided permitting above chassis or breadboard wiring in addition to standard chassis type wiring. The universal windings provided on driver, matching and output transformers assure a maximum of flexibility. Modulator output units will carry the DC current of the class C stage for any of the impedances available and will match practically any audio tubes to any RF load within the power rating of the transformer. Large components are housed in formed cases with top or bottom mounting. All units are vacuum impregnated — compound filled

CASE SIZES

Type No.	H	W	D	M	Wt. Lbs.
G-1	1⅞	2-13/16	1¾	2⅜	1
G-2	2-5/16	3⅜	1-15/16	2⅞	1½
G-3	2½	3¾	2-5/32	3¼	2
G-4	2-15/16	4⅛	2-5/16	3⅝	3



CLASS A INPUT TRANSFORMERS

Type No.	Application	Ratio	Case
S-1	1 plate* to 1 grid	3½:1	G-2
S-2	1 plate* to 2 grids	2:1 4:1	G-2
S-3	1 plate* to 1 or 2 grids compact type	2:1	G-1
S-4	1 plate* to 2 grids wide range response	1:1	G-3
S-5	Single or double button mike or line to 1 grid hum-bucking type	16:1	G-2
S-6	Single or double button mike or line to 1 grid, compact type	16:1	G-1
S-7	Single plate* and carbon mike to one or two grids	3:1 16:1	G-2

* Will match tubes like 56, 6C5, 6C6 triode, 77 triode, 37 etc. Can be used with high mu triodes with loss in low frequencies.

UNIVERSAL DRIVER TRANSFORMERS

(See Modulator chart for tube types)

Type No.	Application	Case
S-8	Single driver plate to pushpull grids	G-3
S-9	Pushpull driver plates to grids of class B tubes up to 400 watts output	G-4
S-10	Pushpull 56, 6C6 triode, 6C5, or similar plates to 45's, 2A3's or 6L6's, self of fixed bias.	G-3

MATCHING TRANSFORMERS

Type No.	Application	Pri. Ohms	Sec. Ohms	Case
S-11	Single 56, 6C6 triode, 6C5 or similar tube to line.	15,000	200/500	G-2
S-12	Line to speaker 15 watts.	500, 2000, 4000	2, 4, 8, 15	G-2
S-13	Line to speaker 30 watts.	500, 2000, 4000	2, 4, 8, 15	G-4

UNIVERSAL OUTPUT TRANSFORMERS TO LINE AND VOICE COIL

(Secondary Impedances: 500, 15, 8, 2 ohms)

Type No. Max. Watts	Primary Impedance	Typical Tubes	Class	Case
S-14 10 W.	Single Tubes:			
	2500 ohms	2A3, 6A3, 6A5, 6B4, 6L6, 6Y6, 25L6, 35L6	A	G-2
	4000 ohms	31, 43, 45, 48, 6V6, 12A5, 12A6	A	
	7000 ohms	33, 47, 42, 47, 59, 89, 2A5, 6AC5, 6F6, 6K6, 6N6, 7B5	A	
	10,000 ohms	37, 38, 41, 1G5, 3C5, 6A4, 6N7	A	
S-15 12 W	P. P. Tubes:			G-2
	4000 ohms	6Y6, 25L6	AB	
	5000 ohms	45, 2A3, 6A3, 6A5, 6B4	AB	
	10,000 ohms	30, 1H4, 6AC5G, 6B5, 19, 49, 53, 79, 89, 6A6, 6N6, 6N7, 6Y7	AB B	
S-16 30 W.	3000 ohms	45, 48, 2A3, 6A3, 6A5, 6B4, 25L6	AB	G-4
	6000 ohms	42, 2A5, 6F6 triodes	AB	
		46, 59, Parallel 53, 6A6, 6N7	B	
	9000/10000 ohms	42, 45, 2A5, 6AC5, 6B5, 6F6, 6L6, 6V6	AB	
S-17 55 W.	3800 ohms	6L6's	AB2	G-5
	4500/5000 ohms	4—6L6's	AB1	
		46, 1608, 809	B	

UNIVERSAL MODULATION TRANSFORMERS

Secondary carries class C current
Any modulator tubes to any RF load. (See chart)

Type No.	Audio Power	Case
S-18	12 watts	G-3
S-19	30 watts	G-4
S-20	55 watts	G-5
S-21	110 watts	G-7
S-22	250 watts	G-9

TYPICAL MODULATOR COMBINATIONS

S-18 — 12 WATTS MAX.

DRIVER TUBES: In the combinations shown below, typical suitable driver tubes are: 27, 30, 37, 49, 53, 56, 76, 79, 89, 6A6, 6C5, 6C6 triode, 6E6, 6N7.

DRIVER		MODULATOR STAGE				
Transf.	Sec. Term.	P.P. Tubes	Watts Output	P.P. Load	Plate Volts	Bias Volts
S-2	G-G	6E6	1.6	14,000	250	27
S-8	G-G	19, 1J6G	2.1	10,000	135	0
S-8	G-G	30	2.5	10,000	180	18
S-8	G-G	49	3.5	12,000	180	0
S-8	G′-G′	89	3.5	10,000	180	0
S-2	G-G	25L6	4	4,000	110	7.5
S-8	G′-G′	6Z7G	4.2	12,000	180	0
S-2	G-G	6Y6G	7	4,000	135	13.5
S-8	G-G	79, 6Y7G	8	14,000	250	0
S-8	G′-G′	6AC5G	8	10,000	250	0
S-8	G′-G′	53, 6A6 6N6, 6N7	10	10,000	300	0
S-2	G-G	2A3, 6A3 6A5G, 6B4G	10	5,000	325	750 ohms
S-2	G-G	6B5	10	10,000	300	0
S-8	G-G	45	10	5,000	275	770 ohms

		SINGLE TUBES	Pri. Load
		43, 45, 59, 71A, 12A5, 25A6, 25A7	4,000 ohms
		31, 46, 59, 6V6, 33	6,000 ohms
S-1	F-G	33, 42, 46, 47, 49, 89, 2A5, 6F6, 6B5	7,000 ohms
		59, 89 pentode	8,000 ohms
		10, 41, 32, 6G6, 6K6	10,000 ohms
		38, 12A7	14,000 ohms

S-19 — 30 WATTS MAX.

(53, 56, 6C6 triode, 6N7, may be substituted for 6C5 tubes)

DRIVER			MODULATOR STAGE				
Tube or Tubes	Transf.	Sec. Terms.	P.P. Tubes	Watts Output	P.P. Load	Plate Volts	Bias Volts
6C5	S-10	G-G	6V6	13	8,000	300	20
6C5	S-2	G-G	6B5	13.5	10,000	325	0
6C5	S-10	G-G	2A3, 6A3 45, 6A5G, 6B4G	15	3,000	325	68
6C5	S-10	G-G	2A5, 42, 6F6, Pentode AB	10	10,000	375	340 ohms
2A5	S-8	G-G	2A5, 42, 6F6, triode AB	18	6,000	350	38
89	S-8	G′-G′	Parallel 53's, 6A6, 6N6, 6N7	19	5,000	300	0
45	S-8	G-G	10, 1602	25	8,000	425	50
45	S-8	G′-G′	46, 59	25	6,000	425	0
45	S-8	G′-G′	841	28	7,000	425	5
6C5	S-10	G-G	6L6 self bias	30	9,000	400	23

S-20 — 55 WATTS MAX.

DRIVER			MODULATOR STAGE						
P.P. Tubes	Transf.	Sec. Term.	P.P. Tubes	Watts O'tp't	P.P. Load	Plate Volts	Plate Tr'sf.	Bias Volts	Bias Trsf.
Single 45	S-8	G′-G′	46	40*	5000	470	S-44	0	
2A3	S-9	1-1	801	45	10000	600	S-45	75	S-51
2A3	S-9	3-3	1608	50	5000	425	S-44	15	S-51
2A3	S-9	1-1	T-20	50	8000	600	S-45	30	S-51
Single 45	S-8	G′-G′	4-46 59	56	3000	425	S-44	0	
6C5	S-10	G-G	6L6 AB2	60	3800	400	S-39	25	S-51
6C5	S-10	G-G	4-6L6	60	4500	400	S-40	23	
2A3	S-9	3-3	809	60	5000	500	S-41	0	

* Above manufacturers' rating, but frequently employed by amateurs.

UTC SPECIAL SERIES POWER EQUIPMENT

UTC Special Series power supply components are designed specifically for amateur and popular-priced PA service. The ratings are based on such applications and recommended for intermittent service. For commercial applications, CG or LS grade components should be employed. Tapped coil structures on power and bias supply transformers afford maximum flexibility, permitting a given transformer to be used with many circuits and types of tubes. Do not affect standby service by interrupting high voltage center tap.

S-21 — 115 WATTS MAX.

P.P.-2A3 Driver S-9 Transf. Sec. Term.	MODULATOR STAGE P.P. Tubes	Watts Output	P.P. Load	Plate Volts	Plate Transf.	Bias Volts	Bias Trsf.
2-2	TZ-20	70	12000	800	S-46	0	
1-1	T-20	70	12000	800	S-46	40	S-51
*	845	75	4600	1000	S-47	175	S-52
3-3	4-46, 59	80	2500	470	S-44	0	
1-1	807	80	6600	600	S-45	30	S-51
1-1	800, RK-30	90	6600	750	S-45	40	S-51
1-1	800, RK-30	100	12000	1000	S-47	55	S-51
3-3	809	100	8400	750	S-45	5	S-51
2-2	825	100	6600	850	S-46	30	S-51
2-2	TZ-40	100	6000	750	S-45	0	
2-2	T-756	100	7000	850	S-46	30	S-51
1-1	50-T	100	8000	1000	S-47	90	S-51
2-2	RK-18	100	12000	1000	S-47	50	S-51
1-1	HK-354	100	15000	1000	S-47	60	S-51
*	845	105	8800	1250	S-47	225	S-52
3-3	RK-31	110	14000	1000	S-47	0	
1-1	4-6L6	110	2000	400	S-44	25	S-51
2-2	35-T	115	11000	1000	S-47	30	S-51

* Reverse S-9. transformer using terminals 1-1 for plates and P.P. for grids.

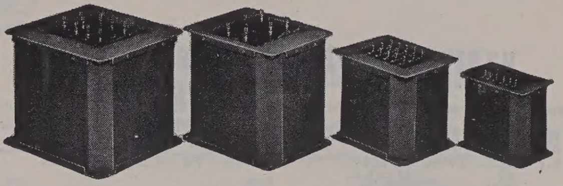
S-22 — 250 WATTS MAX.

P.P.-2A3 Driver S-9 Transf. Sec. Term.	MODULATOR STAGE P.P. Tubes	Watts Output	P.P. Load	Plate Volts	Plate Transf.	Bias Volts	Bias Trsf.
3-3	RK-31	140	17000	1250	S-47	0	
*	50 T	135	12000	1250	S-47	112	S-52
*	50 T	250	20000	2000	S-50	180	S-52
*	50 T	160	17000	1500	S-49	140	S-52
2-2	TZ-40	175	6800	1000	S-47	0	
1-1	T-55	175	6900	1000	S-47	40	S-51
1-1	T-55	225	9400	1250	S-47	50	S-51
2-2	HF-100	200	7000	1000	S-47	35	S-51
2-2	HF-100	250	12000	1500	S-49	52	S-51
2-2	100 TH	200	5200	1000	S-47	0	
2-2	100 TH	250	7200	1250	S-47	0	
¶	100 TL	170	5200	1000	S-47	90	S-51
¶	100 TL	230	7200	1250	S-47	112	S-52
2-2	ZB-120	150	4800	750	S-45	0	
2-2	ZB-120	200	6900	1000	S-47	0	
2-2	ZB-120	245	9000	1250	S-47	0	
*	HK-154	200	7500	1000	S-47	155	S-52
*	HK-154	225	11400	1250	S-47	210	S-52
1-1	203 A	200	6900	1000	S-47	35	S-51
1-1	203 A	250	9000	1250	S-47	45	S-51
3-3	203 Z	200	6900	1000	S-47	0	
2-2	203 Z	250	6700	1100	S-47	0	
1-1	211	200	6900	1000	S-47	77	S-51
1-1	211	250	9000	1250	S-47	100	S-51
1-1	HK-354	220	15000	1500	S-49	100	S-51
2-2	808	190	12700	1250	S-47	15	S-51
2-2	830 B	175	7600	1000	S-47	35	S-51
2-2	838	200	6900	1000	S-47	0	
2-2	838	250	9000	1250	S-47	0	

* Reverse S-9, using 2-2 for plates and P-P for grids.
¶ Reverse S-9, using 1-1 for plates and P-P for grids.

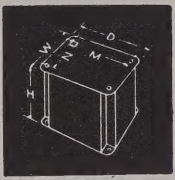
FILTER, SWINGING, AND AUDIO CHOKES

Type No.	Service	Inductance	Current	Resistance	Insulation	Case No.
S-23	Audio	500 Hy.	5 Ma.	6000 ohms	1500 V.	G-2
S-24	P.P.	500 Hy.				
	Choke	C.T.	3 Ma.	4000 ohms	1500 V.	G-2
S-25	Filter	30 Hy.	30 Ma.	900 ohms	1500 V.	G-2
S-26	Filter	15 Hy.	60 Ma.	230 ohms	1500 V.	G-2
S-27	Filter	30 Hy.	75 Ma.	350 ohms	1500 V.	G-4
S-28	Filter	20 Hy.	100 Ma.	350 ohms	1500 V.	G-4
S-29	Filter	10 Hy.	175 Ma.	95 ohms	1500 V.	G-4
S-30	Swinging	5/25 Hy.	175 Ma.	95 ohms	1500 V.	G-4
S-31	Filter	20 Hy.	225 Ma.	120 ohms	2700 V.	G-5
S-32	Swinging	5/25 Hy.	225 Ma.	120 ohms	2700 V.	G-5
S-33	Filter	20 Hy.	300 Ma.	90 ohms	4000 V.	G-7
S-34	Swinging	5/25 Hy.	300 Ma.	90 ohms	4000 V.	G-7
S-35	Filter	20 Hy.	400 Ma.	85 ohms	5000 V.	G-8
S-36	Swinging	5/25 Hy.	400 Ma.	85 ohms	5000 V.	G-8
S-37	Filter	20 Hy.	550 Ma.	60 ohms	6000 V.	G-8
S-38	Swinging	5/25 Hy.	550 Ma.	60 ohms	6000 V.	G-8



CASE SIZES

Type No.	H	W	D	M	N	Wt. Lbs.
G-5	3¾	3⅛	4½	3⅞	2-7/16	4½
G-7	4⅝	4⅝	5½	4-27/32	3-25/32	8
G-8	4⅝	5⅜	5⅜	4-25/32	4¾	12
G-9	5⅞	5⅜	6¾	6-3/32	4-19/32	21
G-10	5⅞	6⅛	6⅝	5-15/16	5-13/32	24
G-11	5⅞	6½	7⅜	6-21/32	5-29/32	31
G-12	10¼	7⅜	9¼	8½	8⅝	52



COMBINED PLATE AND FILAMENT TRANSFORMERS

Primary 115 V. — 50/60 Cycles

Type No.	Voltage	D.C. Voltages*	Rectifier Fil.	Fil. No. 1	Fil. No. 2	Case No.
S-39	490-400-0-400-490 175 Ma.	400/310	5 V.-3A	2.5 V.C.T -6A	6.3 V.C.T. 4A	G-7
S-40	525-425-0-425-525 250 Ma.	400/310	5 V.-3A	6.3 V.C.T. -3A	6.3 V.C.T. 3A	G-7
S-41	600-0-600 200 Ma.	475	5 V.-3A	7.5 V. tapped 6.3 V.-3A	6.3 V.C.T. 2A	G-7
S-42	600-525-0-525-600 300 Ma.	480/400	5 V.-3A	7.5 V. tapped 6.3 V.-3A	6.3 V.C.T. 3A	G-8
S-43	525-0-525 450 Ma. 40-0-40, 200 Ma.	400	5 V.-3A 5 V.-6A	6.3 V.C.T. -2 A	6.3 V.C.T 5 A	G-9

* Based on two section filter, choke input.

PLATE TRANSFORMERS — BIAS TRANSFORMERS

Primary 115 V. — 50/60 Cycles

Type No.	High Voltage	DC Voltages*	DC Current	Case No.
S-44	575-525-0-525-575	470/430	500 Ma.	G-9
S-45	900-750-0-750-900	750/620	200 Ma.	G-8
S-46	1000-750-0-750-1000	825/600	300 Ma.	G-9
S-74	1175-500-0-500-1175 Duplex rectifier	1000 400	†150 Ma. ‡150 Ma.	G-10
S-47	1500-1250-1000-0-1000-1250-1500	1275/1050/825	300 Ma.	G-10
S-48	1500-1250-1000-0-1000-1250-1500	1300/1075/850	500 Ma.	G-11
S-49	2100-1800-1500-0 1500-1800-2100	1815/1540/1275	300 Ma.	G-11
S-50	3000-2500-0-2500-3000	2625/2175	300 Ma.	G-12
S-51	Will supply any bias voltage from 15 to 100 volts DC within approximately 6% of desired value.		200 Ma.	G-5
S-52	Will supply any bias voltage from 75 to 400 volts DC within approximately 6% of desired value.		200 Ma.	G-7

* Based on two section filter for 200 Ma. and 300 Ma. units, single section filter for 500 Ma. units, both choke input.
† 200 Ma. if used alone ‡ 300 Ma. if used alone

FILAMENT TRANSFORMERS

Primary Tapped 105, 115 Volts — 50/60 Cycles

Type No.	Secondary Volts	Secondary Current	Insulation	Case No.
S-53	2.5 VCT	10 A.	1500 V.	G-3
S-54	5 VCT	4 A.	2500 V.	G-3
S-55	6.3 VCT	3 A.	1500 V.	G-3
S-56	7.5 VCT	3 A.	1500 V.	G-3
S-57	2.5 VCT	10 A.	10,000 V.	G-5
S-58	2.5 VCT	20 A.	10,000 V.	G-5
S-59	5 to 5.25 VCT	13 A.	5000 V.	G-5
S-60	5 to 5.25 VCT	22 A.	10,000 V.	G-7
S-61	7.5 VCT tapped 6.3 VCT	8 A.	3000 V.	G-5
S-62	10 VCT	10 A.	3000 V.	G-5
S-63	14 VCT tapped 12 VCT and 11 VCT	10 A.	5000 V	G-7

Type No.	Fil. 1	Fil. 2	Fil. 3	Insulation	Case No.
S-64	2.5 VCT-5A	2.5 VCT-5A	5 VCT-6A	3000 V.	G-5
S-65	2.5 VCT-5A	5 VCT-4A	6.3 VCT-3A	3000 V.	G-5
S-66	2.5 VCT-10A	7.5 VCT-6.5A		3000 V.	G-5
S-67	5 VCT-6A	6.3 VCT-5A		3000 V.	G-5
S-68	5 VCT-3A	6.3 VCT-4A	7.5 VCT-5A	3000 V.	G-5
S-69	6.3 VCT-3A	7.5 VCT-6.5A		3000 V.	G-5
S-70	6.3 VCT-5A	6.3 VCT-5A		3000 V.	G-5
S-71	2.5 VCT-6A	2.5 VCT-6A	2.5 VCT-12A	10000 V.	G-7
S-72	5 VCT-3A	5 VCT-3A	5 VCT-6A	5000 V.	G-5

UTC REPLACEMENT TYPE COMPONENTS

VARITAP DUPLICATE REPLACEMENT POWER TRANSFORMERS (A)

Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil. 2	Dimensions, In. W	D	H	M	N	Wt. Lb.
R-1	325-0-325 40MA	5V-2A	6.3 VCT-2A or 2.5-VCT-4A		3	2½	2¾	2½	2	2½
R-2	350-0-350 70MA	5V-3A	6.3 VCT-2.5A or 2.5 VCT-8A		3⅜	2⅞	3	2-13/16	2¼	3
R-3	350-0-350 95MA	5V-3A	6.3 VCT-4.5A or 2.5-VCT-4.5A	2.5 VCT-9A	3¾	3⅛	3⅝	3⅛	2½	5½
R-4	375-0-375 120-MA	5V-4A	6.3 VCT-5A or 2.5-VCT-5A	2.5 VCT-15A	4½	3¾	3¾	3¾	3	6½
R-5	385-0-385 180-MA	5V-4A	6.3 VCT-4A or 2.5-VCT-6A	6.3 VCT-5A	4½	3¾	4½	3¾	3	8½

VARITAP FLUSH TYPE POWER TRANSFORMERS (B)

Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil. 2	Dimensions, In. W	D	H	M	N	Wt. Lb.
R-6	300-0-300 50MA	5V-2A	6.3 VCT-2A or 2.5-VCT-5A		3	2½	3	2½	2	2½
R-7	350-0-350 75MA	5V-3A	6.3 VCT-3A or 2.5-VCT-3A	2.5 VCT-8A	3⅜	2⅞	3¼	2-13/16	2¼	3
R-8	375-0-375 100-MA	5V-3A	6.3 VCT-4A or 2.5-VCT-4A	2.5 VCT-10A	3¾	3⅛	3¾	3⅛	2½	5½
R-9	400-0-400 125-MA	5V-3A	6.3 VCT-4A or 2.5-VCT-4A	6.3 VCT-2A or 2.5 VCT 10A	4½	3¾	4	3¾	3	6½
R-10	425-0-425 200-MA	5V-3A	6.3 VCT-5A or 2.5-VCT-5A	6.3 VCT-3A or 2.5 VCT-12A	4½	3¾	4¾	3¾	3	8½

VERTICAL SHIELDED POWER TRANSFORMERS FOR RECEIVERS AND AMPLIFIERS (C)

Type No.	High Voltage	Rect. Fil.	Fil. 1	Fil. 2	Dimensions, In. W	D	H	M	N	Wt. Lb.
R-54	300-0-300 50MA	5V-2A	6.3 VCT-2A or 2.5-VCT-5A		2½	2½	3¼	2	1¾	2½
R-11	350-0-350 75MA	5V-3A	6.3 VCT-3A or 2.5 VCT-3A	2.5 VCT-8A	3	3¼	3½	2¼	2¼	3½
R-12	375-0-375 100-MA	5V-3A	6.3 VCT-4A or 2.5-VCT-4A	6.3 VCT-2A or 2.5 VCT-8A	3¼	3⅝	4	2½	2½	6
R-13	425-0 425 200-MA	5V-3A	6.3 VCT-5A or 2.5-VCT-5A	6.3 VCT-3A or 2.5 VCT-12A	3⅞	4½	4⅝	3	3⅜	8½

FILTER AND AUDIO CHOKES (D)

Inductance Shown Is at Rated D.C.M.A.—Insulation Test: 1750 Volts

Type No.	Induct. Hys.	Current	Resistance Ohms	W	Dimensions, Ins. D	H	M	Lbs.
R-55	6	40MA	300	2½	1⅜	1⅜	2	½
R-14	8	40MA	250	2⅞	1⅜	1-11/16	2⅜	¾
R-15	12	30MA	450	2⅞	1⅜	1-11/16	2⅜	¾
R-16	15	30MA	600	2⅞	1⅜	1-11/16	2⅜	¾
R-17	20	40MA	850	3-5/16	1⅝	2	2-13/16	1
R-18	8	80MA	250	3-5/16	1⅝	2	2-13/16	1
R-19	14	100MA	450	3¾	1¾	2-5/16	3⅛	1½
R-20	7	160MA	100	4⅛	2	2⅝	3-9/16	2½
R-21	4/20	160MA	100	4⅛	2	2⅝	3-9/16	2½
R-22	120	5MA	4000	3-5/16	1⅝	2	2-13/16	1

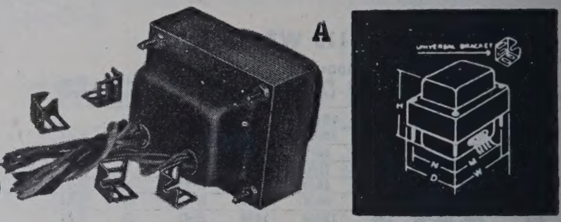
CHANNEL FRAME FILAMENT TRANSFORMERS (D)

Pri. 115 V. 50/60 Cycles—1500 V. Breakdown

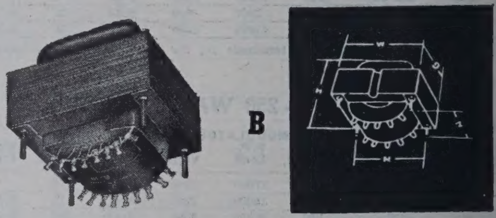
Type No.	Secondary	Dimensions, Inches W	D	H	M	Wt. Lbs.
FT-1	2.5 V.C.T.-3A	2⅞	1⅜	1-11/16	2⅜	¾
FT-2	6.3 V.C.T.-1.2A	2⅞	1⅜	1-11/16	2⅜	¾
FT-3	2.5 V.C.T.-6A	3-5/16	1⅝	2	2-13/16	1
FT-4	6.3 V.C.T.-2.5A	3-5/16	1⅝	2	2-13/16	1
FT-5	2.5 V.C.T.-10A	3¾	1¾	2-5/16	3⅛	1½
FT-6	5 V.C.T.-3A	3¾	1¾	2-5/16	3⅛	1½
FT-7	7.5 V.C.T.-3A	3¾	1¾	2-5/16	3⅛	1½
FT-8	6.3 V.C.T.-8A	4⅛	2¼	2⅝	3-9/16	2½

The UTC replacement type transformers represent the culmination of years of development in this field All units are vacuum sealed against humidity with special impregnating materials to prevent corrosion and electrolysis. Shells and brackets are finished in attractive high lustre black enamel

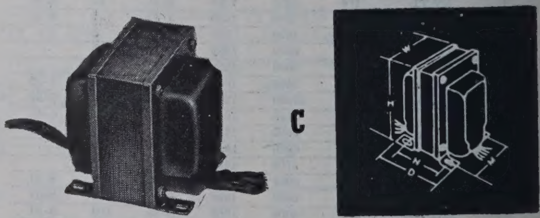
The UTC shells and universal brackets employed make possible a latitude in mounting dimensions never approached heretofore Using Varitap coil construction a minimum number of transformers have been developed to cover any requirement in the replacement field.



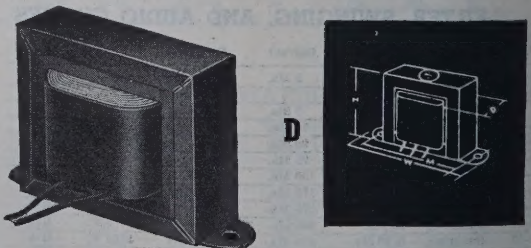
Through unique construction the five UTC VARITAP DUPLICATE replacement transformers will service as many types of radio receivers as the 15 or 20 units more customarily employed for such service. The universal feet may be used for upright or horizontal mounting, or eliminated for flush mounting.



UTC FLUSH TYPE transformers are husky units designed for low temperature rise and good regulation. By employing a Varitap universal coil structure, the five units described are universal in application. The rugged solder terminals permit ease of circuit change for the experimenter.

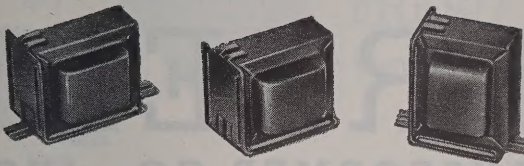


UTC VERTICAL power transformers are unusually attractive in appearance, having smooth drawn cases finished in high lustre black enamel. The Varitap coil structure assures flexibility of application.

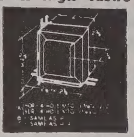


Channel frame chokes, audios, and filament transformers are conservatively designed. Standard black enamel mounting channels are employed. Coils are tropic-sealed by vacuum-pressure method.

(Refer to Page N-37 for UTC Prices)



Varitap Duplicate audio units are extremely attractive, the double shells and universal mounting brackets being finished in high lustre black enamel. The figure A units use the UTC universal bracket. This bracket makes possible four hole horizontal or vertical mounting and two hole, channel type, horizontal or vertical mounting. The coils of these units, in addition to efficient design and mechanical shielding, are vacuum impregnated and sealed with a special compound to assure complete protection against adverse climatic conditions.



SHIELDED UNIVERSAL MOUNTING AUDIO TRANSFORMERS AND FILTER CHOKES

Type No.	Application	Description	Fig.	Wgt. Lbs.
R-23	1 plate* to 1 grid	3½:1 ratio	A	1
R-24	1 plate* to 2 grids	2:1 ratio	A	1
R-25	2 plates* to 2 grids	1.5:1 stepup for class A triodes, 1.5:1 stepdown for 6L6's, 2A3's, 2A5's, etc.	A	1¼
R-26	Driver, 1 plate to 2 grids	Single 42, 2A5, 6F6, 45, 46	A	1¼
R-27	15 watt Universal Output	All tubes up to 15 watts to any voice coil from .1 to 30 ohms	A	1¼
R-28	35 watt Universal Output	All tubes up to 35 watts to any voice coil from .1 to 30 ohms	B	2½
R-29	Mike to grid	Single or double button mike or line to 1 grid	A	1¼
R-30	Filter choke	13 Hys—250 MA—100 ohms	C	7
R-31	Filter Choke	10 Hys— 80 MA—250 ohms	A	2½
R-32	Filter choke	10 Hys—150 MA—100 ohms	B	2¼

* Will match tubes like 27, 37, 56, 6C6 triode, 6C5. Can be used with high mu triodes with loss in low frequencies.

CHANNEL FRAME AUDIO TRANSFORMERS (D)

(See preceding page for photo)

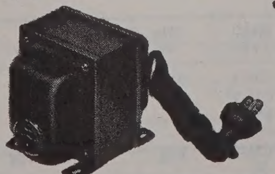
Type No.	Application	Description	Dimen., Ins. W	D	H	M	Wt. Lbs.
R-33	1 plate* to 1 grid	4:1 ratio	2⅞	1⅜	1-11/16	2⅜	¾
R-34	1 plate* to 2 grids	2:1 ratio	2⅞	1⅜	1-11/16	2⅜	¾
R-35	Mike to 1 grid	17:1 ratio	2⅞	1⅜	1-11/16	2⅜	¾
R-90	Intercomm. speaker to grid	4 ohm to 40,000 ohm grid	2½	1⅜	1⅜	2⅛	½
R-53	Plate & mike to grid	3:1 and 17:1 ratio	2⅞	1⅜	1-11/16	2⅜	¾
R-56	1 plate to 2 grids	2:1 ratio	3-5/16	1⅝	2	2-13/16	1
R-57	1 plate to 2 grids	2½:1 ratio	4⅛	2	2⅝	3-9/16	2½
R-36	Driver	30, 49, etc. to class B 19, 49, 79, 89 grids	2⅞	1⅜	1-11/16	2⅜	¾
R-37	R.F. Output	Class B 19, 49, 79, 89 plates to 3500 and 5,000 ohms	2⅞	1⅜	1-11/16	2⅜	¾
R-58	5 watt Universal output	Any single tube to any voice coil, .1 to 30 ohms	2½	1⅜	1⅜	2⅛	½
R-38A	6 watt Universal	Any tubes up to 6 watts to any voice coil, .1 to 30 ohms	2½	1⅜	1⅜	2⅛	½
R-59	10 watt Universal	Any tubes up to 10 watts to any voice coil, .1 to 30 ohms	2⅞	1⅜	1-11/16	2⅜	¾
R-60	15 watt Universal	Any tubes up to 15 watts to any voice coil, .1 to 30 ohms	3-5/16	1⅝	2	2-13/16	1
R-39	10 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	2⅞	1⅜	1-11/16	2⅜	¾
R-40	25 watt line Matching Transformer	250, 500, 1,500 ohms to 2, 8, 15 ohms	4⅛	2¼	2⅝	3-9/16	2½

* Will match tubes like 27, 37, 56, 6C6 triodes, 6C5. Can be used with high mu triodes with loss in low frequencies.

STEP DOWN AUTO-TRANSFORMERS

With 6 foot cord and female receptacle
220-240 to 110-120 Volts—50/60 Cycles

Type No.	Application	Wgt. Lbs.
R-41	85 watt capacity	4
R-42	125 watt capacity	5
R-43	175 watt capacity	5½
R-44	250 watt capacity	6½
R-45	500 watt capacity	12
R-46	1200 watt capacity	18
R-64	2500 watts, no cord	30

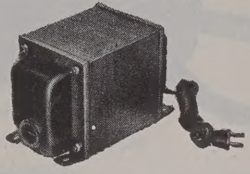


ISOLATION TRANSFORMERS

Ideal for isolating line noise, AC-DC sets, etc. Excellent electrostatic shielding. 2000 volt breakdown test. Six foot cord and female receptacle.

Primary 110-120 volts, 50/60 cycles—Secondary 110-120 volts

Type No.	Rating	Wgt. Lbs.
R-72	40 watts	4
R-73	100 watts	6
R-74	250 watts	12
R-75	600 watts	20
R-76	1200 watts	30
R-77	2500 watts (no cord)	70



EXPORT VOLTAGE ADAPTER

Complete with cord and plug and special locking switch providing for line voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 cycles. Output voltage 115.

Type No.	Rating	Wgt. Lbs.
R-47	85 watts	4½
R-48	150 watts	5½

LINE VOLTAGE ADJUSTERS WITH METER

The perfect answer to abnormal or fluctuating line voltage. Adjust switch so that meter reads at red line and you know that your equipment is working at correct voltage.

These units combine a tapped auto-transformer with a switch and meter in a compact, rugged assembly.

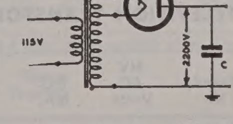
The nine tap switch provides for line voltages of 60 to 140 volts on 115 volt output models and 160 to 240 volts on 230 volt output models. All units are designed for 50/60 cycle service and come complete with 6 foot input cord and plug and outlet receptacle.

Type No.	Primary Voltages	Sec. Volts	Watts	Wt. Lbs.
R-78	60, 70, 80, 90, 100, 110, 120, 130, 140	115	150	6
R-79	60, 70, 80, 90, 100, 110, 120, 130, 140	115	300	9
R-80	60, 70, 80, 90, 100, 110, 120, 130, 140	115	600	13
R-81	60, 70, 80, 90, 100, 110, 120, 130, 140	115	1200	21
R-83	160, 170, 180, 190, 200, 210, 220, 230, 240	230	150	6
R-84	160, 170, 180, 190, 200, 210, 220, 230, 240	230	300	9
R-85	160, 170, 180, 190, 200, 210, 220, 230, 240	230	600	13
R-86	160, 170, 180, 190, 200, 210, 220, 230, 240	230	1200	21

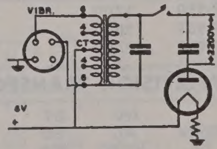
PHOTO FLASH TRANSFORMERS

Can be used for either standard (Amglo type) or trigger (Sylvania type) multiple flash bulbs. Circuit details included with transformer, or on request.

PF-1 Primary for 115 volts, 50/60 cycles. Secondaries for power supply delivering 2200 volts DC to condenser up to 100 Mfd. (30 Mfd. charges in 4 Sec.) Compound sealed in G-3 case $2^1/_8$ x $2^3/_4$ x $2^1/_2$ inches high. Weight 2 Lbs.



PF-2 For portable photoflash service. Primary tapped for 4 volt or 6 volt battery (full wave vibrator). Secondary for power supply delivering 2200 volts DC to condenser up to 60 Mfd. (30 Mfd. charges in 8 sec. with 6 volts or 14 Sec. with 4 volts). Compound sealed in G-3 case. Weight 2 Lbs.



PF-3 Trigger Transformer 15 KV peak

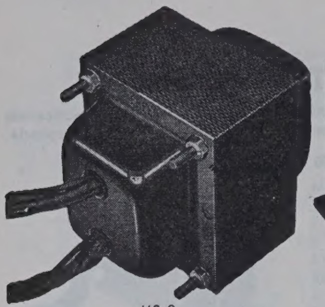
Ask for detailed bulletin

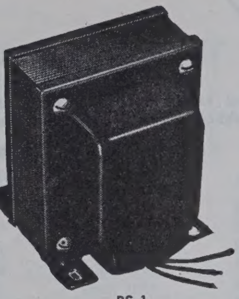
TELEVISION TRANSFORMERS

These components are quality designs, vacuum impregnated and fully compound sealed in heavy steel cases affording a high degree of shielding.

Type No.	Application	Case	Wt. Lbs.
R-91	Horizontal oscillator (15750 cycles)	RC-50	1
R-92	Vertical oscillator (60 cycles)	RC-50	1
R-93	Vertical output, tapped for different tubes	RC-100	4
R-94	Horizontal output (special core), tapped for adjustment	RC-100	4
R-95	2800 vac (4000 DC) 2.5V-1.8A., 6.3V-.6A tapped 2.5V-2.1A. 7000 V test	RC-125	5

Universal Replacement POWER TRANSFORMERS
TELEVISION TRANSFORMERS
FREED
TRANSFORMER CO., INC.


HS-3


PS-1

This group of units provides replacement for the majority of existing radio receivers. The design of special mounting angles permits mounting in flush, vertical and horizontal positions. Leads are R.M.A. color-coded.

Freed No.	H.V. A.C. Volts	C.T. D.C. Ma.	Rect.		Fil. C.T.		Fil. C. T.		Mounting Type	Mounting Center		Dimensions			Ship. Wt.	List Price
			V.	A.	V.	A.	V.	A.		W	D	W	D	H		
F-410 A	480	40	5	2	6.3	2			PS-1	2	1 9/16	2 17/32	2⅝	3 9/64	2½	**$5.85**
F-411 A	650	40	5	2	2.5	4			PS-1	2	1 11/16	2 17/32	2¾	3 9/64	2¾	**5.85**
F-412 A	590	50	5	2	6.3	2			PS-1	2	1 13/16	2 17/32	2⅞	3 9/64	3	**6.30**
F-413 A	650	50	5/6.3	2/.6	6.3	2.5			PS-1	2	1 13/16	2 17/32	2⅞	3 9/64	3	**6.90**
F-414 A	700	50	5	2	2.5	7.5			PS-1	2	1 13/16	2 17/32	2⅞	3 9/64	3	**7.30**
F-415 A	700	70	5	2	2.5	9			PS-1	2¼	1⅞	2 27/32	3⅛	3 33/64	4	**7.60**
F-416 A	700	70	5/6.3	2/.6	6.3	2.5			PS-1	2¼	2	2 27/32	3¼	3 33/64	4⅜	**7.90**
F-417 A	700	70	5	2	6.3	2.5			PS-1	2	2 5/16	2 17/32	3⅜	3 9/64	4⅜	**7.55**
F-418 A	700	90	5	2	2.5	12.5			PS-1	2½	2 7/16	3 5/32	3¾	3 57/64	5¼	**8.75**
F-419 A	700	90	5	2	6.3	3.5			PS-1	2½	2⅛	3 5/32	3 7/16	3 57/64	5	**8.30**
F-420 A	700	120	5	3	2.5	3.5	2.5	12.5	PS-1	3	2 5/16	3 25/32	3½	4 41/64	6½	**10.20**
F-421 A	700	120	5	3	6.3	5			PS-1	2½	2 5/16	3 5/32	3⅝	3 57/64	5¼	**9.10**
F-422 A	750	150	5	3	6.3	5			PS-1	3	2 9/16	3 25/32	3¾	4 41/64	6½	**10.90**
F-423 A	750	150	5	3	6.3	5	2.5	5	PS-1	3	2 9/16	3 25/32	3¾	4 41/64	7	**12.00**
F-424 A	800	200	5	4	6.3	5			PS-1	3	2 11/16	3 25/32	3⅞	4 41/64	7⅜	**12.45**
F-410	480	40	5	2	6.3	2			HS-3	2½	2	3	2½	2½	2½	**4.50**
F-411	650	40	5	2	2.5	4			HS-3	2½	2	3	2½	2⅝	2¾	**4.50**
F-412	590	50	5	2	6.3	2			HS-3	2½	2	3	2½	2¾	3	**4.55**
F-413	650	50	5/6.3	2/.6	6.3	2.5			HS-3	2½	2	3	2½	2¾	3	**5.10**
F-414	700	50	5	2	2.5	7.5			HS-3	2½	2	3	2½	2¾	3	**5.75**
F-415	700	70	5	2	2.5	9			HS-3	2 13/16	2¼	3⅜	2 13/16	3	4	**6.00**
F-416	700	70	5/6.3	2/.6	6.3	2.5			HS-3	2 13/16	2¼	3⅜	2 13/16	3⅛	4⅜	**6.35**
F-417	700	70	5	2	6.3	2.5			HS-3	2½	2	3	2	3⅛	4⅜	**5.75**
F-418	700	90	5	2	2.5	12.5			HS-3	3⅛	2½	3¾	3⅛	3½	5¼	**7.05**
F-419	700	90	5	2	6.3	3.5			HS-3	3⅛	2½	3¾	3⅛	3¼	5	**6.50**
F-420	700	120	5	3	2.5	3.5	2.5	12.5	HS-3	3¾	3	4½	3¾	3¼	6½	**8.70**
F-421	700	120	5	3	6.3	5			HS-3	3⅛	2½	3¾	3⅛	3⅜	5¼	**7.15**
F-422	750	150	5	3	6.3	5			HS-3	3¾	3	4½	3¾	3¼	6½	**9.40**
F-423	750	150	5	3	6.3	5	2.5	5	HS-3	3¾	3	4½	3¾	3½	7	**10.15**
F-424	800	200	5	4	6.3	5			HS-3	3¾	3	4½	3¾	3⅝	7⅜	**10.90**

The above transformers are designed for primary operation of 115 volts 50-60 cycles. They are also available for 220 volts 60 cycles and 115 volts 25 cycles.

TELEVISION TRANSFORMERS

Used in television receivers, oscilloscopes, test equipment and high voltage, low current power supplies.

Freed No.	HV AC Volts	DC MA.	Rect		Fil		Mtg. Type	Mtg. Center		Dimensions			Ship Wt.	List Price
			V	A	V	A		W	D	W	D	H		
F-950	1700	4	2.5	2			PS-1	2	1 15/16	2 17/32	3	3 9/64	3	**$10.25**
F-951	2000	2	2.5	1.75	6.3	.9	PS-1	2¼	2¼	2 27/32	3⅜	3 33/64	4½	**12.10**
F-952	2500	2	2.5	1.75	6.3	.9	PS-1	2¼	2¼	2 27/32	3⅜	3 33/64	4½	**13.35**

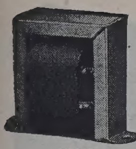
TELEVISION TRANSFORMERS

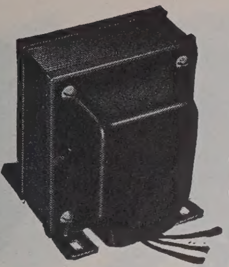
Used for a plate supply in television receivers (12 and 15 inch tube).

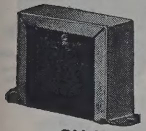
Freed No.	HV AC Volts	CT DC MA.	Rect		Fil		Fil		Mtg. Type	Mtg. Center		Dimensions			Ship Wt.	List Price
			V	A	V	A	V	A		W	D	W	D	H		
F-960	775	225	5	3	6.3	1.75	6.3	10A	PS-1	3	3 11/16	3 25/32	4⅞	4 41/64	11½	**$14.80**
F-961	800	300	5	3	5	6	12.6	10A (CT)	PS-1	3½	4	4 7/16	5⅜	5 7/32	15½	**30.75**

TELEVISION TRANSFORMERS

Freed No.	Description	Mtg. Type	Mtg. Center		Dimensions			Ship Wt.	List Price
			W	D	W	D	H		
F-970	Horizontal Blocking Oscillator Transformer.......	CH-1	2		2⅜	1⅝	1 7/16	½	**$2.75**
F-971	Vertical Blocking Oscillator Transformer........	CH-1	2		2⅜	1⅝	1 7/16	½	**2.50**
F-972	Vertical Output Tr. for Magnetic Deflection CRT	FV-1	1 9/16	2	2½	2⅛	3⅛	2½	**6.00**
F-973	Horizontal Output Tr. for Electrostatic Deflection CRT	CH-1	1½		1 25/32	1	1⅛	¼	**4.50**


CV-2


PS-1


CH-2

OUTPUT TRANSFORMERS
REPLACEMENT and H.O.T. *Series*

FREED TRANSFORMER CO., INC.
BROOKLYN 27 NEW YORK

Designed for delivering the maximum audio frequency power from an amplifier to a load (voice coil or line). Good frequency response and low harmonic distortion are the quality factors of the H.O.T. output transformers. Fully enclosed shielded type with leads. All H.O.T. series transformers have multiple secondary impedances.

HEAVY OUTPUT TRANSFORMERS

Freed No.	Application or Tube Type	Class	Ohms Impedance		Pri. Ma. Per Side	Max. Wat.	Inv. Feed-back %	Mtg. Type	Mounting Centers		Dimensions			Wt. Lbs	List Price
			Pri.	Sec.					W	D	W	D	H		
F-110	1-6A3, 2A3, 6Y6, 6L6	A	2,500	2-4-8-500	80	8		PS-1	2	1 11/16	2⅝	2½	3⅛	2½	**$5.10**
F-111	1-6L6	A	4,000	2-4-8-500	70	10		PS-1	2	1 11/16	2⅝	2½	3⅛	2½	**6.05**
F-112	1-6V6, 1-7C5	A	5,000	2-4-8-500	50	6		PS-1	1¾	1½	2 3/16	2⅜	2 11/16	1¾	**4.35**
F-113	1-6F6, 42, 2A5, 47 6N6, 6B5	A	7,000	2-4-8-500	40	5		PS-1	1¾	1½	2 3/16	2⅜	2 11/16	1¾	**4.35**
F-114	2-6V6-7C5 PP	AB_1	8,000	2-4-8-250-500	50	15	10	PS-1	2¼	2	2 15/16	3¼	3½	3½	**6.85**
F-115	2-2A3-PP 6A3 PP 6B4G PP 45 PP 2-6L6 PP 6Y6 PP	AB A	5,000	2-4-8-250-500	80	20		PS-1	2¼	2	2 15/16	3¼	3½	3½	**6.85**
F-116	2-6L6 PP	AB_1	6,600	2-4-8-250-500	80	30	10	PS-1	2½	2 3/16	3¼	3½	3⅞	5	**8.00**
F-117	2-6L6 PP	AB_1	3,800	2-4-8-250-500	80	20	10	PS-1	2½	2 3/16	3¼	3½	3⅞	5	**8.00**
F-118	2-6L6 PP	AB_1	9,000	2-4-8-250-500	60	30	10	PS-1	2½	2 3/16	3¼	3½	3⅞	5	**8.00**
F-119	2-6L6 PP	AB_2	6,000	4-8-16-250-500	80	40	10	PS-1	2½	2 3/16	3¼	3½	3⅞	5	**8.75**
F-120	2-6L6 PP	AB_2	3,800	4-8-16-250-500	110	50	10	PS-1	2½	2 3/16	3¼	3¾	3⅞	5½	**8.75**
F-121	4-6L6 PP Par.	AB_1	3,300	4-8-16-250-500	160	60	10	PS-1	2½	2 3/16	3¼	3¾	3⅞	5½	**9.50**
F-122	4-6L6 PP Par.	AB_1	3,300	50-125-200-250 333-500	160	60		PS-1	2½	2 3/16	3¼	3¾	3⅞	5½	**9.50**
F-123	4-6L6 PP Par.	AB_2	1,900	84-100-125-166 250-500	220	100	10	PS-1	3	3 13/16	3⅞	5	4⅝	13½	**21.90**
F-124	2-6F6-42-2A5 PP 1-6N7, 6A6, 53 PP 2-6N6, 6B5, 2B6, 6AC5	AB_2 B A	10,000	4-8-15-500	45	20		PS-1	2¼	2	2 15/16	3¼	3½	3½	**6.85**
F-125	2-2A3, 6A3, 6B4G 2-48, 25L6	AB A	3,000	4-8-15-500	60	20		PS-1	2¼	2	2 15/16	3¼	3½	3½	**6.05**
F-126	4-2A3, 6A3, 6B4G, 45 PP Par.	AB	1,500	4-8-15-500	80	40		PS-1	2¼	2	2 15/16	3¼	3½	3½	**5.85**
F-127	2-45, 43, 25 A6 PP 1-6N7, 6A6, 53 PP	A B	8,000	4-8-15-500	36	15		PS-1	2	1 11/16	2⅝	2½	3⅛	2½	**5.85**
F-128	1-12A6-6K6-7B5	A	7,500	4-8-15-500	40	5		PS-1	1¾	1 11/16	2 3/16	2⅜	2 11/16	1¾	**4.35**
F-129	2-12A6-6K6-7B5	A	12,000	4-8-15-500	40	15	10	PS-1	2	1 11/16	2⅝	2½	3⅛	2½	**5.35**
F-130	2-807 PP	AB_2	4,200	50-125-200-250 333-500	120	75		PS-1	3	3 13/16	3⅞	5	4⅝	13½	**21.90**
F-131	2-50 PP 2-6F6, 42, 2A5 PP	A AB_2	8,000	4-8-15-500	55	30		PS-1	2¼	2	2 15/16	3¼	3½	3½	**7.30**
F-132	4-807 PP Par.	AB_2	2,100	50-125-200-250 333-500	240	150		PS-1	3½	3⅜	4 7/16	4¾	5 7/32	14	**27.50**

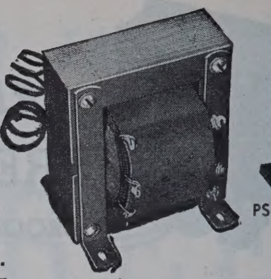
The 500 ohms secondary is designed in such a way that it can be used with a 600 ohm line.

REPLACEMENT OUTPUT TRANSFORMERS

For coupling receiver audio output tube to speaker. These transformers are usually mounted on the loudspeaker frame.

Freed No.	Application or Tube Type	Class	Ohms Impedance		Pri. MA Per Side	Max. Wat.	Mtg. Type	Mtg. Centers	Dimensions			Wt. Lbs.	List Price
			Pri.	Sec.					W	D	H		
F-314	1-25L6, 48	A	1,500 or 2,000	3.2	55	5	CH-2	2″	2⅜	1⅝	1 7/16	½	**$1.40**
F-315	1-43, 45, 71-A, 12A5 1-25A6	A	4,000	3.2	40	5	CH-2	2″	2⅜	1⅝	1 7/16	½	**1.40**
F-316	1-2A5, 6A4, 6F6, 41 1-42, 47, 89	A	7,000	3.2	40	5	CH-2	2″	2⅜	1⅝	1 7/16	½	**1.40**
F-317	1-3Q5, 3S4, 1Q5, 1C5 1-1S4, 3A4	A	8,000	3.2	10	5	CH-2	2″	2⅜	1⅝	1 7/16	½	**1.45**
F-318	1-1D8, 1F5, 1T5, 38	A	14,000 or 16,000	3.2	10	5	CH-2	2″	2⅜	1⅝	1 7/16	½	**1.45**
F-319	1-3Q4 1-19PP, 1J6GPP, 1G6G 2-30PP, 49PP	A B B	10,000 CT	3.2	15	8	CH-2	2⅜″	2 13/16	1¾	1 11/16	¾	**2.00**
F-320	2-45PP-71PP, 43PP 2-25 AG PP	A	8,000 CT	3.2	40	10	CH-2	2 13/16″	3¼	2	2	1¼	**2.70**
F-321	2- 6F6 PP, 42 PP 2- 2A5PP, 6A4, P.P.	A	14,000 CT	3.2	40	8	CH-2	2⅜″	2 13/16	1¾	1 11/16	¾	**2.00**
F-322	1- 6V6	A	5,000	3.2	45	5	CH-2	2″	2⅜	1⅝	1 7/16	½	**1.40**

AUDIO TRANSFORMERS
Receiver and Amplifier
VIBRATOR TRANSFORMERS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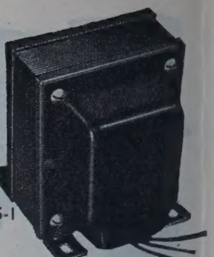
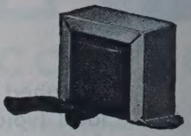

PS-I


CH-1

FREED TRANSFORMER CO., INC.
BROOKLYN 27 NEW YORK

RECEIVER AUDIO TRANSFORMERS

Designed for use in receiver audio circuits where a reasonably good frequency response is required. To be used for Class A applications, i.e., where no great current is drawn.

Freed No.	Classification	Application	Ohms Impedance Pr.	Ohms Impedance Sec.	Turns Ratio	Pri MA Per Side	Mtg. Type	Mtg. Centers W	Dimensions W	Dimensions D	Dimensions H	Wgt. Lbs.	List Price
F-550	Input	DB mike to grid	200/50	100,000	1:22.4		CH-1	2 13/16	3¼	2	2	1¼	**$3.15**
F-551	Input	SB mike to grid	100	100,000	1:31.6	100	CH-1	2 13/16	3¼	2	2	1¼	**3.15**
F-552	Input	Dyn. mike line or mixer to single or P.P. grid	200/50	100,000 CT	1:22.4		CH-1	2 13/16	3¼	2	2	1¼	**3.40**
F-553	Input	Line to single or P.P. class A grids	125/500	100,000 CT	1:14.1		CH-1	3⅛	3 11/16	2¼	2 15/16	1¾	**4.10**
F-554	Input	Plate and single button mike to grid	10,000 100	100,000 100,000	1:3.16 1:31.6		CH-1	2 13/16	3¼	2	2	1¼	**3.15**
F-555	Input	Voice coil to grid	4/8	100,000	1:112		CH-1	2 13/16	3¼	2¼	2	1½	**3.65**
F-556	Matching	DB mike to line	200/50	500/125			CH-1	3⅛	3 11/16	2¼	2 15/16	1¾	**4.50**
F-557	Matching	High impedance mike to line or mixer	100,000	200/50	1:22.4		CH-1	3⅛	3 11/16	2¼	2 15/16	1¾	**4.50**
F-558	Interstage	Single plate to single grid	10,000	90,000	1:3	8	CH-1	2 13/16	3¼	2	2	1¼	**2.60**
F-559	Interstage	Single plate to P.P. grids	10,000	90,000 CT	1:3	8	CH-1	2 13/16	3¼	2	2	1¼	**2.70**
F-560	Interstage	Single High Imp. plate to single grid	50,000	50,000	1:1	2	CH-1	2 13/16	3¼	2	2	1¼	**4.25**
F-561	Interstage	P.P. plates to P.P. grids	20,000 CT	20,000 CT	1:1	8	CH-1	2 13/16	3¼	2	2	1¼	**4.25**
F-562	Output	Single plate to line or mixer	10,000	200/50	7.1:1	8	CH-1	2 13/16	3¼	2	2	1¼	**3.05**
F-563	Output	Single plate to line	10,000	500/125	4.8:1	8	CH-1	2 13/16	3¼	2	2	1¼	**3.05**
F-564	Output	P.P. plates to line or mixer	20,000	200/50	10:1	8	CH-1	2 13/16	3¼	2	2	1¼	**3.05**
F-565	Output	P.P. plates to line	20,000	500/125	6.32:1	8	CH-1	2 13/16	3¼	2	2	1¼	**3.05**

AMPLIFIER AUDIO TRANSFORMERS

Designed for amplifier and transmitter audio circuits. To be used for Class "A" applications.

Fully enclosed shielded type construction, conservative design and good frequency response are the quality features of the amplifier audio transformers.

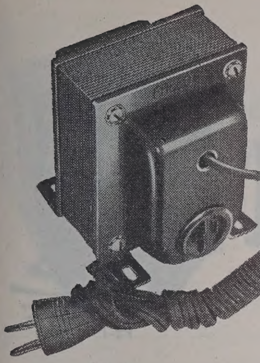
F-500	Input	DB mike to grid	200/50	100,000	1:22.4		PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜	**$3.75**
F-501	Input	SB mike to grid	100	100,000	1:31.6	100	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜	**3.75**
F-502	Input	Dyn. mike line or mixer to single or P.P. grids	200/50	100,000 CT	1:22.4		PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜	**4.00**
F-503	Input	Line to single or P.P. class A grids	150/600	100,000 CT	1:12.9		PS-I	1¾	1½	2 3/16	2⅜	2 23/32	2⅛	**4.75**
F-504	Input	Plate and single button mike to grid	10,000 100	100,000 100,000	1:3.16 1:31.6		PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜	**3.75**
F-505	Input	Voice coil to grid	4/8	100,000	1:112		PS-I	1½	1 11/16	1⅞	2½	2 11/32	1¾	**4.25**
F-506	Matching	DB mike to line	200/50	500/125			PS-I	1¾	1½	2 3/16	2⅜	2 23/32	2⅛	**5.10**
F-507	Matching	High Impedance mike to line or mixer	100,000	200/50	1:224		PS-I	1¾	1½	2 3/16	2⅜	2 23/32	2⅛	**5.10**
F-508	Interstage	Single plate to single grid	10,000	90,000	1:3	8	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜	**3.35**
F-509	Interstage*	Single plate to PP grid	10,000	90,000	1:3	8	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜	**3.45**
F-510	Interstage	Single High Imp. plate to single grid	50,000	50,000	1:1	2	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜	**4.80**
F-511	Interstage*	PP plate to PP grids	20,000 CT	20,000 CT	1:1	8	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜	**4.80**
F-512	Output	Single plate to line or mixer	10,000	200/50	7.1:1	8	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜	**3.65**
F-513	Output	Single plate to line	10,000	500/125	4.8:1	8	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜	**3.65**
F-514	Output	PP plate to line or mixer	20,000 CT	200/50	10:1	8	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜	**3.65**
F-515	Output	P.P. plates to line	20,000 CT	500/125	6.32:1	8	PS-I	1½	1 7/16	1⅞	2¼	2 11/32	1⅜	**3.65**

***Has Split Secondary Winding**

VIBRATOR TRANSFORMERS

Designed for Automobile Receivers Using A Vibrator from a Six Volt Battery Source.

Freed No.	D.C. Output Deliver by Sec. Volts	D.C. Output Deliver by Sec. Ma.	Style Mtg.	Mounting Dimensions W	Mounting Dimensions D	Dimensions W	Dimensions D	Dimensions H	Weight	List Price
F-450	225	40	BV	2	1¾	2½	2	3 1/16	2	**$4.25**
F-451	250	50	BV	2	1⅞	2½	2⅛	3 1/16	2¼	**4.60**
F-452	250	60	BV	2¼	1¾	2 13/16	2⅛	3 7/16	2½	**5.30**
F-453	275	70	BV	2¼	1⅞	2 13/16	2¼	3 7/16	3	**6.00**
F-454	350	75	BV	2¼	2	2 13/16	2⅜	3 7/16	3½	**6.50**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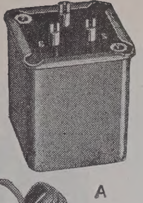
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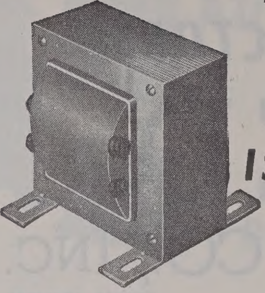
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FILTER CHOKES and HI "Q" REACTORS

FILAMENT, AUTO and ISOLATION TRANSFORMERS

FREED
TRANSFORMER CO., INC.
BROOKLYN 27 NEW YORK

HUM BUCKING CONSTRUCTION FILTER CHOKES

Designed for Series-Parallel Operation at Full Rated Load and Low Temperature Rise

Freed No.	Induct.	D.C. Cur.	D.C. Resis.	R.M.S. Test Volts	Mounting Type	Mtg. Dimensions W	Mtg. Dimensions D	Dimensions W	Dimensions D	Dimensions H	Weight Lbs.	List Price
F-700	320/80	3/6	6000/1500	2500	OC	2⅛	1¾	2⅝	2¼	3⅛	3	**$11.00**
F-701	100/25	35/70	1400/350	2500	OC	3 9/16	2 15/16	4⅛	3½	4⅝	7½	**11.25**
F-702	50/12.5	50/100	600/150	2500	OC	2 9/16	2⅜	3⅛	2 15/16	3 13/16	5½	**11.25**
F-703	50/12.5	100/200	528/132	3000	OC	4½	3⅝	5 1/16	4 3/16	5 3/16	10	**20.30**
F-704	16/4	125/250	240/60	3000	OC	3 9/16	2 15/16	4⅛	3½	4⅝	7	**11.25**
F-705	16/4	175/350	88/22	5000	OC	4½	3⅝	5 1/16	4 3/16	5 3/16	10	**20.30**
F-706	24/6	200/400	160/40	7500	OC	5½	5½	6⅝	6⅝	7¼	20	**36.50**

HI "Q" REACTORS

To be used in filters or tuned circuits. Standard values range from 10 millihenries to 50 henries.

Freed No.	Application	Ind. Hen.	Cur. MA	DC Ohms	Mounting Type	Mounting Dimensions W	Mounting Dimensions D	Dimensions D	Dimensions W	Dimensions H	Weight Lbs.	List Price
F-750	Filters, tuned circuits	10	10	1200	A	1⅝	*	1 11/16	1 11/16	2″	½	**$ 5.70**
F-751	Filter or tuned circuits	1	20	315	A	1⅝	*	1 11/16	1 11/16	2″	½	**5.70**
F-752	Filter or tuned circuits	.25	20	30	A	1⅝	*	1 11/16	1 11/16	2″	½	**5.70**
F-753	Filter or tuned circuits	2	30	190	OC	2⅛	1¾	2⅝	2¼	3⅛	2	**11.40**
F-754	Filter or tuned circuits	.5	30	75	OC	2⅛	1¾	2⅝	2¼	3⅛	2	**11.40**

FILAMENT TRANSFORMERS

The mounting dimension 1⅝ is given between centers across corners.

Part No.	Fil. V	C.T. A	Test Volts R.M.S.	Mounting Type	Mounting Centers W	Mounting Centers D	Dimensions W	Dimensions D	Dimensions H	Weight Lbs.	List Price
F-210	2.5	3	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	**$2.05**
F-211	2.5	7.5	1600	CH-1	2 13/16		3¼	2	2	1¼	**2.90**
F-212	2.5	12	1600	CH-1	3⅛		3 11/16	2¼	2 5/16	2	**3.25**
F-213	5	1.5	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	**2.05**
F-214	5	4	1600	CH-1	2 13/16		3¼	2	2	1¼	**2.90**
F-215	5	6	1600	CH-1	3⅛		3 11/16	2¼	2 5/16	2	**3.25**
F-216	5	8	1600	FV-1	2	2⅛	2½	2⅝	3 1/16	2¾	**4.25**
F-217	5	13	1600	FV-1	2¼	2¼	2 13/16	2⅞	3 7/16	4	**5.60**
F-218	6.3	1.35	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	**2.05**
F-219	6.3	3	1600	CH-1	2 13/16		3¼	2	2	1¼	**2.90**
F-220	6.3	5	1600	CH-1	3⅛		3 11/16	2¼	2 5/16	2	**3.25**
F-221	6.3	7	1600	FV-1	2	2⅛	2½	2⅝	3 1/16	2¾	**4.25**
F-222	6.3	10	1600	FV-1	2¼	2¼	2 13/16	2⅞	3 7/16	4	**5.60**
F-223	7.5	4	1600	CH-1	3⅛		3 11/16	2¼	2 5/16	2	**3.25**
F-224	7.5	8	1600	FV-1	2¼	2¼	2 13/16	2⅞	3 7/16	4	**5.75**
F-225	10	12	1600	FV-1	2½	2½	3⅛	3½	3 13/16	6	**9.10**

AUTO TRANSFORMERS

To be used as a step-down transformer. Equipped with standard receptacle and line cord.

Freed No.	V. A. Rating	230/115 50/60 cy.	Mounting Type	Mounting Centers W	Mounting Centers D	Dimensions W	Dimensions D	Dimensions H	Weight	List Price
F-900	**100**	" " "	PS-2	2¼	1¾	2 27/32	3	3 33/64	4½	**$8.40**
F-901	**200**	" " "	PS-2	2½	2 1/16	3 5/32	3⅜	3 57/64	6¼	**9.55**
F-902	**300**	" " "	PS-2	3	2 7/16	3 25/32	3⅝	4 41/64	7¼	**12.15**
F-903	**400**	" " "	PS-2	3	2 11/16	3 25/32	3⅞	4 41/64	8.0	**15.20**
F-904	**500**	" " "	PS-2	3	3 11/16	3 25/32	4⅞	4 41/64	13½	**18.25**
F-905	**750**	" " "	PS-2	3½	3⅞	4 7/16	5¼	5 7/32	20	**24.30**
F-906	**1000**	" " "	PS-2	3½	5⅜	4 7/16	6¾	5 7/32	29	**30.75**
F-907	**1500**	" " "	PS-2	3½	6⅜	4 7/16	7¾	5 7/32	36	**45.65**
F-908 (no cord)	**2000**	" " "	PS-2	4¾	5	6⅜	8¾	6¼	36½	**60.00**
F-909 (no cord)	**2500**	" " "	PS-2	4¾	6¼	6⅜	10	6¼	45½	**70.00**
F-910 (no cord)	**3000**	" " "	PS-2	5⅝	5¾	7¼	9⅝	6½	54¼	**81.25**

ISOLATION TRANSFORMERS

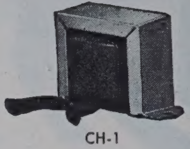
Electrostatic shield between primary and secondary.
Equipped with standard receptacle and line cord.

Freed No.	V. A. Rating	115/115 50/60 cy.	Mounting Type	Mounting Centers W	Mounting Centers D	Dimensions W	Dimensions D	Dimensions H	Weight	List Price
F-920	**50**	" " "	PS-2	2¼	1¾	2 27/32	3	3 33/64	4½	**$9.10**
F-921	**100**	" " "	PS-2	2½	2 5/16	3 5/32	3⅝	3 57/64	6¼	**13.00**
F-922	**300**	" " "	PS-2	3½	3⅜	4 7/16	4¾	5 7/32	18	**32.85**
F-923	**500**	" " "	PS-2	3½	4⅞	4 7/16	6¼	5 7/32	27	**40.00**

FILTER CHOKES and AUDIO REACTORS

FREED TRANSFORMER CO., INC.

BROOKLYN 27 NEW YORK



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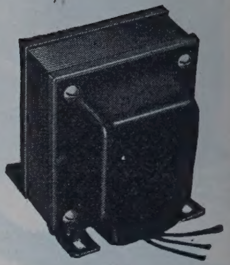

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REPLACEMENT FILTER CHOKES

Freed No.	Ind. Henry	D.C. Cur.	D.C. Res.	R.M.S. Test Volt.	Mounting Type	Mtg. Centers W	Mtg. Centers D	Dimensions W	Dimensions D	Dimensions H	Weight	List Price
F-600	3	40	160	1600	CH-1	2		2⅜	1⅝	1 7/16	½	**$1.40**
F-601	4	40	200	1600	CH-1	2		2⅜	1⅝	1 7/16	½	**1.40**
F-602	6	40	300	1600	CH-1	2		2⅜	1⅝	1 7/16	½	**1.40**
F-603	9	40	400	1600	CH-1	2		2⅜	1⅝	1 7/16	½	**1.40**
F-604	11	40	500	1600	CH-1	2		2⅜	1⅝	1 7/16	½	**1.40**
F-605	7	55	200	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	**1.45**
F-606	9	55	300	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	**1.45**
F-607	10	55	400	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	**1.45**
F-608	13	55	500	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	**1.45**
F-609	20	30	1250	1600	CH-1	2		2⅜	1⅝	1 7/16	½	**1.75**
F-610	6	50	400	1600	CH-1	2		2⅜	1⅝	1 7/16	½	**1.40**
F-611	4	60	300	1600	CH-1	2		2⅜	1⅝	1 7/16	½	**1.40**
F-612	3	75	200	1600	CH-1	2		2⅜	1⅝	1 7/16	½	**1.40**
F-613	15	35	625	1600	CH-1	2⅜		2 13/16	1¾	1 7/16	¾	**1.45**
F-614	5	75	200	1600	CH-1	2⅜		2 13/16	1¾	1 7/16	¾	**1.45**
F-615	20	50	475	1600	CH-1	2 13/16		3¼	2	2	1½	**2.55**
F-616	10	75	250	1600	CH-1	2 13/16		3¼	2	2	1½	**2.40**
F-617	6	100	150	2000	CH-1	2 13/16		3¼	2	2	1½	**2.40**
F-618	3.5	150	100	2000	CH-1	2 13/16		3¼	2	2	1½	**2.40**
F-619	2	200	60	2000	CH-1	2 13/16		3¼	2	2	1½	**2.40**

AMPLIFIER AND SMALL TRANSMITTER FILTER CHOKES

Rated under full D.C. current.

Freed No.	Ind. Hen.	D.C. Cur.	D.C. Resis.	R.M.S. Test Volts	Mounting Type	Mounting Dimensions W	Mounting Dimensions D	Dimensions W	Dimensions D	Dimensions H	Weight	List Price
F-620	20	50	475	1600	PS-1	1½	1⅝	1⅞	2½	2 5/16	1¾	**$3.15**
F-621	10	75	250	1600	PS-1	1½	1⅜	1⅞	2¼	2 5/16	1½	**3.05**
F-622	6	100	150	2000	PS-1	1½	1⅜	1⅞	2¼	2 5/16	1½	**3.05**
F-623	3.5	150	100	2000	PS-1	1½	1⅜	1⅞	2¼	2 5/16	1½	**3.05**
F-624	2	200	60	2000	PS-1	1½	1⅜	1⅞	2¼	2 5/16	1½	**3.05**
F-625	20	75	375	1600	PS-1	1¾	1½	2 3/16	2⅜	2 11/16	2⅛	**3.25**
F-626	10	110	210	2000	PS-1	1¾	1⅝	2 3/16	2½	2 11/16	2¼	**3.40**
F-627	5	150	100	2000	PS-1	1¾	1½	2 3/16	2⅜	2 11/16	2⅛	**3.25**
F-628	20	100	400	2000	PS-1	2	1 15/16	2⅝	3	3 9/64	3½	**4.95**
F-629	10	125	240	2000	PS-1	2	1 11/16	2⅝	2¾	3 9/64	3	**4.60**
F-630	12	160	180	2500	PS-1	2	2 1/16	2⅝	3⅛	3 9/64	3½	**4.95**
F-631	7	200	100	2500	PS-1	2	1 15/16	2⅝	3	3 9/64	3½	**4.95**
F-632	5	250	70	3000	PS-1	2	1 15/16	2⅝	3	3 9/64	3½	**4.95**
F-633	12	180	235	2500	PS-1	2¼	1⅞	2 27/32	3⅛	3 33/64	4	**5.70**
F-634	10	200	150	2500	PS-1	2¼	2	2 27/32	3¼	3 33/64	4¼	**5.85**
F-635	5	300	65	3000	PS-1	2¼	2⅛	2 27/32	3⅜	3 33/64	4½	**5.85**
F-636	20	160	330	2500	PS-1	2½	2⅛	3 5/32	3 7/16	3 57/64	5⅛	**7.30**
F-637	15	200	200	2500	PS-1	2½	2 5/16	3 5/32	3⅝	3 57/64	5½	**7.30**
F-638	10	250	135	3000	PS-1	2½	2 5/16	3 5/32	3⅝	3 57/64	5½	**7.30**
F-639	20	250	160	3000	PS-1	3	3 1/16	3 25/32	4¼	4 11/64	10	**9.90**

AMPLIFIER AND SMALL TRANSMITTER SWINGING CHOKES

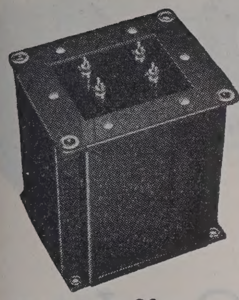
Rated under full D.C. current.

F-640	5–25	160	180	2500	PS-1	2	1 11/16	2⅝	2¾	3 9/64	3	**$4.95**
F-641	5–25	180	235	2500	PS-1	2¼	1⅞	2 27/32	3⅛	3 33/64	4	**5.70**
F-642	5–20	200	150	2500	PS-1	2¼	2	2 27/32	3¼	3 33/64	4¼	**5.85**
F-643	5–30	200	200	2500	PS-1	2½	2 5/16	3 5/32	3⅝	3 57/64	5½	**7.30**
F-644	5–20	250	135	3000	PS-1	2½	2 5/16	3 5/32	3⅝	3 57/64	5½	**7.30**

PARALLEL FEED AUDIO REACTORS

Designed to eliminate the direct current component in the primary of audio transformers to be used as plate coupling reactor where the use of a high resistance is objectionable. Low distributed capacity insures excellent high frequency response.

F-645	100	10	3500	1600	CH-1	2		2⅜	1⅝	1 7/16	½	**$1.95**
F-646	350	.5	4900	1600	CH-1	2⅜		2 13/16	1¾	1 11/16	¾	**2.10**
F-647	500	.5	6150	1600	CH-1	2 13/16		3¼	2	2	1½	**3.00**
F-648	700	.5	6150	1600	CH-1	2 13/16		3¼	2	2	1½	**3.00**
F-649	30	35	650	1600	CH-1	2 13/16		3¼	2	2	1½	**2.55**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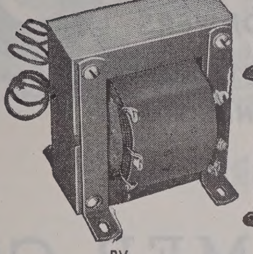
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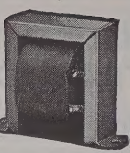
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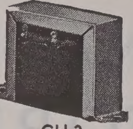
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AUDIO TRANSFORMERS

C Series

Universal

OUTPUT TRANSFORMERS

FREED TRANSFORMER CO., INC.

BROOKLYN 27 NEW YORK

AUDIO TRANSFORMERS — C SERIES

A quality line of transformers used in Public Address amplifiers and transmitters. Uniform case design, universal mounting, conservative ratings, vacuum impregnation of coils and moisture proof sealing of all these transformers is one of the outstanding features of the C Series Audio Transformers.

Low level input and output transformers have a balanced hum bucking coil construction. The frequency response of all these units is flat within ± 2 db from 60 to 10,000 cps.

Freed No.	Classification	Application	Ohms Impedance		Turns Ratio	Pri MA Per Side	Mtg. Type	Mtg. Centers		Dimensions			Wgt. Lbs.	List Price
			Pr.	Sec.				W	D	W	D	H		
F-150	Input	Microphone, line or mixer to grid	500*/333 250/200* 125/50	60,000 or 15,000	1:11		OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	**$11.65**
F-151	Input	Microphone, line or mixer to P.P. grids	500*/333 250/200* 125/50	120,000 CT	1:22		OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	**11.65**
F-152	Input	Dynamic mike to grid	60/38 30/22 15/10 5.5/2.5	60,000 or 15,000	1:31.6		OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	**11.65**
F-153	Input	Microphone, line or mixer to grid; magnetic shielding	500*/333 250/200* 125/50	50,000	1:10		OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	**14.60**
F-154	Matching	Microphone, mixer or line to low impedance line	500*/333 250/200* 125/50	500*/333 250/200* 125/50	1:1		OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	**11.65**
F-155	Matching	Dynamic mike or mixer to low impedance line	60/38 30/22 15/10 5.5/2.5	500*/333 250/200* 125/50	1:2.9		OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	**11.65**
F-156	Output	Single plate to line or mixer	10,000 to 15,000	500*/333 250/200* 125/50		8	OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	**11.65**
F-157	Output	Single plate to line or mixer; magnetic shielding	10,000 or 15,000	500*/333 250/200* 125/50			OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	**14.60**
F-158	Output	P.P. plates to line or mixer	20,000 CT	500*/333 250/200* 125/50		8	OC	2⅛	1¾	2⅝	2¼	3⅛	1¾	**11.65**

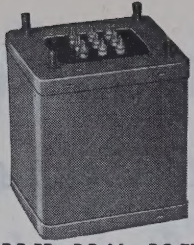
*Indicates balanced C.T.

UNIVERSAL OUTPUT TRANSFORMERS

Covering most applications. Correct matching for the various conditions can be obtained by the wide range of plate or line and voice call impedances.

Freed No.	Classification or Application	Ohms Impedance		Pri. MA	Max. Watts	Mtg. Type	Mounting Centers		Dimensions			Wt. Lbs.	List Price
		Pri.	Sec.				W	D	W	D	H		
F-300	Universal single or P.P. tubes to speaker	From 1500 to 20,000	Adjustable .1-29	36	6	CH-2	2⅜"		2 13/16"	1¾"	1 11/16"	¾	**$2.25**
F-301				55	10	CH-2	2 13/16"		3¼"	2"	2"	1¼	**2.90**
F-302				80	15	CV-2	2 11/16"		3 5/16"	2¼"	2¾"	2¼	**4.25**
F-303	Universal single tube to speaker			60	10	CH-2	2⅜"		2 13/16"	1⅞"	1 11/16"	1	**2.25**
F-304	Universal P.P. tubes to speaker	From 3,000 to 10,000	Adjustable .1-29	60	20	CV-2	3⅛"		3⅝"	2½"	3⅛"	2½	**4.25**
F-305	Universal single tube to line	2,500-4,000 5,000-7,000	500 600	60	12	CV-2	3⅛"		3⅝"	2½"	3⅛"	2½	**5.35**
F-306	Universal P.P. tubes to line	8,000-10,000 12,000-14,000	500 600	60	12	CV-2	3⅛"		3⅝"	2½"	3⅛"	2½	**5.75**
F-307	Line to tapped voice coil	500-1,000 1,500-2,000 2,500-3,000	Min. .06 to Max. 48		10	CV-2	2 11/16"		3 5/16"	2¼"	2¾"	1¼	**4.60**
F-308					15	CV-2	3⅛"		3⅝"	2½"	3⅛"	2½	**5.40**
F-309					20	BV-2	2¼"	2⅛"	2 13/16"	2¾"	3 7/16"	3½	**6.00**
F-310					30	BV-2	2½"	2 3/16"	3⅛"	3 3/16"	3 13/16"	4¼	**7.40**
F-311	Line to voice coil	500/250	15-8-4-2		10	CV-2	2⅜"		2⅞"	2"	2⅜"	1¼	**3.40**
F-312		500/250	50-25-16-8 4		60	BV-2	2½"	2¼"	3⅛"	3¼"	3 13/16"	4¼	**9.10**
F-313	Line to multiple speakers (auto-transformer)	500	250/166 125/100/84		70	BV-2	2½"	2¼"	3⅛"	3¼"	3 13/16"	4¼	**9.10**

DC-1 DC-2



DC-5B DC-6A DC-7B

HIGH FIDELITY OUTPUT TRANSFORMERS

LOW FREQUENCY HIGH "Q" COILS
HIGH "Q" TOROID INDUCTORS

Unmounted Core

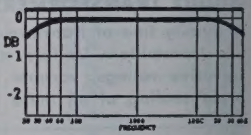
NS-1

FREED TRANSFORMER CO., INC.

BROOKLYN 27 NEW YORK

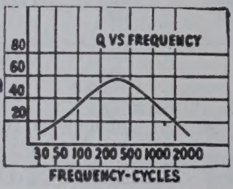
HIGH FIDELITY OUTPUT TRANSFORMERS

FREED No.	Primary Matches Following Typical Tubes	Primary Impedance	Secondary Impedance	±½ db from	Maximum Level	Type of Case	List
F-1950	Push pull 2A3's, 6A5G8s, 300A's, 275A's, 6A3's, 6L6's	5000 ohms	500, 333, 250, 200, 125, 50	20-30000 cycles	15 watts	DC-5B	**$28.00**
F-1951	Push pull 2A3's, 6A5G8s, 300A's, 275A's, 6A3's, 6L6's	5000 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	20-30000 cycles	15 watts	DC-5B	**28.00**
F-1954	Push pull 245, 250, 6V6, 42 or 2A5, A prime	8000 ohms	500, 333, 250, 200, 125, 50	20-30000 cycles	15 watts	DC-5B	**28.00**
F-1955	Push pull 245, 250, 6V6, 42 or 2A5, A prime	8000 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	20-30000 cycles	15 watts	DC-5B	**28.00**
F-1958	Push pull 6B5, 6A6, 53, 6F6, 59, 79, 89, 6V6, Class B 46, 59	10,000 ohms	500, 333, 250, 200, 125, 50	20-30000 cycles	15 watts	DC-5B	**28.00**
F-1959	Push pull 6B5, 6A6, 53, 6F6, 59, 79, 89, 6V6, Class B 46, 59	10,000 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	20-30000 cycles	15 watts	DC-5B	**28.00**
F-1962	Push pull parallel 2A3's, 6A5G's, 300A's, 6A3's, 6L6	2500 ohms	500, 333, 250, 200, 125, 50	20-30000 cycles	36 watts	DC-6A	**35.00**
F-1963	Push pull parallel 2A3's, 6A5G's, 300A's, 6A3's, 6L6	2500 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	20-30000 cycles	36 watts	DC-6A	**35.00**
F-1966	Push pull 6L6 or Push pull parallel 6L6	3800 ohms	500, 333, 250, 200, 125, 50	20-30000 cycles	50 watts	DC-7B	**45.00**
F-1967	Push pull 6L6 or Push pull parallel 6L6	3800 ohms	30, 20, 15, 10, 7.5, 5, 2.5, 1.2	20-30000 cycles	50 watts	DC-7B	**45.00**



LOW FREQUENCY HIGH "Q" COILS

FREED No.	Inductance Value	Type of Case
F-1900	100 HY	DC-2
F-1901	75 HY	DC-2
F-1902	50 HY	DC-2
F-1903	25 HY	DC-2



FREED No.	Inductance Value	Type of Case
F-1904	10 HY	DC-2
F-1905	5 HY	DC-2
F-1906	1 HY	DC-2

PRICES ON REQUEST

HIGH "Q" CHOKES . . . Used in Dynamic Noise Suppressors

FREED No.	Ind. Henry	D.C. Cur.	D.C. Res.	R.M.S. Test Volt.	Mounting Type	Mounting Centers W	Dimensions W	Dimensions D	Dimensions H	Weight	List Price
F-1980	0.6			500	CH-1	1½	1¾	1	1⅛	3 oz.	**$4.90**
F-1981	2.0			500	CH-1	1½	1¾	1	1⅛	3 oz.	**4.90**
F-1982	.4			500	CH-1	1½	1¾	1	1⅛	3 oz.	**4.90**
F-1983	1.3			500	CH-1	1½	1¾	1	1⅛	3 oz.	**4.90**

HIGH Q TOROID INDUCTORS

FREED NUMBER	INDUCTANCE VALUE	TYPE OF CASE	FREED NUMBER	INDUCTANCE VALUE	TYPE OF CASE	FREED NUMBER	INDUCTANCE VALUE	TYPE OF CASE
F-800T	5 MHY	DC-1	**F-850T**	5 MHY	NS-1	**F-1807T**	30 MHY	DC-1
F-801T	10 MHY	DC-1	**F-851T**	10 MHY	NS-1	**F-1808T**	50 MHY	DC-1
F-802T	15 MHY	DC-1	**F-852T**	15 MHY	NS-1	**F-1809T**	75 MHY	DC-1
F-803T	30 MHY	DC-1	**F-853T**	30 MHY	NS-1	**F-1810T**	100 MHY	DC-1
F-804T	50 MHY	DC-1	**F-854T**	50 MHY	NS-1	**F-1811T**	150 MHY	DC-1
F-805T	75 MHY	DC-1	**F-855T**	75 MHY	NS-1	**F-1812T**	200 MHY	DC-1
F-806T	100 MHY	DC-1	**F-856T**	100 MHY	NS-1	**F-1813T**	300 MHY	DC-1
F-807T	150 MHY	DC-1	**F-857T**	150 MHY	DC-1	**F-1814T**	400 MHY	DC-1
F-808T	200 MHY	DC-1	**F-858T**	200 MHY	DC-1	**F-1815T**	500 MHY	DC-1
F-809T	500 MHY	DC-1	**F-859T**	300 MHY	DC-1	**F-1850T**	.5 MHY	DC-1
F-810T	750 MHY	DC-1	**F-860T**	400 MHY	DC-1	**F-1851T**	1 MHY	DC-1
F-811T	1000 MHY	DC-1	**F-861T**	500 MHY	DC-1	**F-1852T**	2 MHY	DC-1
F-812T	1250 MHY	DC-1	**F-862T**	600 MHY	DC-1	**F-1853T**	3 MHY	DC-1
F-813T	1500 MHY	DC-1	**F-863T**	700 MHY	DC-1	**F-1854T**	4 MHY	DC-1
F-814T	1750 MHY	DC-1	**F-864T**	800 MHY	DC-1	**F-1855T**	5 MHY	DC-1
F-815T	2000 MHY	DC-1	**F-865T**	900 MHY	DC-1	**F-1856T**	10 MHY	DC-2
F-816T	2250 MHY	DC-1	**F-866T**	1000 MHY	DC-1	**F-1857T**	15 MHY	DC-2
F-817T	2500 MHY	DC-1	**F-1800T**	1 MHY	DC-1	**F-1858T**	20 MHY	DC-2
F-818T	2750 MHY	DC-1	**F-1801T**	2 MHY	DC-1	**F-1859T**	30 MHY	DC-2
F-819T	3000 MHY	DC-1	**F-1802T**	3 MHY	DC-1	**F-1860T**	40 MHY	DC-2
F-820T	3500 MHY	DC-1	**F-1803T**	4 MHY	DC-1	**F-1861T**	50 MHY	DC-2
F-821T	4000 MHY	DC-1	**F-1804T**	5 MHY	DC-1	**F-1862T**	75 MHY	DC-2
F-822T	4500 MHY	DC-1	**F-1805T**	10 MHY	DC-1	**F-1863T**	100 MHY	DC-2
F-823T	5000 MHY	DC-1	**F-1806T**	15 MHY	DC-1			

STANDARD TOLERANCE ±2% FOR TOLERANCES OF ±1%, ADD 7% TO COST

CASE SIZES

Type	Width	Depth	Height	Mounting	Screws	Weight
NS-1	1½"	1½"	2"	1⅜" between centers	6/32	8 oz.
DC-1	2 1/16"	1 13/16"	2½"	1½" x 1¼"	6/32	14 oz.
DC-2	2⅝"	2¼"	3"	2" x 1¾"	6/32	16 oz.
DC-5B	4 1/16"	3 7/16"	4½"	3⅛" x 2⅝"	10/32	6½ lbs.
DC-6A	4 15/16"	4 1/16"	4⅞"	3¾" x 3"	10/32	10 lbs.
DC-7B	5 7/16"	4 15/16"	6¾"	4⅜" x 3⅛"	¼-20	20 lbs.

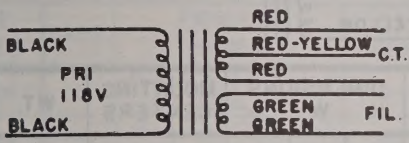
All inductors listed above can be supplied in hermetically sealed cans, commercial type construction or open units.

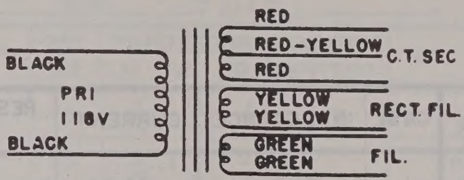
PRICES ON REQUEST

• Thermador Transformers •

POWER COMPONENTS

POWER TRANSFORMERS





TYPE NUMBER	CASE	HIGH VOLTAGE SECONDARY	SEC. CUR.	RECTIFIER FIL.	FILAMENT	DIMENSIONS			MOUNTING CENTERS	WT.	PRICE
						H	W	D			
5A6640	A	330-0-330	40 MA	5V-2A	6.3VCT@2A	$3\frac{1}{8}$	$2\frac{5}{8}$	$2\frac{11}{16}$	2 X 2	2#-8 OZ	$5.00
5A4056	A	205-0-205	50 MA		6.3V @2.5A	$2\frac{3}{4}$	$2\frac{3}{8}$	$3\frac{1}{8}$	$1\frac{3}{4}$ X $2\frac{13}{16}$	2#-5 OZ.	4.50
5A5066	A	270-0-270	60 MA	5V-2A	6.3V @2A	$3\frac{1}{4}$	$2\frac{3}{4}$	$3\frac{1}{4}$	2 X $2\frac{7}{16}$	3#-6 OZ.	5.35
5A6076	A	300-0-300	65 MA		6.3V @2 7A	$3\frac{1}{4}$	$2\frac{3}{4}$	$3\frac{1}{4}$	2 X $2\frac{7}{16}$	3#	5.25
5A6066	A	300-0-300	65 MA	5V-2A	6.3V @2.1A	$3\frac{1}{4}$	$2\frac{3}{4}$	$3\frac{1}{4}$	2 X $2\frac{7}{16}$	3#-6 OZ.	5.75
5A6086	A	300-0-300	75 MA	5V-2A	6.3V @2.85A	$3\frac{9}{16}$	$2\frac{15}{16}$	$3\frac{1}{8}$	$2\frac{1}{4}$ X $2\frac{1}{8}$	3#	6.80
5A6096	A	350-0-350	90 MA	5V-2A	6.3VCT@3.15A	$3\frac{9}{16}$	$2\frac{15}{16}$	$3\frac{7}{16}$	$2\frac{1}{4}$ X $2\frac{7}{16}$	4#	7.10
5A6116	A	310-0-310	110 MA	5V-3A	6.3VCT@5A	$4\frac{1}{8}$	$3\frac{5}{8}$	$3\frac{5}{16}$	$2\frac{3}{4}$ X 2	5#	7.50
5A6146	A	300-0-300	135 MA	5V-3A	6.3VCT@3.3A	$4\frac{1}{8}$	$3\frac{5}{8}$	$3\frac{5}{16}$	$2\frac{3}{4}$ X $2\frac{1}{4}$	5#-13 OZ.	8.10
5A6196	A	320-0-320	185 MA	5V-3A	6.3VCT@6A	$4\frac{1}{8}$	$3\frac{5}{8}$	4	$2\frac{3}{4}$ X $2\frac{11}{16}$	7#-8 OZ.	10.25

THERMADOR TRANSFORMERS

Superior materials, workmanship and performance have established these Thermador transformers as America's finest. Designed, engineered and produced by the West's largest manufacturer of transformers, the name Thermador guarantees their rugged, precision construction and their longer life.

REPLACEMENT TRANSFORMERS

Adaptable to a Particular Job: The transformer models listed have been engineered to cover the replacement field for both the old and new home radio receivers. The new line affords the widest range of application for use in receivers, amplifiers and small transmitters.

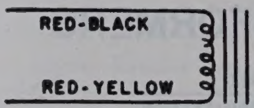
Thermatite Treated to Withstand Heat and Humidity: THERMADOR transformers are Thermatite treated, which is a well tested and approved form of vacuum impregnation. This treatment, proved on thousands of transformers under severe climatic conditions, gives these units the resistance to withstand extreme conditions of humidity and heat.

Thermador Electrical Manufacturing Company

• Thermador Transformers •

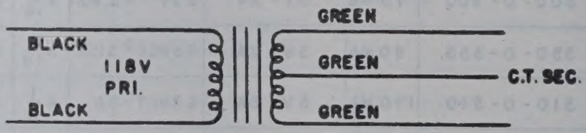
POWER COMPONENTS

CHOKES



TYPE NUMBER	CASE	INDUCTANCE	CURRENT	RESISTANCE OHMS	DIMENSIONS H	W	D	MOUNTING CENTERS	WT.	PRICE
7L1005	L	10 HY	50 MA	450	1 5/8	2 3/4	1 3/8	2 1/4	9 OZ.	$2.10
7L1008	L	10 HY	75 MA	380	2	3 1/8	1 1/2	1 3/4	8 OZ.	2.35
7A1809	A	18 HY	90 MA	600	2 7/8	2 3/8	2 13/16	1 3/4 x 1 15/16	1#-14 OZ.	4.10
7A1414	A	14 HY	135 MA	260	3 1/4	3 3/4	3	2 x 2 3/16	2#-12 OZ.	4.85
7A0819	A	8 HY CT	185 MA	212	3 3/16	2 11/16	3 3/8	2 x 2 1/2	3#-8 OZ.	5.15

FILAMENT TRANSFORMERS



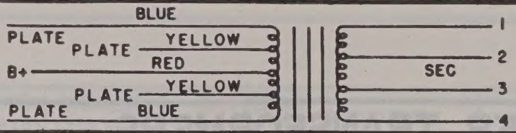
TYPE NUMBER	CASE	FILAMENT	CURRENT	TEST VOLTAGE	DIMENSIONS H	W	D	MOUNTING CENTERS	WT.	PRICE
6L6022	L	6.3 VCT	2.25 A	2000	2	3 1/8	1 7/8	2 3/4	1# -8 OZ.	$3.00
6A6042	A	6.3 VCT	4.0 A	2000	2 3/4	2 3/8	3 3/16	1 3/4 x 2 1/4	2# -5 OZ.	4.80
6A2422	A	12 V 12 V	2.0 A 2.0 A	2000	3 1/2	2 15/16	2 7/8	2 1/4 x 1 29/32	3# -4 OZ.	6.00
6D2515	D	2.5 VCT	10 A	5000	3 1/2	3	2 7/8	2 1/4 x 2	2#-12 OZ.	5.75
6A6082	A	6.3 CT	8 A	2000	3 1/2	2 15/16	3 1/4	2 1/4 x 2 9/32	3#-12 OZ.	6.50
6D1014	D	10 VCT	10 A	4000	4 1/16	3 5/8	3 1/4	2 3/4 x 2	4#-12 OZ.	7.95

Buy the best — Buy Thermador

Thermador Electrical Manufacturing Company

AUDIO COMPONENTS

OUTPUT TRANSFORMERS


BLUE
PLATE
PLATE
YELLOW
RED
B+
PLATE
YELLOW
PLATE
BLUE
1
2
SEC
3
4

TYPE NUMBER	CASE	PRIMARY OHMS	SEC. OHMS	WATTS	PRI. MA	DIMENSIONS H	W	D	MOUNTING CENTERS	WT.	PRICE
4L1026	L	5000, 7000, 10000 SINGLE	2-6	2	15	$1\frac{5}{16}$	$1\frac{13}{16}$	$1\frac{1}{8}$	$1\frac{1}{2}$	3OZ.	$2.90
4L1048	L	3500, 5000, 8000, 10000 SINGLE & P P	2-8	5	40	$1\frac{7}{16}$	$2\frac{7}{16}$	$1\frac{1}{2}$	2	5OZ	3.10
4F7050	F	7000	3, 4, 8, 16 200, 500	5	40	$2\frac{7}{8}$	$2\frac{1}{4}$	$2\frac{1}{2}$	$1\frac{5}{8}$ x $1\frac{13}{16}$	1#- 8OZ.	9.50
4L4056	L	2000, 2500, 3000, 4000 SINGLE & P.P.	2-6	5	55	$1\frac{1}{2}$	$2\frac{3}{8}$	$1\frac{1}{2}$	2	5OZ.	2.75
4L1056	L	4000, 5000, 7000, 10000, 14000 C.T.	2-16	10	50	$1\frac{15}{16}$	$3\frac{1}{16}$	$1\frac{3}{4}$	$2\frac{3}{4}$	1#	3.25
4L1051	L	4000, 5000, 8000, 10000 – P P.	2-12	10	50	$2\frac{3}{8}$	3	$1\frac{7}{8}$	$2\frac{1}{2}$	1# -5OZ.	3.80
4L1046	L	2000, 2500, 3500, 5000, 7000, 10000, SINGLE, 3000, 5000 7000, 10000 P P	1-6	7.5	45	$1\frac{9}{16}$	$2\frac{3}{4}$	$1\frac{1}{2}$	2	8OZ	2.95
4A8105	A	5000, 3000 C T P.P.	4-8 16-500	15	95	$2\frac{3}{4}$	$2\frac{3}{8}$	$2\frac{7}{8}$	$1\frac{3}{4}$ x $1\frac{15}{16}$	1#- 12OZ.	6.00
4A7145	A	5000, 6600 C T P.P.	3, 4, 6, 8, 16-500	26	140	$3\frac{1}{2}$	$2\frac{15}{16}$	$3\frac{1}{2}$	$2\frac{1}{4}$ x $2\frac{9}{16}$	4#- 8OZ	9.75

LINE TO VOICE COIL
FOR MATCHING 500 OHM OUTPUT OF AMPLIFIER TO SERIES AND PARALLEL COMBINATIONS OF 500 OHM SPEAKERS

TYPE NUMBER	CASE	PRIMARY OHMS	SEC. OHMS	WATTS	PRI. MA	DIMENSIONS H	W	D	MOUNTING CENTERS	WT.	PRICE
4L2016	L	2000, 1500, 1000, 830, 500, 250	3, 4, 6, 8, 16	12		$2\frac{3}{4}$	$2\frac{3}{8}$	3	$1\frac{1}{2}$	1#- 6OZ	$4.75

TRANSCEIVER

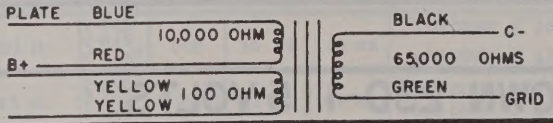
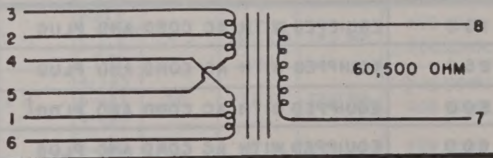


PLATE BLUE
10,000 OHM
RED
B+
YELLOW
YELLOW
100 OHM
BLACK
C-
65,000 OHMS
GREEN
GRID

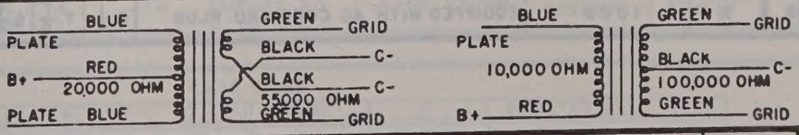
TYPE NUMBER	CASE	PRIMARY OHMS	SEC. OHMS	WATTS	PRI. MA	DIMENSIONS H	W	D	MOUNTING CENTERS	WT.	PRICE
2L1726	L	100 – 10000	65000	TURNS RATIO 1.0 25.5		$1\frac{5}{16}$	$1\frac{13}{16}$	1.	$1\frac{1}{2}$	3OZ	$3.25

INPUT


3
2
4
5
1
6
8
60,500 OHM
7

TYPE NUMBER	CASE	PRIMARY OHMS	SEC. OHMS	WATTS	PRI. MA	DIMENSIONS H	W	D	MOUNTING CENTERS	WT.	PRICE
2F5611	F	50, 125, 200, 250 333 500	50000	1 10		$2\frac{7}{8}$	$2\frac{1}{4}$	$2\frac{1}{2}$	$1\frac{5}{8}$ x $1\frac{13}{16}$	1# – 8OZ.	$16.25

INTERSTAGE


BLUE
PLATE
RED
B+
20,000 OHM
PLATE BLUE
GREEN
GRID
BLACK
C-
BLACK
C-
55000 OHM
GREEN
GRID
BLUE
PLATE
10,000 OHM
B+
RED
GREEN
GRID
BLACK
C-
100,000 OHM
GREEN
GRID

TYPE NUMBER	CASE	PRIMARY OHMS	SEC. OHMS	WATTS	PRI. MA	DIMENSIONS H	W	D	MOUNTING CENTERS	WT.	PRICE
3A2602	A	20000 P P	55000 P P	1 1.73		$2\frac{7}{8}$	$2\frac{3}{8}$	$2\frac{3}{8}$	$1\frac{3}{4}$ x 2	1#- 13OZ	$6.00
3L1103	L	10000 SINGLE	100000 P P	1 316		$1\frac{5}{8}$	$2\frac{3}{4}$	$1\frac{3}{8}$	$2\frac{1}{4}$	8OZ	2.85

• Thermador Transformers •

TELEVISION

POWER TRANSFORMERS

TYPE NUMBER	CASE	HIGH VOLTAGE SECONDARY	SEC. CUR.	RECT FIL.	FIL	FIL.	DIMENSIONS H	W	D	MOUNTING CENTERS	WT.	PRICE
5A7026	A	350-0-350	200 MA	5V-3A	6.3V@7A	6.3V @1A	$4\frac{1}{16}$	$3\frac{3}{4}$	$4\frac{3}{4}$	$2\frac{3}{4} \times 3\frac{1}{4}$	10#	$9.25
5A8026	A	380-0-380	220 MA	5V-3A	6.3V@8.5A	6.3 @1.2A	$4\frac{15}{16}$	$4\frac{5}{16}$	$4\frac{1}{4}$	$3\frac{3}{8} \times 3$	11#	12.00
5B7035	B	365-0-365	300 MA	5V-6A	5V@2A	12.6CT@6A	$6\frac{15}{16}$	$4\frac{1}{8}$	$4\frac{3}{4}$	$3\frac{1}{4} \times 4$	$15\frac{1}{2}$#	15.00

CHOKES

TYPE NUMBER	CASE	INDUCTANCE	CURRENT	RESISTANCE OHMS	DIMENSIONS H	W	D	MOUNTING CENTERS	WT.	PRICE
7L0422	L	4 HY	220 MA	100	$2\frac{3}{4}$	$4\frac{1}{8}$	$2\frac{1}{8}$	$3\frac{5}{8}$	$2\frac{1}{2}$#	$3.45
7L0130	L	1 HY	300 MA	37	$2\frac{1}{4}$	$3\frac{7}{8}$	$2\frac{1}{2}$	$3\frac{5}{16}$	$2\frac{1}{4}$#	4.25

OUTPUT TRANSFORMERS

TYPE NUMBER	CASE	PRIMARY IMPEDANCE	SECONDARY IMPEDANCE	WATTS	PRI MA	DIMENSIONS H	W	D	MOUNTING CENTERS	WT.	PRICE
4L8350	L	8000 OHMS	3.2 OHMS	10	50	2	$3\frac{1}{4}$	$1\frac{5}{8}$	$2\frac{3}{4}$	1#-5OZ.	$3.70
4D1001	D	VERTICAL OUTPUT TRANSFORMER FOR USE IN CIRCUITS USING TYPE 201D1 AND 201D2 DEFLECTION YOKES. RATIO 10:1				$3\frac{3}{16}$	$2\frac{11}{16}$	$3\frac{1}{4}$	$2 \times 2\frac{5}{16}$	$2\frac{1}{2}$#	7.50

STEP-DOWN 230-115 VOLTS

TYPE NUMBER	CASE	RATING VA	CONNECTIONS	DIMENSIONS H	W	D	MOUNTING CENTERS	WT.	PRICE
5A1150	A	150	EQUIPPED WITH AC CORD AND PLUG	$3\frac{1}{2}$	3	$3\frac{1}{4}$	$2\frac{1}{4} \times 2\frac{1}{8}$	4#	$11.00
5A1250	A	250	EQUIPPED WITH AC CORD AND PLUG	$4\frac{1}{8}$	$3\frac{3}{4}$	$3\frac{3}{4}$	$2\frac{3}{4} \times 2\frac{1}{4}$	6#	15.50
5A1500	A	500	EQUIPPED WITH AC CORD AND PLUG	5	$4\frac{3}{8}$	5	$3\frac{3}{8} \times 3\frac{1}{2}$	13#	19.85
5A1600	A	600	EQUIPPED WITH AC CORD AND PLUG	5	$4\frac{3}{8}$	$5\frac{1}{4}$	$3\frac{3}{8} \times 3\frac{7}{8}$	$14\frac{1}{2}$#	20.45
5K1800	K	800	EQUIPPED WITH AC CORD AND PLUG	$8\frac{1}{4}$	$7\frac{1}{4}$	$5\frac{3}{8}$	$6\frac{11}{16} \times 4\frac{3}{8}$	$22\frac{1}{2}$#	43.20
5K1999	K	1000	EQUIPPED WITH AC CORD AND PLUG	$8\frac{1}{4}$	$7\frac{7}{8}$	$6\frac{1}{4}$	$7\frac{1}{4} \times 5\frac{1}{8}$	25#	56.25

Buy the best — Buy Thermador

Thermador Electrical Manufacturing Company

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STUDIO QUALITY TRANSFORMERS

INPUT TRANSFORMERS

TYPE NUMBER	CASE	PRIMARY IMPEDANCE	SECONDARY IMPEDANCE	PRI. IND @ IMV	TURN RATIO	SHIELDING & HUM REDUCTION	TERMINALS	RESPONSE	WT.	PRICE
SQ2	HB	500**-333-250 200*-125*-50*	100000 P P GRIDS	6H	1:14.1	90 DB REDUCTION IPM & HUM-BUCKING	9	2DB DOWN @ 20C 2DB DOWN @ 10KC	7 OZ.	$21.00
SQ4	HM	500*-333-250 200*-125*-50*	50000 GRIDS	6H	1 10	45DB SHIELDING I PM	8	2DB DOWN @ 20C 2DB DOWN @ 20KC	3 1/2 OZ.	17.00

*BALANCED WINDINGS **BALANCED DC WINDINGS

TONE CHOKES

TYPE NUMBER	CASE	INDUCTANCE	Q	SHIELDING	TERMINALS	D.C. CURRENT	WT.	PRICE
SQ96	HB	200*-163-141-121*-115 110-87.5-83.2-71.4-67.3 63.5-53*-50*-46.8*-37.8 35.1-32.5-25.15-22.9-20.7 13.3*-11.68*-7.5*-5.2-1.87* HENRIES	3-8	90 DB IPM AND HUM-BUCKING	8	8 MA MAX	7 OZ	$18.00
SQ98	HB	16*-12.45-11.35-9.62-9.4* 8.4-6.95-6.08-5.9-5.07 4.87*-4.7-4*-3.33-3.2* 3.05-2.45-2.36*-1.85-1.64* 1.22*-.86*-.8-.41*-.215* HENRIES	3-8	90 DB I PM HUM-BUCKING	8	10 MA MAX	7 OZ	17.00

BALANCED WINDINGS

OUTPUT TRANSFORMERS

TYPE NUMBER	CASE	PRIMARY IMPEDANCE	SEC IMP.	PRI. OCL 60 CYCLES	USE	WATTS	MAX. DB LEVEL	PRI CUR.	RESPONSE	WT.	PRICE
SQ30	HG	15000 Ω OR 3750 Ω	500* 125	200 H	2-6C5 2-6J5 2-6SN7 ETC	1-2	30 DB	10 MA	1 DB DOWN @ 20C 1 DB DOWN @ 25KC	1#	$25.00
SQ32	F5	10000 Ω OR 8000 Ω	500*-125 16*-12-8* 6-4-2	85 H	2-6V6 2-7C5 2-6K6 ETC	10 TO 12	33 DB	80 MA	2DB DOWN @ 20C 0DB DOWN @ 25KC	3 3/4#	30.00
SQ34	F6	5000 Ω OR 3000 Ω	500*-125 16*-12-8* 6-4-2	45 H	2-6B4 2-2A3 2-6A3 ETC.	15	34 DB	80 MA	1 1/2 DB DOWN @ 20C 0DB DOWN @ 25KC	6#	32.00
SQ36	F7	6600 Ω OR 5000 Ω	500*-125 16*-12-8* 6-4-2	52 H	2-6L6 A, OR AB 2-815 ETC	26.5	36.5 DB	145 MA	2DB DOWN @ 20C 0DB DOWN @ 25KC	8 3/4#	38.50
SQ38	F7	2500 Ω OR 1500 Ω	500*-125 16*-12-8* 6-4-2	23 H	4-2A3 4-6A3 4-6B4	30	37 DB	160 MA	1 1/2 DB DOWN @ 20C 0DB DOWN @ 25KC	9 1/2#	40.50
SQ40	K1	6000 Ω OR 3800 Ω	500*-125 16*-12-8* 6-4-2	48 H	2-6L6 AB₂	45	39 DB	205 MA	2DB DOWN @ 20C 0DB DOWN @ 25KC	15 3/4#	48.50
SQ42	K1	3300 Ω OR 2500 Ω	500*-125 16*-12-8* 6-4-2	27 H	4-6L6 A OR AB. 2 807	60	40 DB	280 MA	2DB DOWN @ 20C 0DB DOWN @ 25KC	17#	52.50

*BALANCED WINDINGS

CASE SIZES

CASE	H	W	D
F-4	3 5/16	2 3/8	2 7/8
F-5	3 3/4	2 7/8	3 1/8
F-6	4 7/16	3 3/8	3 5/8
F-7	4 15/16	3 7/8	4 13/32
K-1	6 1/2	4 1/4	4 3/4

CASE	H	DIAMETER	
HM	1 11/16	1 3/8	
HB	2	1 3/8	
HG	2 5/8	2 1/8	

NOTE THE HM, HB, AND HG CASES ARE HERMETICALLY SEALED AND MOUNT INTO STANDARD TUBE SOCKET PUNCHING 1 1/2" CENTERS

• Thermador Transformers •

STUDIO QUALITY TRANSFORMERS

DRIVER TRANSFORMER

TYPE NUMBER	CASE	PRIMARY	SECONDARY	USE	PRI CURRENT	RESPONSE	WT.	PRICE
SQ-10	F4	15000* OHM OR 3750 OHM	135000 OHM * * BLANCED SPLIT WINDINGS	SINGLE OR P.P. DRIVERS	12 MA	1 1/2 DB DOWN @ 25C 0 DB DOWN @ 25KC	3#	$24.00

POWER TRANSFORMER

TYPE NUMBER	CASE	PRIMARY VOLTAGE	SECONDARY VOLTAGE	FIL. NO. 1	FIL. NO. 2	FIL NO. 3	WT	PRICE
SQ-80	F-7	105 115 125	380-320-80-0-320-380 @ 120 MA	5VCT @ 3A	6.3VCT @ 4A	2.5VCT @ 5A	9 1/2#	$24.00
SQ-82	K-1	105 115 125	420-375-80-0-375-420 @ 200 MA	5VCT @ 3A	6.3V.-@ 5.5A	2.5VCT @ 10A	13 1/2#	30.00
SQ-84	K-1	105 115 125	575-440-60-0-440-575 @ 325 MA	5VCT @ 6A	6.3VCT @ 4A	6.3VCT @ 2.5A	19 1/4#	34.50

CHOKES

TYPE NUMBER	CASE	INDUCTANCE	CURRENT	D.C. RESISTANCE	VOLTAGE INSULATION	WT.	PRICE
SQ-90	F-6	16/4	120 MA OR 240 MA	250 OHMS	2000	6 1/2#	$19.50
SQ-92	F-7	16/4	175 MA OR 350 MA	185 OHMS	2500	9 3/4#	24.00

STUDIO QUALITY TRANSFORMERS

THE HI-FIDELITY series of audio equipment listed above represents the highest degree of quality yet attained in audio transformers. In addition to the absolute moisture elimination provided by "Thermatite" treatment, THERMADOR hi-fidelity transformers have the following advantages:

Wide Frequency Range: Transformers of the SQ series are linear within one db. from 20 to 20000 cycles.

Balanced Winding. THERMADOR transformers are constructed to give the best practical magnetic, capacity and resistive balance. In designs where capacity balance is important, each winding is made up of two symmetrical coils. Input transformers are supplied with a static shield between primary and secondary.

Low Harmonic Distortion: THERMADOR transformers are designed to offer the proper load impedance to the tubes with which they operate. Maximum primary inductance, low leakage reactance and low flux densities in the core permit unusually low harmonic levels.

Catalog with case types illustrated is available upon request. For full information write to:

Thermador Electrical Manufacturing Company

TRANSFORMERS

OUTPUT TRANSFORMERS Receiver Replacement Type

To couple the plate or plates of the output stage to the speaker voice coil. Sec. impedance—3.5 ohms.

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A.	Max. Watts	Mtg. Centers	Dimen. H.	W.	D.	Mtg.
A-3025	$1.25	7A5, 35A5, 35C5, 50C5, 32L7, 35L6, 50B5	A	2500	50	3	1¾	1³⁄₁₆	1⁷⁄₁₆	⅞	A
A-3026	1.25	6V6, 7C5, 25AC5, 35A5, 35B5, 35L6	A	5000	40	3	1¾	1³⁄₁₆	1⁷⁄₁₆	⅞	A
A-2927	1.25	Single 1C5-G, 1G5-G, 1G5, 1S4, 3Q4, 3Q5, 3S4, 6A4	A	8000	20	3	1½	1⅜	1⅞	1	B
A-2928	1.40	Single 2A3, 6A3, 6B4, 6Y6, 25AC5, 25B6, 25N6, 25L6, 35A5, 35L6, 50L6, 48, 50B5, 35B5, 50A5	A	2000	60	5	2	1⅜	2⅜	1¼	A
A-2930	1.45	Single 6V6, 7C5, 12A, 12A5, 25A6, 25A7, 35A5, 35L6, 31, 45, 50, 59	A	5000	40	5	2	1⅜	2⅜	1¼	A
A-2935	3.00	PP 6L6	A	5000 c.t.	150	18	2¹³⁄₁₆	2	3¼	1⅝	A
A-2931	1.45	Single 2A5, 6AC5, 6B5, 6F6, 6K6, 6N6, 7B5, 20, 31, 42, 47, 50, 6V5	A	7000	30	5	2	1⅜	2⅜	1¼	A
A-2932	1.45	Single 1C5, 1Q5, 3C5, 6A4, 6G6, 6N7, 6R7, 12A, 38, 41, 49, 3V4	A	10000	30	5	2	1⅜	2⅜	1¼	A
A-2938	2.10	Single 19, 1G6, 1J6 PP 1H4, 30, 49	B	10000 c.t.	40	5	2	1⅜	2⅜	1¼	A
A-2936	2.40	PP 6AC5 PP 6V6, 7C5	B AB_1	10000 c.t.	75	10	2⅜	1⅝	2¹³⁄₁₆	1½	A
A-2933	1.80	Single 1D8, 7B5, 6K6, 6G6	A	12000	10	5	2	1⅜	2⅜	1¼	A
A-2934	1.55	Single 1D8, 1F4, 1F5, 1J5, 1T5, 6V7, 12A7, 85	A	15000	10	5	2	1⅜	2⅜	1¼	A
A-2937	1.75	Single 1A5, 1N6, 6V7, 85 PP 1E7, 1J5, 6G6, 3A4, 3V4	A	25000 c.t.	10	5	2	1⅜	2⅜	1¼	A

OUTPUT TRANSFORMER KITS

	List Price	
Kit No. 1	$12.85	(2 ea.) A-2928, (1 ea.) A-2930, A-2931, A-2932, A-2934, A-2936, A-2937
Kit No. 2	13.15	(2 ea.) A-2928, A-2937, (1 ea.) A-2930, A-2931, A-2934, A-2936
Kit No. 3	12.95	(1 ea.) A-2928, A-2930, A-2931, A-2932, A-2933, A-2934, A-2937, A-2938
Kit No. 4	14.00	(2 ea.) A-2928, A-2931, A-2936, A-2937

FILTER TAPPED OUTPUT TRANSFORMERS Pri. has 3% and 6% Humbucking Taps Sec. Impedance 3-4 ohms

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A.	Max. Watts	Mtg. Centers	Dimensions H	W	D	Mtg.
A-3031	$1.75	Single 2A3, 6A3, 7A5, 25L6, 35A5, 35B5, 35L6, 45, 50B5, 50L6	A	3000	50	5	2	1⅜	2⅜	1¼	A
A-3032	1.75	Single 6V6, 6B5, 7C5, 6F6	A	6000	40	5	2	1⅜	2⅜	1¼	A

SPECIAL OUTPUT TRANSFORMERS To Couple Push Pull Plates to Line or Voice Coil Sec. Impedance 2-4-8-15-250-500 ohms

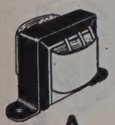
Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A. per Side	Max. Watts	Mtg. Centers	Dimensions H	W	D	Mtg.
A-3027	$5.50	PP2A5, 6V6, 7C5, 19, 6F6 PP1H4G, 1J6, 6AC5, 49	A AB_1 B	10000 c.t.	45	15	2¹³⁄₁₆	2	3¼	1¾	F
A-3028	6.25	PP6L6 PP2A3	A_1 AB_1	5000 c.t.	70	20	3⅛	2³⁄₁₆	3¹¹⁄₁₆	2	F

VERTICAL OUTPUT TRANSFORMER

Type No.	List Price	Turns Ratio Primary to Secondary	Mtg. Centers	Dimensions H.	W.	D.	Mtg. Type
★A-3035	$5.25	10:1	1¹⁹⁄₃₂x2	3⅛	2¹¹⁄₁₆	2½	EV

★Indicates TV Replacements.

All prices subject to trade discount, and change without notice.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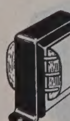
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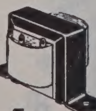
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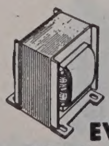
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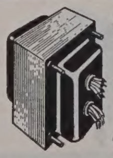
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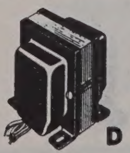
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Products of Merit

TRANSFORMERS

BLOCKING OSCILLATOR TRANSFORMER

Type No.	List Price	Turns Radio Primary to Secondary	Mtg. Centers	Dimensions			Mtg. Type
				H.	W.	D.	
★A-3000 Vertical	$2.00	1:4.2	2	1⅜	2⅜	1¼	A
★A-3002 Horizontal	2.25	2:1	2	1⅜	2⅜	1¼	A

DUAL PRIMARY OUTPUT TRANSFORMERS For Use with AC-DC Battery Portable Receivers—Sec. Impedance 3-4 ohms

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A.	Max. Watts	Mtg. Centers	H	W	D	Mtg.
A-3029	$1.75	Single 25AC5, 25B6, 25L6, 25N6, 35A5, 35B5, 35L6, 50A5, 50B5, 50L6 OR Single 1S4, 1Q5, 3Q4, 3Q5, 3V4	A A	2000 or 6000	60 or 10	5	2	1⅜	2⅜	1¼	A
A-3030	1.75	Single 25AC5, 25B6, 25L6, 25N6, 35A5, 35L6, 50A5, 50B5, 50L6 OR Single 1S4, 1Q5, 3Q4, 3Q5, 3V4	A A	2000 or 10000	60 or 10	5	2	1⅜	2⅜	1¼	A

UNIVERSAL OUTPUT TRANSFORMERS To Provide Correct Coupling Between a Variety of Output Tubes and Any Speaker Voice Coil

Type No.	List Price	Tube	Ohms Impedance Pri.	Sec.	Pri. M.A.	Max. Watts	Mtg. Centers	H.	W.	D.	Mtg.
A-2900	$2.40	Single or Push-pull	4000-7000-8000-10000-14000 c.t.	.17 to 32	35	4	2	1⅜	2⅜	1¼	F
A-2901	2.55	Single or Push-pull	4000-7000-8000-10000-14000 c.t.	.17 to 32	40	8	2⅜	1⅝	2 13/16	1½	F
A-2902	2.50	Single	1500-2000-4000-5000-7000-10000	.1 to 40	55	10	2⅜	1⅝	2 13/16	1½	F
A-2903	2.00	Single	2000-4500-7000-10000	3.2	30	4	2	1⅜	2⅜	1¼	F
A-2904	3.25	Single or Push-pull	4000-7000-8000-10000-14000 c.t.	.17 to 32	40	18	2⅜	2¼	2⅞	1⅞	G
A-2905	4.25	Single or Push-pull	3000-5000-7000-8000-10000 c.t.	.17 to 32	70	24	3⅛	2¼	3 11/16	2⅛	F
A-2998	2.00	Single	3500-5000-7000-10000	3.2	35	3	1¾	1⅛	2⅛	1⅛	F
A-2999	2.00	Single	12000-15000-18000-25000	3.2	10	3	1¾	1⅛	2⅛	1⅛	F

HEAVY DUTY OUTPUT TRANSFORMERS High Level Type to Couple to Line or Speaker. Sec. Impedance: 4-8-15-250-500 ohms

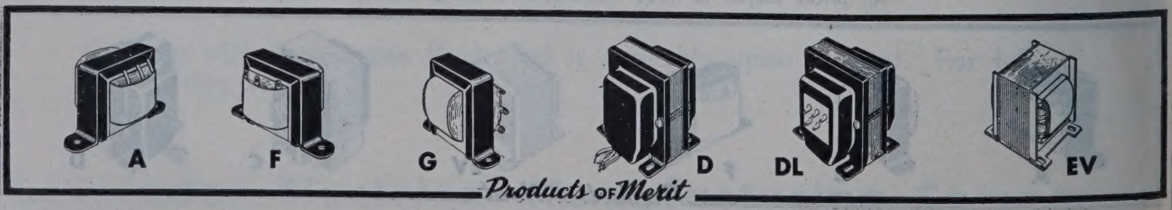
Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A. per Side	Max. Watts	H.	W.	D.	Mtg.
A-3127	$5.00	Single 6L6, 2A3, 6A3, 6Y6	A	2500	80	8	3⅛	2⅝	2½	D
A-3128	8.00	PP6V6, 6F6	AB_1	8000 c.t.*	50	14	3½	2 15/16	3⅛	D
A-3129	8.00	PP6L6	AB_1	4300 c.t.*	95	25	3½	2 15/16	3⅛	D
A-3130	8.75	PP6L6	AB_1	6600 c.t.*	80	34	3⅞	3 3/16	3⅜	D
A-3131	7.00	PP6L6, 6Y6, PP2A3, 6A3, 6B4, 45, PP6N7, 46	A AB B	5000 c.t.	80	30	3½	2 15/16	3⅛	D
A-3132	7.00	PP6F6,2A5, 7C5, Single 6N7, 6A6	AB_2 B	10000 c.t.	40	25	3½	2 15/16	3⅛	D
A-3133	11.50	P.P. Par. 6L6, P.P. 807	AB_1	3300 c.t.	240	55	4⅝	3 13/16	4	D†

* 10% Feedback Winding. † Mtg. Centers 3 x 2 13/16.

UNIVERSAL LINE TRANSFORMERS To Couple Various Line Impedances to a Voice Coil

Type No.	List Price	Ohms Impedance		Watts	Mtg. Centers	Dimensions			Mtg.
		Pri.	Sec.			H.	W.	D.	
A-2906	$2.25	500-1000-1500-2000	3.2, 6-8	10	2⅜	1⅝	2 13/16	1½	F
A-2907	3.75	500-1000-1500-2000	3.2, 6-8	18	2⅜	2¼	2⅞	1⅞	G
A-2908	4.00	500-1000-1500-2000	6-8, 16	24	3⅛	2¼	3 11/16	2⅛	F
A-2909	2.25	45-50	3.2, 6-8	8	2	1⅝	2 13/16	1½	G
A-3005	1.75	500	3.2, 6-8	5	2	1⅜	2⅜	1¼	A
For Use With Constant 70.7V. Line as Recommended by the RMA. Rated Power is Furnished on Lowest Tap. Other Taps Provide Reduction in Power in Steps of 3DB.									
A-3014	$2.75	500-1000-2000-4000-8000	4-8-16	10	2⅜	1⅝	2 13/16	1½	F
A-3015	4.25	275-550-1100-2200-4400-8800	4-8-16	18	2⅜	2¼	2⅞	1⅞	G
A-3016	4.75	210-420-840-1680-3360-6720	4-8-16	24	3⅛	2¼	3 11/16	2⅛	F

All prices subject to trade discount, and change without notice.



TRANSFORMERS

TUBE TO LINE TRANSFORMERS For Coupling Single or Push-Pull Plates to Line or Mixer

Type No.	List Price	Ohms Impedance		Pri. M.A.	Mtg. Centers	Dimensions			Mtg.
		Pri.	Sec.			H.	W.	D.	
A-2925	$3.75	20000 c.t.	500/125	10	2 13/16	2	3 1/4	1 5/8	A
A-2926	3.75	20000 c.t.	200/50	10	2 13/16	2	3 1/4	1 5/8	A
†A-3023	4.25	5000-10000-20000 c.t.	500 /333 /200 /125 /50	15	2 13/16	2	3 1/4	1 3/4	F
†A-3024	9.00	5000-10000-20000 c.t.	500 /333 /200 /125 /50	50	2x1 11/16	3 3/16	2 5/8	2 3/4	DL

†20,000 ohm center tapped.

INPUT TRANSFORMERS For Coupling Microphone or Line to Single or Push-Pull Grids

Type No.	List Price	Ohms Impedance		Turns Ratio	Mtg. Centers	Dimensions			Mtg.
		Pri.	Sec.			H.	W.	D.	
A-2923	$2.25	3.2	50000	1:125	2	1 3/8	2 3/8	1 1/4	A
A-2918	3.50	100	400000 c.t.	1:64	2 13/16	2	3 1/4	1 5/8	A
A-2919	3.25	200/50	100000	1:22	2 13/16	2	3 1/4	1 5/8	A
A-2924	3.75	500/125	100000 c.t.	1:14	2 13/16	2	3 1/4	1 5/8	A

INTERSTAGE TRANSFORMERS To Couple a Single Plate to a Single Grid

Type No.	List Price	Ohms Impedance		Turns Ratio	Pri. M.A.	Mtg. Centers	Dimensions			Mtg.
		Pri.	Sec.				H.	W.	D.	
A-2910	$2.00	10000	90000	3:1	10	2	1 3/8	2 3/8	1 1/4	A
A-2911	2.25	10000	90000	3:1	10	2 3/8	1 5/8	2 11/16	1 1/2	A
To Couple a Single Plate to Push-Pull Grids										
A-2914	2.25	10000	90000 c.t.	3:1	10	2	1 3/8	2 3/8	1 1/4	A
A-2915	2.50	10000	90000 c.t.	3:1	10	2 3/8	1 5/8	2 13/16	1 1/2	A
A-2916	3.00	10000	90000 c.t.	3:1	10	2 13/16	2	3 1/4	1 5/8	A
To Couple Push-Pull Plates to Push-Pull Grids										
A-2912	3.50	10000 c.t.	90000*	3:1	10 per side	2 13/16	2	3 1/4	1 5/8	A
A-2913	3.00	20000 c.t.	20000 c.t.	1:1	10 per side	2 3/8	1 5/8	2 13/16	1 1/2	A
A-2917	3.50	20000 c.t.	45000 c.t.	1.5:1	10 per side	2 13/16	2	3 1/4	1 5/8	A

*Split secondary.

DRIVER TRANSFORMERS To Couple Driver Plate to Amplifier Grids

Type No.	List Price	Driver	Output	Ratio, Pri. to ½ Sec.	Class	Pri. M.A.	Mtg. Centers	Dimensions			Mtg.
								H.	W.	D.	
A-2920	$2.50	6C5, 1H4, 30, 49	Single 1J6, 19, Push-pull 30, 49	2.5:1	B	10	2 3/8	1 5/8	2 13/16	1 1/2	A
A-2921	3.50	6F6 2A5, 42	PP6F6, 2A5, 6L6	1.7:1, 1.5:1, 1.3:1	AB	35	2 13/16	2	3 1/4	1 5/8	A
A-2922	4.00	6A6, 6C5, 6N7, 46	Single 6A6, 6N7, Push-pull 46	5:1, 4:1, 3:1, 2.5:1	B	20	2 13/16	2	3 1/4	1 5/8	A
A-3120	10.50	500 ohm line	Class B Grids 15 Watt Capacity	1:.75, 1:.85, 1:1, 1:1.25, 1:1.45, 1:1.75, 1:2, 1:2.25, 1:2.5, 1:2.75, 1:3	B	------	2 3/16 x 2	3 3/16	2 5/8	3 3/8	DL
A-3121	12.00	500 ohm line	Class B Grids 30 Watt Capacity		B	------	2 1/4 x 2 1/4	3 9/16	3	3 3/4	DL
A-3123	5.00	PP6A6, 53, PP6C5,6N7, 6J5	PP6N7, 6A6, 53, PP6L6, T21	5:1*	B AB$_2$	15	2 x 1 11/16	3 1/8	2 5/8	2 5/8	D
A-3124	5.00	6F6, 46, 59, 2A5, 42	PP46, 59, PP6L6, 807	2.2:1	B AB$_2$	30	2 x 1 11/16	3 1/8	2 5/8	2 5/8	D
A-3125	7.00	6F6, 2A5, 47, 42	PP6L6	1.4:1*	AB$_2$	40	2 1/4 x 2	3 1/2	2 15/16	3 1/8	D
A-3126	5.75	PP2A3, 6L6, 45, 6V6, 6F6	PP800, 203A, 811, 812, 812A, RK18, RK58, T20, TZ40, T55, 807, 809, 838, 845, 35, 100TH	2:1	B	40	2 x 1 11/16	3 1/8	2 5/8	2 5/8	D

*Split secondary.

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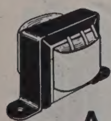
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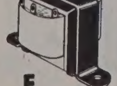
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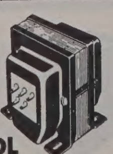
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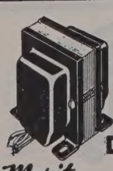
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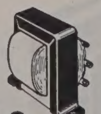
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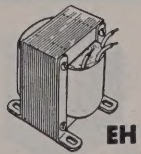
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TRANSFORMERS

MODULATION TRANSFORMERS For Specific Applications

Type No.	List Price	Output Tubes	Ohms Impedance Pri.	Ohms Impedance Sec.	Max. MA Pri.	Max. MA Sec.	Watts	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
A-3008	$3.00	PP6AQ5, 6V6, 6F6, Single 6A6, 6N7, 53	10000 c.t.	4000-5000 7500-10000 12000	70	60	10	2¼	2⅞	2⅛	B
A-3109	7.00	PP2A3, 6A3, 6B4, 6L6, 45, 46, 59	6000 c.t. 3800 c.t. 3000 c.t.	5000-8000 12000	80	100	25	3⅛	2⅝	2¾	D
A-3110	12.00	PP6L6, 807, RK41, HY56, HY61, HK24	6600-3800 c.t.	4000-5000 7500-10000 12000	175	150	60	4¼	3½	3¾	D
A-3113	18.00	PP 800, 809, TZ-40, T-55, HK-54, RK-31, HY-40, 811, 807, 812	15000-6900c.t.	3000-4000 5000-6000	250	300	175	4⅝	3$^{13}/_{16}$	5⅝	D

UNIVERSAL MODULATION TRANSFORMERS Tapped Series-Parallel Coils Provide a Wide Range of Modulation Ratios

Type No.	List Price	Pri. Impedance	Pri. M.A. per Side	Sec. Impedance	Max. Sec. M.A. ‡	Watts	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
A-3104	$8.75	2000-20000	50	2000-20000	50/100	15	3$^{3}/_{16}$	2⅝	2¾	DL
A-3105	13.00	2000-20000	150	2000-20000	150/300	60	3⅛	3⅛	4⅛	DL
A-3106	18.50	2000-20000	220	2000-20000	220/440	125	4⅝	3$^{13}/_{16}$	4⅝	DL
A-4007	52.00	2000-20000	250	2000-20000	250/500	300	7¼	6⅝	5⅝	H

‡Series/Parallel

POWER TRANSFORMERS Receiver Replacement Type Primary for 115 V., 60 Cy. Leads R.M.A. Color Coded—Mtg. Fig. C

Type No.	List Price	H. V. Secondary Volts	H. V. Secondary DC.M.A	Rectifier Volts	Rectifier Amp.	Fil. Wdgs. Volts	Fil. Wdgs. Amp.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.
*P-3045	$3.75	120	50			6.3	1.5	3⅛	2$^{3}/_{16}$	2⅝	1⅝
P-3047	4.50	240-240	50			6.3	2.5	2 x 2½	2½	3	2
P-3048	5.50	260-260	90			6.3	3.5	2 x 2½	2½	3	2⅝
P-2949	4.90	240-240	40	5	2	6.3 c.t.	2	2 x 2½	2½	3	2½
P-2965	5.25	325-325	40	5	2	2.5 c.t.	4	2 x 2½	2½	3	2¾
P-2966	7.25	350-350	70	5	3	2.5 c.t. 2.5 c.t.	9 3.5	2¼ x 2$^{13}/_{16}$	2$^{13}/_{16}$	3⅜	3⅝
P-2967	8.00	350-350	90	5	3	2.5 c.t.	12.5	2½ x 3⅛	3⅛	3¾	4$^{1}/_{16}$
P-2968	10.50	400-400	110	5	3	2.5 c.t. 2.5 c.t.	15 3.5	3 x 3¾	3¾	4½	3$^{13}/_{16}$
P-2950	5.15	325-325	40	5	2	6.3 c.t.	2	2 x 2½	2½	3	2⅞
P-2951	6.25	325-325	70	5	3	6.3 c.t.	3.5	2 x 2½	2½	3	3$^{7}/_{16}$
P-2952	6.75	350-350	90	5	3	6.3 c.t.	3.5	2¼ x 2$^{13}/_{16}$	2$^{13}/_{16}$	3⅜	3¾
P-2953	7.65	350-350	120	5	3	6.3 c.t.	4.7	2½ x 3⅛	3⅛	3¾	3$^{13}/_{16}$
P-2954	9.75	375-375	150	5	3	6.3 c.t.	5	2½ x 3⅛	3⅛	3¾	4$^{5}/_{16}$
P-2955	12.00	400-400	200	5	3	6.3 c.t.	5	3 x 3¾	3¾	4½	4⅛
P-2956	14.50	435-435 (80-volt Bias Tap)	250	5 2.5	3 10	6.3 c.t. 6.3 or 5	3 3	3 x 3¾	3¾	4½	4¾
P-2957	6.00	350-350	50	5	2	6.3 c.t.	2.6	2¼ x 2$^{13}/_{16}$	2$^{13}/_{16}$	3⅜	3
P-2958	5.00	240-240	50	5	2	6.3	2.6	2 x 2½	2½	3	3
★P-3059	20.50	360-360	250	5 5	2 3	6.3 6.3	.6 8	3 x 3¾	3¾	4½	5⅝
★P-3061	25.00	362-362	295	5	6	6.3 6.3 5	5 5 2	3$^{3}/_{16}$ x 4$^{1}/_{16}$	6$^{13}/_{16}$	3$^{27}/_{32}$	4$^{23}/_{32}$
★P-3063	20.00	360-360	250	5	3	6.3 6.3 5	9 .8 2	3$^{3}/_{16}$ x 4$^{1}/_{16}$	5$^{11}/_{16}$	3$^{27}/_{32}$	4$^{23}/_{32}$

*For use with Half Wave Rectifier Type A Mtg.

Fully Shielded Upright Mounting Type—Mtg. Fig. D

Type No.	List Price	H. V. Secondary Volts	H. V. Secondary DC.M.A	Rectifier Volts	Rectifier Amp.	Fil. Wdgs. Volts	Fil. Wdgs. Amp.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.
P-3147	$4.50	240-240	50	-------	-------	6.3	2.5	2 x 1$^{9}/_{16}$	3⅛	2⅝	2½
P-3148	5.50	260-260	90	-------	-------	6.3	3.5	2 x 2$^{3}/_{16}$	3⅛	2⅝	3⅛
P-3149	4.90	240-240	40	5	2	6.3 c.t.	2	2 x 1$^{11}/_{16}$	3⅛	2⅝	2⅝
P-3150	5.15	325-325	40	5	2	6.3 c.t.	2	2 x 1⅞	3⅛	2⅝	2$^{13}/_{16}$
P-3154	5.00	275-275	50	5	2	6.3	2.6	2 x 2$^{3}/_{16}$	3⅛	2⅝	3⅛
P-3160	6.00	350-350	50	5	2	6.3 c.t.	2.6	2¼ x 1⅞	3½	2$^{15}/_{16}$	3$^{1}/_{16}$
P-3151	6.25	325-325	70	5	3	6.3 c.t.	3.5	2½ x 1$^{15}/_{16}$	3⅞	3$^{3}/_{16}$	3$^{3}/_{16}$
P-3152	6.75	350-350	90	5	3	6.3 c.t.	3.5	2¾ x 2½	4¼	3½	3$^{7}/_{16}$
P-3153	7.65	350-350	110	5	3	6.3 c.t.	4.5	3 x 2¼	4⅝	3$^{13}/_{16}$	3$^{7}/_{16}$
P-3155	12.00	400-400	200	5	3	6.3 c.t.	5	3 x 3$^{3}/_{16}$	4⅝	3$^{13}/_{16}$	4¼
P-3156	14.50	435-435 (80-volt Bias Tap)	250	5 2.5	3 10	6.3 c.t. 6.3 or 5	3 3	3 x 3$^{13}/_{16}$	4⅝	3$^{13}/_{16}$	4⅞
★P-3165	14.75	350-350	200	5 5	2 3	6.3 6.3	.6 7	3 x 3⅞	4⅝	3¾	5
★P-3166	24.75	400-400	300	5 5	3 6	12.5 c.t.	10	3½ x 4¼	5½	4⅜	5¾
★P-3170	8.75	1750	2	2.5	2	6.3 or 2.5	.9 2	2 x 1$^{15}/_{16}$	3⅛	2⅝	2⅞
★P-3171	11.50	2500	5	2.5	2	6.3 or 2.5	3 3	2½ x 2$^{3}/_{16}$	3⅞	3$^{3}/_{16}$	3⅜

★Indicates TV Replacement.

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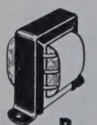
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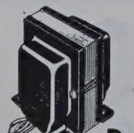
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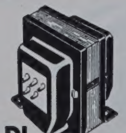
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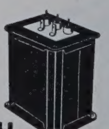
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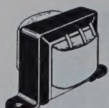
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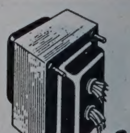
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TRANSFORMERS

PLATE TRANSFORMERS For Small Transmitters. DC Voltage Ratings are Approx. Values Obtained at Output of a 2 Section Choke Input Filter Using Mercury Vapor Rectifier Tubes. Pri. is for 115 V. 60 cy.

Type No.	List Price	Sec. Rms. Volts	Sec. DC Volts	DC Sec. M.A.	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
P-3157	$11.50	660-660 † 550-550	500 400	250	4 5/8	3 13/16	4 3/8	D
P-3158	14.00	1080-1080 500-500	1000 ‡ 400	125 150	4 5/8	3 13/16	5	D
P-3159	13.50	900-900 800-800	750 600	225	4 5/8	3 13/16	5 1/8	D
P-3167	33.75	1450-1450 1175-1175	1200 1000	300	5 3/4	6 1/8	4	EH
P-3168	42.50	2100-2100 1800-1800	1750 1500	300	5 3/4	6 1/8	4 1/2	EH
P-4062	63.00	2900-2900 2385-2385	2500 2000	300	8 1/2	6 1/2	5 5/8	H

‡For dual operation with simultaneous use of both sec. ratings. †Has 40-volt bias tap.

FILAMENT TRANSFORMERS For Amplifier, Amateur, Industrial Use. Pri.: 115 Volts, 60 Cycles

Type No.	List Price	Sec. Volts	Sec. Amp.	Insulation Volts	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
P-2939	$3.25	2.5 c.t.	5	2500	2	3 1/4	1 5/8	A
P-2940	4.75	2.5 c.t.	10	7500	3	3 5/8	2 1/4	B
P-3042	5.25	2.5 c.t.	10	10000	2 7/8	3 3/8	2 1/4	EH
P-3040	3.50	5 c.t.	3	2500	2	3 1/4	2 1/8	A
P-2941	4.00	5 c.t.	6	2500	2 1/4	3 11/16	1 7/8	A
P-2942	5.75	5 c.t.	12	2500	3 7/16	2 13/16	2 3/8	EV
P-2943	9.00	5 c.t.	20	2500	3 3/4	3 1/8	3	EV
P-2944	2.25	6.3 c.t.	1	2500	1 5/8	2 13/16	1 1/2	A
P-2945	2.75	6.3 c.t.	2	2500	2	3 1/4	1 5/8	A
P-2946	3.25	6.3 c.t.	3	2500	2	3 1/4	1 7/8	A
P-2947	4.75	6.3 c.t.	6	2500	3	3 5/8	2 1/4	B
P-2948	6.25	6.3 c.t.	10	2500	3 7/16	2 13/16	2 7/8	EV
P-2960	4.00	7.5 c.t.	4	2500	2 5/8	3 1/8	1 7/8	B
P-2961	5.75	6.3 c.t. 6.3 c.t.	3 3	2500	3	3 5/8	2 1/4	B
P-3041	5.75	5 c.t. 6.3 c.t.	3 3.6	2500	2 1/2	4	2 1/8	A
P-3143	7.00	7.5 c.t.	8	2500	3 1/2	2 15/16	3 1/8	D
P-3145	7.00	10 c.t.	5	2500	3 1/2	2 15/16	3	D
P-3146	8.50	10 c.t.	10	3000	3 7/8	3 3/16	3 5/8	D

VIBRATOR TRANSFORMERS For Operation From 6V Battery and Vibrator

Type No.	List Price	Sec. DC Volts to Filter	Sec. M.A.	Dimensions H	Dimensions W	Dimensions D	Mtg.
P-2969	$4.25	150	40	2 1/4	2 7/8	1 3/4	B
P-2970	4.75	225	40	2 5/8	3 5/16	2 1/8	B
P-2971	5.00	250	50	2 5/8	3 1/8	2 1/4	B
P-2972	5.75	260	60	3	3 5/8	2 1/8	B
P-3068	4.50	260	60	2 3/16	2 5/8	1 7/8	C
P-4073	9.00	285	75	3 9/16	3 1/16	2 9/16	HL
P-4074	9.50	330	100	3 3/4	3 1/16	2 13/16	HL

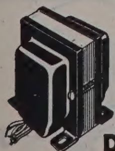
AC-DC VIBRATOR TRANSFORMER For Operation from 6 V. Battery and Vibrator or 115 V. 60 cy. Line

Type No.	List Price	H.V. Secondary DC Volts	H.V. Secondary MA	Filament Volts	Filament Amps	Dimensions H	Dimensions W	Dimensions D	Mtg.
P-3176	$12.50	300	160	6.3	4.5	4 5/8	3 13/16	4 13/16	D
P-4075	11.50	330	100	6.3	4	3 13/16	4 1/2	3	HL

PHOTO-FLASH POWER TRANSFORMER Primary for 117 V. 60 Cy. Line or 4 V. Battery Vibrator (or Charger Winding)

Type No.	List Price	Secondary AC Volts	Secondary DC M.A.	Mtg. Centers	Dimensions H	Dimensions W	Dimensions D	Mtg.
P-3065	$6.50	1100	1.5	2 11/16	2 5/8	3 1/8	2	B

All prices subject to trade discount, and change without notice.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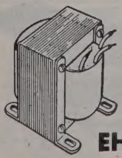
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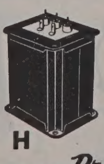
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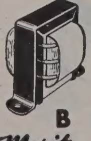
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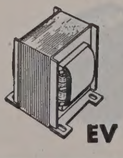
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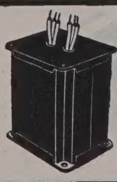
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Products of Merit

MERIT
Since 1924
FINE RADIO PARTS

TRANSFORMERS

STEP-DOWN AUTOTRANSFORMERS

Input 220—250 V. 60 cy. Output 110—125 V. Pri. Cord and Plug. Sec. Receptacle.

Type No.	List Price	Output Watts	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
P-3161	$8.00	80	3½	2 15/16	3	D
P-3162	10.75	150	3⅞	3 3/16	3⅝	D
P-3163	13.75	250	4⅝	3 13/16	4	D
P-3164	17.75	500	4⅝	3 13/16	4⅜	D
P-4065	41.00	1000	7¼	6⅝	5⅝	H

REPLACEMENT TYPE FILTER CHOKES

Inductance Ratings are at 10 V. 60 cy. with Rated Current Flowing as Recommended by the R.M.A.

Type No.	List Price	Inductance Henries	Current Rating M.A.	DC Res. Ohms	Volts Insul.	Mtg. Centers	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
★C-2973	$1.25	1.5	10	95	1500	1¾	1 3/16	1 7/16	1	A
C-2974	3.25	2.0	200	50	1500	2 13/16	2	3¼	1⅝	A
C-2977	1.75	4.5	50	200	1500	2⅜	1⅝	2 13/16	1½	A
C-2975	1.50	5.5	50	330	1500	2	1 5/16	2⅜	1⅛	A
C-2976	1.50	8	40	500	1500	2	1⅜	2⅜	1¼	A
C-2981	1.75	8.5	50	400	1500	2⅜	1⅝	2 13/16	1½	A
C-2985	1.75	20	15	900	1500	2⅜	1⅝	2 13/16	1½	A
C-2987	2.00	16	50	550	1500	2 13/16	2	3¼	1⅝	A
C-2990	2.75	15	75	400	1500	3⅛	2¼	3 11/16	2⅛	A
★C-2991	2.75	2	250	53	2000	3 5/16	2 3/16	3 11/16	2	A
C-2993	3.50	10.5	110	220	1500	3 9/16	2 9/16	4	2¼	A

FILTER CHOKES For Small Transmitter and Amplifier Applications

Type No.	List Price	Inductance Henries	Current Rating M.A.	DC Res. Ohms	Volts Insul.	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
C-3192	$4.00	15	85	325	1500	3⅛	2⅝	2⅝	D
C-3193	4.00	10	110	200	1500	3⅛	2⅝	2⅝	D
C-3194	5.00	12	150	230	1500	3½	2 15/16	3⅛	D
C-3195	7.00	15	150	180	2000	3⅞	3 3/16	3⅜	D
C-3196	6.00	5	200	80	1500	3½	2 15/16	3⅛	D

FILTER SMOOTHING CHOKES For Transmitter Power Supplies

Type No.	List Price	Inductance Henries	Current Rating M.A.	DC Res. Ohms	Volts Insul.	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
C-3180	$5.25	10	150	210	3000	3⅛	2⅝	2¾	D
C-3181	6.50	10	200	140	3000	3½	2 15/16	3½	D
C-3182	9.00	10	250	125	3000	3⅞	3 3/16	3¾	D
C-3183	9.50	8	300	80	3000	3⅞	3 3/16	3¾	D

FILTER INPUT OR SWINGING CHOKES

Type No.	List Price	Inductance Henries	Current Rating M.A.	DC Res. Ohms	Volts Insul.	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
C-3187	$5.25	4-16	150	210	3000	3⅛	2⅝	2¾	D
C-3188	6.50	4-16	200	140	3000	3½	2 15/16	3½	D
C-3189	9.00	4-16	250	125	3000	3⅞	3 3/16	3¾	D
C-3190	9.50	3-14	300	80	3000	3⅞	3 3/16	3¾	D

ISOLATION TRANSFORMERS

To Provide Isolation Between Line and Associated Circuits. Primary for 50-60 Cy. Static Shielding Between Primary and Secondary.

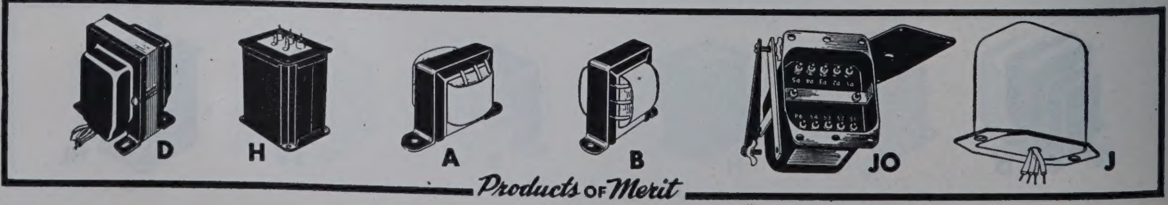
Type No.	List Price	Primary Volts	Secondary Volts	Watts	Dimensions H	Dimensions W	Dimensions D	Mtg.
P-3096	$5.75	117	117	40	3⅛	2⅝	2⅝	B
P-3197	8.50	117	117	80	3⅞	3 3/16	3½	D

ISOLATION TRANSFORMERS Equipped with Line Cord and Standard Receptical

Type No.	List Price	Primary Volts	Secondary Volts	Watts	Dimensions H	Dimensions W	Dimensions D	Mtg.
P-3172	$41.00	117	117	500	5⅜	4⅝	6½	D
P-3198	15.50	117	117	100	4¼	3 9/16	3¾	D
P-3199	29.50	117	117	250	4⅝	3 13/16	4⅞	D

★ Indicates TV Replacement.

All prices subject to trade discount, and change without notice.



TRANSFORMERS

HEAVY DUTY OUTPUT TRANSFORMERS High Level Type to Couple to Line or Voice Coil. Sec. Impedance 4-8-15-250-500 Ohms

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. Ma. per Side	Max. Watts	H	W	D	Mtg.
A-4027	$9.00	Single 6L6, 2A3, 6A3, 6Y6	A	2500	80	8	3 5/8	3 1/16	2 9/16	H
A-4028	12.00	PP6V6, 6F6	AB_1	8000 C.T.*	50	14	3 7/8	4 1/2	3	H
A-4029	12.00	PP6L6	AB_1	4300 C.T.*	95	25	3 7/8	4 1/2	3	H
A-4030	13.00	PP6L6	AB_1	6600 C.T.*	80	34	3 7/8	4 1/2	3	H
A-4031	11.00	PP6L6, 6Y6, PP2A3 6A3, 6B4, 45, PP6N7, 46	A AB B	5000 C.T.	80	30	3 7/8	4 1/2	3	H
A-4032	11.50	PP6F6, 2A5, 7C5 Single 6N7, 6A6	AB_2 B	10000C.T.	40	25	3 7/8	4 1/2	3	H
A-4033	16.50	P. P. Par. 6L6, PP807	AB_1	3300 C.T.	240	55	5	5	3 7/8	H

* 10% Feedback Winding.

OUTDOOR TYPE UNIVERSAL LINE TRANSFORMER To Couple Various Line Impedances to a Voice Coil Universal Mounting Bracket

Type No.	List Price	Ohms Impedance		Watts	Mtg. Center Case	Dimensions			Mtg. Type
		Primary	Sec.			H.	W.	D.	
A-4040	$8.75	250-500-1000-1500-2000	4-8-16	8	2 3/4 x 3 7/8	4 1/4	4 7/16	3 9/16	JO
A-4041	9.75	250-500-1000-1500-2000	4-8-16	12	2 3/4 x 3 7/8	4 1/4	4 7/16	3 9/16	JO
A-4042	13.75	250-500-1000-1500-2000	4-8-16	25	2 3/4 x 3 7/8	4 1/4	4 7/16	3 9/16	JO
A-4043	9.75	45-50	4-8	12	2 3/4 x 3 7/8	4 1/4	4 7/16	3 9/16	JO

DRIVER TRANSFORMERS To Couple Driver Plates to Amplifier Grids

Type No.	List Price	Driver Tube	Output Tube	Turn Ratio Pri. to 1/2 Sec.	Class	Pri MA	H	W	D	Mtg.
A-4020	$5.50	6C5, 30, 49, 1H4	Single 1J6, 19, PP30, 49	2.5:1	B	10	2 13/16	2 7/16	2	H
A-4021	6.50	6F6, 42, 2A5	PP6F6, 6L6	1.7:1, 1.5:1, 1.3:1	AB	35	2 13/16	2 7/16	2	H
A-4022	7.00	6A6, 6C5, 6N7 46	Single 6A6, 6N7, PP46	5:1, 4:1, 3:1 2.5:1	B	20	2 13/16	2 7/16	2	H
A-4023	8.50	PP6A6, 53 PP6AC5, 6J5, 6N7,	PP6N7, 6A6, 53 PP6L6, T21	5:1*	B AB_2	15	3 5/8	3 1/16	2 9/16	H
A-4024	8.00	46, 6F6, 59 2A5, 42	PP46, 59 PP6L6, 807	2.2:1	B AB_2	30	3 5/8	3 1/16	2 9/16	H
A-4025	11.50	6F6, 2A5, 47, 42	PP6L6	1.4:1*	AB_2	40	3 7/8	4 1/2	3	H
A-4026	10.00	PP2A3, 6L6, 45, 6V6, 6F6	PP800, 203A, 811, 812, RK18, RK58, T20, TZ40, T55, 812A, 807, 809, 838, 845, 35, 100TH	2:1	B	40	3 5/8	3 1/16	2 9/16	H
A-4046	14.00	Line to Grid	Class B Grids 15 watt capacity	1:.75, 1:85, 1:1, 1:1.25, 1:1.45, 1:1.75	B		3 7/8	4 1/2	3	H
A-4047	16.00	Line to Grid	Class B Grids 30 watt capacity	1:2, 1:2.25, 1:2.5, 1:2.75, 1:3	B		3 7/8	4 1/2	3	H

* Split Secondary

BLOCKING OSCILLATOR TRANSFORMER

Type No.	List Price	Turns Ratio Primary to Secondary	Mtg. Centers	H.	W.	D.	Mtg. Type
★A-4000 Vertical	$2.75	1:4.2	1 15/16	1 3/4	2 5/16	1 1/2	J
★A-4002 Horizontal	3.00	2:1	1 15/16	1 3/4	2 5/16	1 1/2	J

UNIVERSAL MODULATION TRANSFORMER Tapped Series-Parallel Coils Provide a Wide Range of Modulation Ratios

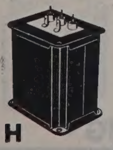
Type No.	List Price	Pri. Impedance	Pri. M.A. per Side	Sec. Impedance	Max. Sec. M.A.†	Watts	H.	W.	D.	Mtg.
A-4004	$11.00	2000-20000	50	2000-20000	50/100	15	3 5/8	3 1/16	2 9/16	H
A-4005	17.50	2000-20000	150	2000-20000	150/300	60	5	5	3 7/8	H
A-4006	25.50	2000-20000	220	2000-20000	220/440	125	5	5	5 1/8	H
A-4007	52.00	2000-20000	250	2000-20000	250/500	300	7 1/4	6 5/8	5 5/8	H

† Series/Parallel

MODULATION TRANSFORMERS Compound Filled Cases—For Specific Applications

Type No.	List Price	Output Tubes	Ohms Impedance		Max. MA		Watts	Dimensions			Mtg.
			Pri.	Sec.	Pri.	Sec.		H	W	D	
A-4010	$6.50	PP6AQ5, 6V6, 6F6 Single 6A6, 6N7, 53	10000C.T.	4000-5000 7500-10000 12000	70	60	10	2 13/16	2 7/16	2	H
A-4013	11.00	PP2A3, 6A3, 6B4, 6L6 45, 46, 59	6000C.T. 3800C.T. 3000C.T.	5000-8000 10000	80	100	25	3 5/8	3 1/16	2 9/16	H
A-4014	17.50	PP6L6, 807, RK-41, HY56, HY61, HK24	6600-3800 C.T.	4000-5000 7500-10000 12000	175	150	60	5	5	3 7/8	H
A-4015	20.00	PP800, 809, TZ-40, T-55, HK-54, RK-31, HY-40, 811, 807, 812	15000C.T. 6900C.T.	3000-4000 5000-6000	250	300	175	5	5	5 1/8	H

★Indicates TV Replacement. *All prices subject to trade discount, and change without notice.*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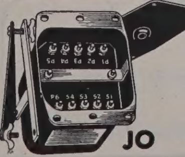
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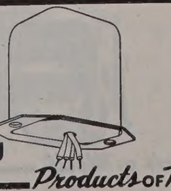
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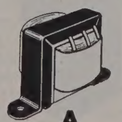
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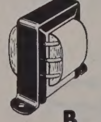
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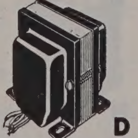
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Products of Merit

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TRANSFORMERS

FILAMENT TRANSFORMERS For Amplifier, Amateur, Industrial Use, 115 Volts, 60 Cycles

Type No.	List Price	Sec. Volts	Sec. Amp.	Insulation Volts	Dimensions H.	Dimensions W.	Dimensions D.	Mtg.
P-4049	$10.75	2.5 c.t.	10	10,000	3⅞	4½	3	H

PLATE TRANSFORMERS

For Small Transmitters, Amateur, or Experimental Use, DC Voltage Ratings are Approx. Values Obtained at Output of a 2 Section Choke Input Filter Using Mercury Vapor Rectifier Tubes. PRI. is for 115 V. 60 Cy.

Type No.	List Price	Sec. Rms. Volts	Sec. DC Volts	Sec. DC MA	H	W	D	Mtg.
P-4057	$16.00	660-660 550-550	** 500 400	250	5	5	4½	H
P-4058	18.50	1080-1080 500-500	* 1000 400	125 150	5	5	5⅛	H
P-4059	18.00	900-900 800-800	750 600	225	5	5	5⅛	H
P-4067	45.00	1450-1450 1175-1175	1200 1000	300	7¼	6⅝	5⅝	H
P-4061	49.50	2100-2100 1800-1800	1750 1500	300	7¼	6⅝	6³⁄₁₆	H
P-4062	63.00	2900-2900 2385-2385	2500 2000	300	8½	6⅝	5⅝	H

** Has 40V. Bias Tap.   * For Dual Operation with Simultaneous Use of Both Sec. Ratings.

STEP-DOWN AUTOTRANSFORMER

Input 220-250 V. 60 Cy. Output 110-125 V.
Pri.-Cord and Plug—Sec. Receptical

Type No.	List Price	Output Watts	H.	W.	D.	Mtg.
P-4065	$41.00	1000	7¼	6⅝	5⅝	H

FILTER SMOOTHING CHOKES

Type No.	List Price	Inductance Henries	Current Rating MA	DC Res. Ohms	Volts Insul.	H	W	D	Mtg.
C-4080	$8.00	10	150	210	3000	3⅝	3¹⁄₁₆	2⁹⁄₁₆	H
C-4081	9.50	10	200	140	3000	3⅞	4½	3	H
C-4082	12.00	10	250	125	3000	5	5	4	H
C-4083	13.00	8	300	80	3000	5	5	4	H

FILTER INPUT OR SWINGING CHOKES

C-4087	$8.00	4-16	150	210	3000	3⅝	3¹⁄₁₆	2⁹⁄₁₆	H
C-4088	9.50	4-16	200	140	3000	3⅞	4½	3	H
C-4089	12.00	4-16	250	125	3000	5	5	4	H
C-4090	13.00	3-14	300	80	3000	5	5	4	H

VIBRATOR TRANSFORMERS

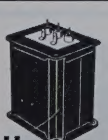
Sealed in Compound Filled Cases for Interference or Hash Reduction. For Operation from 6 V. Battery and Vibrator

Type No.	List Price	Sec. DC Volts to Filter	Sec. MA	H	W	D	Mtg.
P-4069	$5.75	150	40	3	2⅜	2³⁄₁₆	JT
P-4070	6.00	225	40	3	2⅜	2³⁄₁₆	JT
P-4071	6.25	250	50	3	2⅜	2³⁄₁₆	JT
P-4072	8.25	260	60	3¾	3⅝	2⅛	HL
P-4073	9.00	285	75	3¾	2⁹⁄₁₆	3¹⁄₁₆	HL
P-4074	9.50	330	100	3¾	3¹⁄₁₆	2¹³⁄₁₆	HL
P-4076	5.60	265	55	3¼	2⅝	2⅝	JG
P-4077	6.00	280	65	3¹⁵⁄₁₆	2¼	2⅜	JT
P-4078	6.00	270	60	2⅝	2³⁄₁₆	2¾	JT
P-4079	6.50	270	75	3¹⁄₃₂	2⅜	2½	JT

AC-DC VIBRATOR TRANSFORMER For Operation From 6 V. Battery and Vibrator or 115 V. 60 Cy. Line

Type No.	List Price	H.V. Secondary		Filament		Dimensions			Mtg.
		DC Volts	MA	Volts	Amps.	H.	W.	D.	
P-4075	$11.50	330	100	6.3	4	3¹³⁄₁₆	4½	3	HL

All prices subject to trade discount, and change without notice.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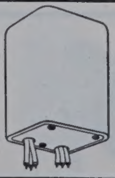
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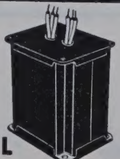
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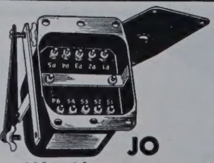
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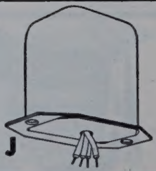
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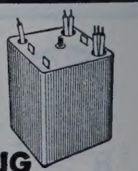
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CREST TRANSFORMER CORP.

FIGURE S

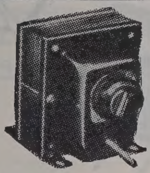


FIGURE G

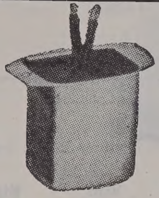


FIGURE E

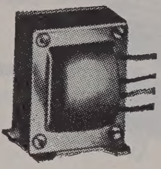
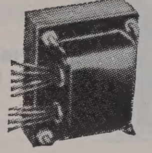


FIGURE P



AUDIO TRANSFORMERS

Driver

Stock No.	Driver Tubes	Output Tubes	Class	Ratio Pri. to ½ Sec.	Pri. M.A.	Mtg. Fig.	Mtg. Ctrs.	Dimensions H.	Dimensions W.	Dimensions D.	Wt. Lbs.	List Price
6115	1-30, 49, 6C5 1-1J6G	19, 2-30, 49	B	2.4:1	8	B	2"	1⅞	2⅜	1⅝	.7	$1.80
6118	1-33, 41, 42, 46, 59, 2A5, 6F6	P.P. 46, 59 6L6, 6F6	B AB2	2.2:1	32	K	2x1 11/16"	3 3/16	2⅝	2⅝	2.6	3.80
6116	1-42, 45, 2A5, 6C5, 6F6, 6N7	P.P. 42, 2A5, 6F6, 6L6, 6V6	AB	1.7:1 1.5:1 1.3:1	35	A	2 13/16"	2	3¼	1½	1.7	3.50
6117	1-42, 47, 2A5, 6F6	P.P. 2A5, 6F6, 6L6	AB2	1.4:1	40	K	2¼x2"	3½	3	3 1/16	3.5	5.50
6122	P.P. 45, 2A3, 6F6, 6L6	35T, 203A, 800, 806, T20, T55, 100TL, RK57	B	3.2:1 2:1	40	K	2x1¾"	3⅛	2⅝	2⅝	2.7	5.25
6119	P.P. 45, 6C5, 6F6, Tri. 59, 2A3, 4-2A3, 6L6	59, 805, 100TH, HY57, RK18, TZ40, P.P. 6L6, 4-46, 4-2A3	A B	5:1 4:1 3.2:1	60	K	2x1¾"	3⅛	2⅝	2⅝	2.7	5.50

Input or Microphone Mike to Grid

Stock No.	Application	Ohms Impedance Pri.	Ohms Impedance Sec.	Turns Ratio	Mtg. Fig.	Mtg. Ctrs.	H.	W.	D.	Wt.	List Price
6100	S.B. Mic. to Single or P.P. Grids	100	400000/C.T.	1:64	F	2	2	2⅜	1⅝	.9	$2.15
6105	D.B. Mike to Line	200/50	500/125	1:1.68	F	2⅜	2⅜	2⅞	2⅞	1.8	4.20
6101	Voice Coil to Grid	3.2 CT	38,000		F	1¾	1⅝	2	1¾	.8	1.95
6103	Low. Imp. Ribbon Mike to Grid	150-250 CT	53,000		F	2	2	2½	2	1.0	2.20

Interstage

Stock No.	Ohms Impedance Pri.	Ohms Impedance Sec.	Turns Ratio	M.A. Pri.	Fig. Mtg.	Ctrs. Mtg.	Dimensions H.	Dimensions W.	Dimensions D.	Wt. Lbs.	List Price
6302	10000	90000	Sgl. 3:1	10	A	2	1⅜	2⅜	1½	.6	$1.90
6301	10000 CT	90000 CT	P.P. 3:1	10	A	2⅜	1⅝	2⅞	1½	.8	2.15
6305	10000	125000 CT	P.P. 3.5:1	10	A	2 13/16	2	3¼	1⅝	1.2	2.45
6306	10000 CT	90000 CT	P.P. 3:1	10	A	2 13/16	2	3¼	1⅝	1.2	2.45

Modulation

Stock No.	Typical Tube	Impedance Pri.	Impedance Sec.	Max. M.A. Pri.	Max. D.C. Sec.	Class	Watts	Mtg.	Dimensions H.	Dimensions W.	Dimensions D.	Wt. Lbs.	List Price
6850	P.P. 6V6, 6F6, 1-53, 6A6, 6K6, 7C5, 6N7, 14C5	10000 CT	7500 5500 3500	60	60	A	12	F	2⅜	2⅞	2⅛	1.4	$2.65
6851	P.P. 6L6, 45, 50, 2A3, 6A3, 6F6, 6V6	6000 CT 3000 CT	10000 7500 5000	100	100	AB	25	K	3⅛	2⅝	2⅞	2.9	5.80
6852	P.P. 6L6, 46, HY56, 807	6600 CT	12000 8000 4000	150	150	AB	40	L	4¼	3⅝	4⅝	6.4	9.95

Output

Stock No.	Typical Tube	Class	Ohms Impedance Pri.	Ohms Impedance Sec.	Pri. M.A.	Max. Watts	Mtg. Fig.	Mtg. Ctrs.	Dimensions H.	Dimensions W.	Dimensions D.	Wt. Lbs.	List Price
6018	P.P. 50L6, 25B5, 25AC5, 25L6, 6Y6, 6W6, 6V6	AB	4000	3.2	50	4	A	2	1⅜	2⅜	1⅜	.4	$1.35
6013	Sgl. 89, 95, 6F6, 6D5, 6B5, 12A6	A	7000	3-6	30	3	A	2	1⅜	2⅜	1⅜	.4	1.35
6012	Sgl. 1C5G, 1Q5G, 3A4, 1G5, 1S4, 3S4, 3Q5	A	8000	3.2	20	5	A	2	1⅜	2⅜	1⅝	.5	1.30
6008	P.P. 1-19, 1-1J6G, 1-1G6G, 2-30, 49, 25A6	B AB	10000	4/8	30	8	A	2 13/16	2	3¼	1⅝	1.0	1.80
6019	P.P. 43, 6F6, 59B, 25A6, 6V6, 7C5, 71A	AB	10000	3.2	45	10	A	2 13/16	2	3¼	1⅝	1.0	1.85
6016	P.P. 6F6, 6D5, 6AC5, 6K6, 6B5,6AD7,6N6,7B5,12A6,18	AB	14000	3-6	42	10	A	2 13/16	2	3¼	1⅝	1.0	2.15
6009	P.P. 1B8, 1E7, 1F4, 1T5, 6G6, 1299, 1602 Sgl. 6V7, 55, 85	A	25000	3.2	12	5	A	2	1⅜	2⅜	1⅜	.4	1.75
6026	P.P. Par 4-6L6, P.P. 2-6L6, 45, 6A3	AB1	3300	4/8/15 250/500	155	60	K	2½×2¼	4	3¼	3½	5.2	8.60
6021	P.P. 6L6	AB2	3800	4/8 15/500	115	60	K	2½×2⅛	4	3¼	3⅜	4.6	7.00
6024	P.P. 6L6, 2A3	AB1	4300	4/8/15 250/500	95	25	K	2¼×2	3½	2 15/16	3	3.6	6.65
6025	P.P. 6L6, 6F6, 6AL6	AB2	5500	4/8/15 250/500	90	40	K	2½×2	4	3¼	3¼	4.7	7.90
6005	Universal Sgl. or P.P.	A	4000/7000 8000/10000 14000 Ct.	Adj. .1-29	30	4	C	2	2	2⅜	1⅝	.6	1.80
6000	Universal Sgl. or P.P.	A	4000/7000 8000/10000 14000 Ct.	Adj. .1-29	35	8	C	2⅜	1⅝	2⅞	1¾	.7	1.90
6003	Universal Sgl. or P.P.	A	4000/7000 8000/10000 14000 Ct.	Adj. .1-29	40	12	D	2⅜	2⅜	2⅞	1⅞	1.0	2.25
6004	Universal Sgl. or P.P.	A	4000/7000 8000/10000 14000 Ct.	Adj. .1-29	40	18	D	2 13/16	2⅝	3 5/16	2¼	1.5	2.60

WRITE FOR LATEST CATALOG SHOWING COMPLETE LINE

CREST TRANSFORMER CORP.

FIGURE K

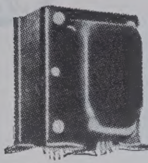


FIGURE F

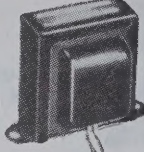


FIGURE D

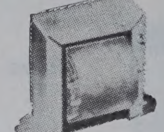
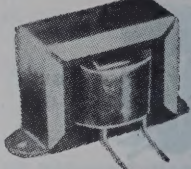


FIGURE A



CHOKES

Filter

Stock No.	Inductance Henries	Current Rating M.A.	D.C. Res. Ohms	Volts Ins. U.L.	Mtg. Fig.	Mtg. Dimensions H.	W.	D.	Wt. Lbs.	List Price
6200	13.5	35	850	1600	A	1⅞	3¼	1⅝	1.0	$1.80
6208	6.5	40	530	1600	A	1 5/16	2⅜	1⅝	0.8	1.40
6201	7.0	60	200	1600	A	1⅞	3¼	1½	1.0	2.00
6204	16	75	400	1600	A	2¼	3 11/16	1⅞	1.8	2.50
6221	5.0	80	138	1600	A	1⅞	3¼	1¾	1.5	2.10
6202	7.5	80	250	1600	A	1⅞	3¼	1¾	1.4	2.20

Heavy Duty

Stock No.	Inductance At zero DC	Inductance At rated DC	Current Rating M.A.	D.C. Res. Ohms	Volts Ins. U.L.	Mtg. Fig.	H.	W.	D.	Wt. Lbs.	List Price
6223	34	10	150	231	1600	K	3½	2 27/32	3⅛	2.6	4.00
6224	10.2	4.2	215	80	3000	K	3½	2 27/32	3⅛	2.6	5.50
6225	19.5	7.3	250	121	3000	K	4¼	3⅝	3⅞	6.2	7.50
6220	17	4.8	450	60	5000	L	4¾	3⅞	5	12.5	14.00

Swinging

Stock No.	Inductance Henries	D.C. M.A. Range	D.C. Res. Ohms	Volts Insul.	Mounting Fig.	Dimensions H.	W.	D.	Wt. Lbs.	List Price
6217	5-20	15-150	215	3000	K	3⅜	2⅞	2 1/16	2.8	$4.30
6230	5-20	50-500	70	5000	L	5⅜	4½	4¾	13.0	19.00

FILAMENT TRANSFORMERS

Stock No.	Pri. Volts	Sec. Volts	Sec. Amps	Sec. Volts Inc.	Mtg. Fig.	Dimensions H.	D.	W.	Wt. Lbs.	List Price
F-6730	115	2.5 c.t.	5.25	1800	B	2⅜	2⅞	2⅛	1.3	$2.80
F-6732	115	2.5 c.t.	10	7500	R	4	3¾	3¼	2.6	4.20
F-6740	115	5.0 c.t.	5	1800	B	3 1/16	3⅜	2⅛	2.2	3.15
F-6752	115	5.0 c.t.	12	10000	R	4 3/16	3 7/16	3¼	7.0	10.50
F-6724	115	6.3 c.t.	1.5	1600	B	2	1¾	1¾	1.0	1.95
F-6727	115	6.3 c.t.	3	1600	B	2⅜	2⅞	2⅛	1.4	2.40
F-6750	115	7.5 c.t.	5	2500	R	3¼	2½	2¼	2.8	3.90
F-6751	115	7.5 c.t.	8	1800	R	3¾	3	2⅞	4.0	4.20
F-6756	115	10.0 c.t.	5	3000	R	3 7/16	2 13/16	2¾	4.6	5.50
F-6757	115	10.0 c.t.	8	3000	R	3⅞	3⅛	3⅛	4.8	5.85

FULLY ENCLOSED POWER TRANSFORMERS

Stock No.	H.V. A.C. Load Volts	Secondary D.C. M.A.	Filament Windings Fil. No. 1	Fil. No. 2		Mtg. Fig.	Mtg. Ctrs.	Mtg. Dimensions H.	W.	D.	Wt. Lbs.	List Price
6600	325-325	40	5V-2A	6.3V-2A	C.T.	K	2 x1½	3 3/16	2⅝	2½	2.2	$5.25
6601	325-325	50	5V-2A	6.3V-3A	C.T.	K	2 x1¾	3 3/16	2⅝	2¾	2.8	5.50
6602	350-350	70	5V-3A	6.3V-3.5A	C.T.	K	2½x1⅝	3⅞	3¼	3⅛	4.2	6.75
6603	350-350	100	5V-3A	6.3V-4.5A	C.T.	K	2½x2¼	3⅞	3¼	3½	5.2	8.00
6604	350-350	120	5V-3A	6.3V-5A	C.T.	K	2½x2⅛	3⅞	3¼	3⅝	5.7	8.75
6605	400-400	200	5V-4A	6.3V-6A	C.T.	K	3 x2¾	4⅝	3⅞	3¾	8.0	10.00
6606	430-430	325	5V-6A	6.3V-8A	C.T.	K	3 x4½	4⅝	3⅞	5⅝	14.7	16.00

UNIVERSAL POWER TRANSFORMERS

Stock No.	H.V. Secondary Load Volt	D.C. M.A.	Fil. No. 1	Fil. No. 2		Mtg. Fig.	Mtg. Centers	Mtg. Dimensions W. L.	Wt. Lbs.	List Price
P-6555	325 - 325	40	5V-2A	6.3V-2A	C.T.	P	2 x2½	2½x3	2.3	$4.50
P-6556	325 - 325	45	5V-2A	6.3V-2A	C.T.	P	2 x2½	2½x3	2.3	4.70
P-6557	350 - 350	70	5V-3A	6.3V-2.5A	C.T.	P	2¼x2⅞	2⅞x3⅜	3.4	5.80
P-6558	350 - 350	90	5V-3A	6.3V-3.5A	C.T.	P	2¼x2⅞	2⅞x3⅜	4.0	6.00
P-6559	350 - 350	120	5V-3A	6.3V-4.7A	C.T.	P	2½x3⅛	3⅛x3¾	5.0	7.00
P-6560	375 - 375	150	5V-3A	6.3V-4.7A	C.T.	P	2¾x3 7/16	3 7/16x4⅛	5.8	8.75

TELEVISION TRANSFORMERS

V.B.O. & H.B.O.

Stock No.	Type	Electrical Equivalent	Mtg. Fig.	Dimensions H.	W.	D.	Wt. Lbs.	List Price
3008	Vertical Blocking Oscillator	R.C.A. 208T2 Potted	G	1¾	2 5/16	1½	.6	$2.95
3012	Horizontal Blocking Oscillator	R.C.A. 208T1 Potted	G	1¾	2 5/16	1½	.8	3.60

Vertical Output

Stock No.	Type	Electrical Equivalent	Mtg. Fig.	Dimensions H.	W.	D.	Wt. Lbs.	List Price
3010	Vertical Output	R.C.A. 204T2 Open Type	E	3⅛	2½	2¼	2.5	$5.40
3036	Vertical Output	R.C.A. 204T9 Open Type	E	3⅛	2½	2	2.3	5.20

TELEVISION Power Transformers

Stock No.	H.V. A.C. Load Volts	Sec. D.C. M.A.	Filament Windings Fil. 1	Fil. 2	Fil. 3	Mtg. Fig.	Mtg. Ctrs.	Mtg. Dimensions H.	W.	D.	Wt. Lbs.	List Price
5855	385-385	180	5V-3A	6.3V-1.2A Fil. 4	6.3V-6A 5V-2A	K	3 x3¼	4⅝	3⅞	4½	10.8	$16.60
5856	365-365	250	5V-3A	6.3V-.6A Fil. 4	6.3V-8A 5V-2A	P	3 x3¾	4⅞	4½	3¾	12.6	18.90
5854	435-435	210	5V-6A	6.3V-10A	6.3V-3.5A	K	3 x3¾	4⅝	3⅞	5¼	13.5	20.50
5852	365-365	295	5V-6A	5V-2A	12.6V-5A C.T.	P	3½x4¾	5	4½	5¼	15.5	23.50
5853	A 430-430 A 190-190	215 100	6.3-10A	5V-3A Fil. 4	5V-2A 5V-2A	P	3 x3¾	5⅞	3¾	4½	15.0	24.00

LINE REGULATORS STEP UP OR STEP DOWN 50-60 CYCLE

Stock No.	Input Volts	Output Volts	Max. Watts	Mtg. Fig.	Mtg. Ctrs.	Dimensions H.	W.	D.	Wt. Lbs.	List Price
5909	220-250	110-125	100	J	2¾x3	4 3/16	3½	4	6.4	$13.50
5916	220-250	110-125	150	J	2¾x3¼	4 3/16	3½	4⅜	6.0	15.50
5917	220-250	110-125	250	J	3 x4¼	4⅝	3⅞	5½	14.0	22.50

ISOLATION TRANSFORMERS 50-60 CYCLE

Stock No.	Input Volts	Output Volts	Max. Watts	Mtg. Fig.	Mtg. Ctrs.	Dimensions H.	W.	D.	Wt. Lbs.	List Price
5906	110-125	110-125	250	J	3 x4¼	4⅝	3⅞	5½	14.0	22.50
5907	110-125	110-125	500	J	5¾x3½	6¼	5¾	5	28.0	31.00

AUTOFORMERS STEP UP OR STEP DOWN 50-60 CYCLE

Stock No.	Input Volts	Output Volts	Max. Watts	Mtg. Fig.	Mtg. Ctrs.	Dimensions H.	W.	D.	Wt. Lbs.	List Price
5912	220-250	110-125	150	J	2¾x1½	4 3/16	3½	3⅜	4.8	9.30
5913	220-250	110-125	250	J	2¾x3	4⅝	3⅞	4 3/16	7.6	11.00
5914	220-250	110-125	500	J	3 x3½	4⅝	3⅞	5¼	10.8	17.00

WRITE FOR LATEST CATALOG SHOWING COMPLETE LINE

STANDARD ELECTRICAL PRODUCTS CO.
Staco
A QUALITY PRODUCT
DAYTON, O.
U.S.A.

TRANSFORMERS

for REPLACEMENT AND SPECIAL PURPOSE
OUTPUT, POWER, VIBRATOR, FILAMENT and OPERATION of WAR SURPLUS EQUIPMENTS

OUTPUT TRANSFORMERS

RECEIVER REPLACEMENT TYPE
To couple the plate or plates of the output stage to the speaker voice coil. Sec. impedance—3.5 ohms

Type No.	List Price	Tube	Class	Pri. Impedance	Pri. M.A.	Max Watts	Mtg. Cntrs.	Mtg. Dimen.			Mtg.
								H.	W.	D.	
A-7001	$1.25	Single 1C5-G, 1G5-G, 1G5, 1S4, 3Q4, 3S4, 6A4, 3Q5	A	8000	20	3	1¾"	1⅛"	2⅛"	1"	A
A-7003	1.50	Single 2A3, 6A3, 6B4, 6Y6, 25AC5, 25B6, 25N6, 25L6, 35A5, 35L6, 50L6, 48, 50B5, 35B5, 50A5	A	2000	60	5	2"	1⅜"	2⅜"	1¼"	A
A-7007	1.55	Single 6V6, 7C5, 12A, 12A5, 25A6, 25A7, 35A5, 35L6, 31, 45, 50, 59	A	5000	40	5	2"	1⅜"	2⅜"	1¼"	A
A-7018	1.55	Single 2A5, 6AC5, 6B5, 6F6, 6K6, 6N6, 7B5, 20, 31, 33, 42, 47, 50, 6V5	A	7000	30	5	2"	1⅜"	2⅜"	1¼"	A
A-7022	1.60	Single 1C5, 1Q5, 3C5, 6A4, 6G6, 6N7, 6R7, 12A, 38, 41, 49, 3V4	A	10000	30	5	2"	1⅜"	2⅜"	1¼"	A
A-7023	2.30	Single 19, 1G6, 1J6 PP 1H4, 30, 49	B	10000 c.t.	40	5	2"	1⅜"	2⅜"	1¼"	A
A-7029	2.30	PP 6V6, 7C5	AB-	10000 c.t.	40	10	2⅜"	1⅝"	2 13/16"	1½"	A
A-7033	1.60	Single 1D8, 7B5, 6K6, 6G6	A	12000	10	5	2"	1⅜"	2⅜"	1¼"	A
A-7041	1.60	Single 1D8, 1F4, 1F5, 1J5, 1T5, 6V7, 12A7, 85	A	15000	10	5	2"	1⅜"	2⅜"	1¼"	A
A-7047	1.70	Single 1A5, 1N6, 6V7, 85 PP 1E7, 1J5, 6G6, 3A4, 3V4	A	25000 c.t.	10	5	2"	1⅜"	2⅜"	1¼"	A

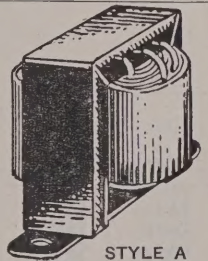
POWER TRANSFORMERS

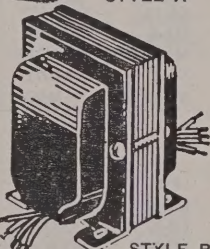
Replacement Type Pri. 115 V. 60 Cycle. Leads RMA Color Coded

Type No.	List Price	H.V. Secondary		Rectifier		Fil. Wdgs.		Mtg. Centers	Mtg. Dimensions			Mtg.
		Volts	Dc.M.A.	Volts	Amp.	Volts	Amp.		H.	W.	D.	
P-6004	$ 4.85	240–240	40	5	2	6.3 c.t.	2	2" x 2½"	2½"	3"	2½"	C
P-6008	4.85	325–325	40	5	2	6.3 c.t.	2	2" x 2½"	2½"	3"	2⅞"	C
P-6009	6.35	350–350	70	5	3	6.3 c.t.	2.5	2" x 2½"	2½"	3"	3 7/16"	C
P-6013	6.70	350–350	90	5	3	6.3 c.t.	3.5	2¼" x 2 13/16"	2 13/16"	3⅜"	3¾"	C
P-6021	7.45	350–350	120	5	3	6.3 c.t.	4.7	2½" x 3⅛"	3⅛"	3¾"	3 13/16"	C
P-6027	9.40	375–375	150	5	3	6.3 c.t.	5	2½" x 3⅛"	3⅛"	3¾"	4 5/16"	C
P-6032	10.90	400–400	200	5	3	6.3 c.t.	5	3" x 3¾"	3¾"	4½"	4"	C

FULLY SHIELDED UPRIGHT MOUNTING TYPE

Type No.	List Price	H.V. Secondary Volts	H.V. Secondary Dc.M.A.	Rectifier Volts	Rectifier Amp.	Fil. Wdgs. Volts	Fil. Wdgs. Amp.	Mtg. Centers	H.	W.	D.	Mtg.
P-6024	$ 5.85	240–240	40	5	2	6.3 c.t.	2	2" x 1 11/16"	3⅛"	2⅝"	2⅝"	B
P-6027	5.85	325–325	40	5	2	6.3 c.t.	2	2" x 1⅞"	3⅛"	2⅝"	2 13/16"	B
P-6031	6.30	350–350	50	5	2	6.3 c.t.	2.6	2¼" x 1⅞"	3½"	2 15/16"	3 1/16"	B
P-6033	7.55	350–350	70	5	3	6.3 c.t.	3	2½" x 1 15/16"	3⅞"	3 3/16"	3 3/16"	B
P-6036	8.30	350–350	90	5	3	6.3 c.t.	3.5	2¾" x 2¼"	4¼"	3½"	3 7/16"	B
P-6041	9.10	350–350	110	5	3	6.3 c.t.	4.5	3" x 2¼"	4⅝"	3 13/16"	3 7/16"	B
P-6047	12.90	400–400	200	5	3	6.3 c.t.	5	3" x 3 1/16"	4⅝"	3 13/16"	4⅛"	B

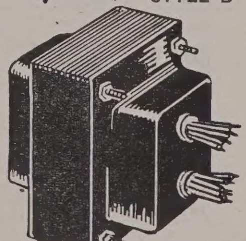

STYLE A


STYLE B

VIBRATOR TRANSFORMERS

For Operation from 6 V. Battery and Vibrator

Type No.	List Price	Sec. DC Volts to Filter	Sec. M.A.	Mtg. Dimensions			Mtg.
				H.	W.	D.	
VP-6201	$4.00	150	40	2 5/16"	2⅞"	1¾"	D.
VP-6207	4.25	225	40	3⅛"	2½"	2⅝"	E.
VP-6213	4.60	250	50	3⅛"	2½"	2¾"	E.
VP-6221	5.15	260	60	3⅛"	2½"	2⅞"	E.

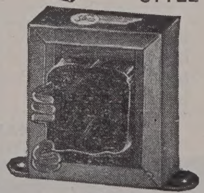

STYLE C

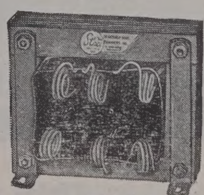
MULTI-USE FILAMENT TRANSFORMERS

For Amplifier, Amateur, Industrial Use. Pri.: 115 Volts, 60 Cycles.
All windings center tapped except those marked *

Type No.	Use #1	Use #2	Use #3	Volt Insul.	Mtg.	Mtg. Dimensions			Ship. Wt.	List Price
						H.	W.	D.		
F5049	Two Sec. of 2.5 V. @ 2.5 A	5 V. @ 2.5 A	2.5 V. @ 5 A	2000	D	2 5/16"	2"	1⅞"	3	$2.95
F5050	Two Sec. of 2.5 V. @ 5 A	5 V. @ 2.5 A	2.5 V. @ 10 A	10000	E	3⅛"	2½"	3¼"	3	4.60
F5051	Two Sec. of 2.5 V. @ 5 A	5 V. @ 5 A	2.5 V. @ 10 A	2000	E	3⅛"	2½"	2⅜"	3	4.00
F5052	Two Sec. of 2.5 V. @ 7.5 A	5 V. @ 7.5 A	2.5 V. @ 15 A	2000	D	3 1/16"	2 17/32"	2½"	5	4.75
F5053	Two Sec. of 5 V. @ 3.25 A	10 V. @ 3.25 A	5 V. @ 6.5 A	2000	D	3 1/16"	2 17/32"	2½"	5	4.25
F5054	Two Sec. of 5 V. @ 10 A	10 V. @ 10 A	5 V. @ 20 A	10000	E	4 3/16"	3 7/16"	3 7/16"	7	8.50
F5055	Two Sec. of 5 V. @ 10 A	10 V. @ 10 A	5 V. @ 20 A	2000	E	4 13/16"	3⅛"	3⅜"	7	7.50
F5056			6.3 V. @ .6 A	2000	D	1⅝"	1⅜"	1½"	2	2.90
F5057			6.3 V. @ 1.2 A	2000	D	1⅞"	1⅝"	1 11/16"	2	3.15
F5007			6.3 V. @ 3 A	2000	D	2 5/16"	2"	1⅞"	3	3.50
F5058	Two Sec. of 6.3 V. @ 1 A	12.6 V. @ 1 A	6.3 V. @ 2 A	2000	D	2 5/16"	2"	1⅞"	3	3.50
**F5006	Two Sec. of 6.3 V. @ 3 A	12.6 V. @ 3 A	6.3 V. @ 6 A	2000	D	3 1/16"	2 17/32"	2½"	5	5.55
**F5004	Two Sec. of 6.3 V. @ 6.5 A	12.6 V. @ 6.5 A	6.3 V. @ 13 A	2000	E	3 13/16"	3⅛"	2½"	6	7.75
F5059	Two Sec. of 7.5 V. @ 1.5 A	15 V. @ 1.5 A	7.5 V. @ 3 A	2000	D	2¾"	2 5/16"	2 3/16"	3	4.25
F5060	Two Sec. of 7.5 V. @ 2.3 A	15 V. @ 2.3 A	7.5 V. @ 4.6 A	2000	D	3 1/16"	2 17/32"	2½"	5	5.25
F5061	Two Sec. of 11 V. @ 5 A	22 V. @ 5 A	11 V. @ 10 A	2000	E	3 13/16"	3⅛"	3¼"	7	7.50
**F5005*	Two Sec. of 12 V. @ 4 A	24 V. @ 4 A	12 V. @ 8 A	2000	E	3 13/16"	3⅛"	2½"	6	7.25
**F5069*	One Sec. of 24 V. @ 3 A	War Surplus Equipment		2000	E	3⅛"	3¾"	2⅝"	2½	6.50
**F5075*	One Sec. of 24 V. @ 1 A	War Surplus Equipment		2000	D	2¾"	3¼"	2"	1¼	4.00

** Types F5004, F5005, F5006, F5069, and F5075 designed for operation of 12 and 24 volt War Surplus Equipment.


STYLE D


STYLE E

Staco
STANDARD ELECTRICAL PRODUCTS CO.
A QUALITY PRODUCT
DAYTON, O. U.S.A.

AUTO-TRANSFORMERS · ISOLATED PRIMARY TRANSFORMERS · METERED TRANSFORMERS

Adjust-A-Volt
VARIABLE TRANSFORMER

METERED MODELS

TYPES PA-CA-MA-NA

TYPE LR

AUTO-TRANSFORMER MODELS

Type	Code Word	Input Voltage	Output Voltage	Output Rated	Amperes Max.	Maximum Rating (V.A.)	Overall Dimensions	Shipping Weight for One Unit	Net Prices	Type
PA-5	PADRE	115	0–140	5.0	7.5	860	6¾″ x 9⅛″ x 5″	25 lbs.	$23.50	PA-5
PA-10	PAMMY	115	0–140	10.0	15.0	1500	6¾″ x 9⅛″ x 7¾″	37 lbs.	45.50	PA-10
CA-5	CADDY	115	0–280	2.5	3.5	430	6¾″ x 9⅛″ x 7¾″	30 lbs.	27.50	CA-5
CA-10	CAMMY	115	0–280	5.0	7.5	860	6¾″ x 9⅛″ x 9⅝″	40 lbs.	52.50	CA-10
MA-5	MADRE	230	0–280	2.5	3.5	860	6¾″ x 9⅛″ x 7¾″	30 lbs.	31.50	MA-5
MA-10	MAMMY	230	0–280	5.0	7.5	1500	6¾″ x 9⅛″ x 9⅝″	40 lbs.	52.50	MA-10
NA-5	NADDY	230	0–140	5.0	7.5	860	6¾″ x 9⅛″ x 5″	27 lbs.	28.50	NA-5
NA-10	NAMMY	230	0–140	10.0	15.0	1500	6¾″ x 9⅛″ x 9⅝″	40 lbs.	55.50	NA-10

ISOLATION TRANSFORMER MODELS
ELECTROSTATICALLY SHIELDED

Type	Code Word	Input Voltage	Output Voltage	Output Rated	Amperes Max.	Maximum Rating (V.A.)	Overall Dimensions	Shipping Weight for One Unit	Net Prices	Type
LR-5	LARKE	115	70–140	5.0	5.0	500	6¾″ x 9⅛″ x 6⅞″	27 lbs.	$29.50	LR-5
LR-10	LAMBE	115	70–140	10.0	10.0	1000	6¾″ x 9⅛″ x 11″	40 lbs.	57.50	LR-10
LR-22	LOOSE	230	70–140	5.0	5.0	500	6¾″ x 9⅛″ x 6⅞″	27 lbs.	31.50	LR-22
LR-24	LOOKE	230	70–140	10.0	10.0	1000	6¾″ x 9⅛″ x 11″	40 lbs.	61.50	LR-24

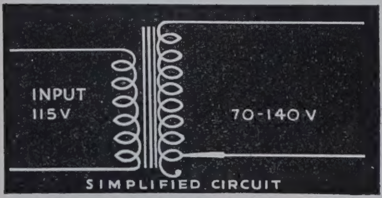
METERED AUTO-TRANSFORMER MODELS

Type	Code Word	Input Voltage	Output Voltage	Output Rated	Amperes Max.	Maximum Rating (V.A.)	Overall Dimensions	Shipping Weight for One Unit	Net Prices	Type
PAL-5	PALLE	115	0–140	5.0	7.5	860	6¾″ x 9⅛″ x 6⅞″	27 lbs.	$35.50	PAL-5
PAL-10	LALLE	115	0–140	10.0	15.0	1500	6¾″ x 9⅛″ x 9⅝″	39 lbs.	57.50	PAL-10
CAL-5	MALLE	115	0–280	2.5	3.5	430	6¾″ x 9⅛″ x 9⅝″	32 lbs.	38.50	CAL-5
CAL-10	NALLE	115	0–280	5.0	7.5	860	6¾″ x 9⅛″ x 11″	42 lbs.	64.50	CAL-10
MAL-5	QALLE	230	0–280	2.5	3.5	860	6¾″ x 9⅛″ x 9⅝″	32 lbs.	43.50	MAL-5
MAL-10	RALLE	230	0–280	5.0	7.5	1500	6¾″ x 9⅛″ x 11″	42 lbs.	64.50	MAL-10
NAL-5	TALLE	230	0–140	5.0	7.5	860	6¾″ x 9⅛″ x 7¾″	29 lbs.	40.50	NAL-5
NAL-10	SALLE	230	0–140	10.0	15.0	1500	6¾″ x 9⅛″ x 11″	42 lbs.	67.50	NAL-10

METERED ISOLATION TRANSFORMER MODELS
ELECTROSTATICALLY SHIELDED

Type	Code Word	Input Voltage	Output Voltage	Output Rated	Amperes Max.	Maximum Rating (V.A.)	Overall Dimensions	Shipping Weight for One Unit	Net Prices	Type
LRL-5	BARKE	115	0–140	5.0	5.0	500	6¾″ x 9⅛″ x 6⅞″	29 lbs.	$41.50	LRL-5
LRL-10	BAMBE	115	0–140	10.0	10.0	1000	6¾″ x 9⅛″ x 11″	42 lbs.	69.50	LRL-10
LRL-22	BOOSE	230	0–140	5.0	5.0	500	6¾″ x 9⅛″ x 6⅞″	29 lbs.	43.50	LRL-22
LRL-24	BOOKE	230	0–140	10.0	10.0	1000	6¾″ x 9⅛″ x 11″	42 lbs.	73.50	LRL-24

ISOLATED TRANSFORMER

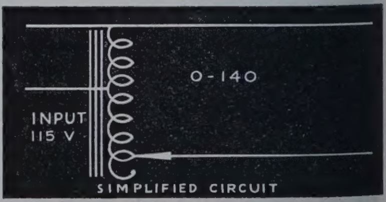


LR and LRL* MODELS
*** 0-140 volts**

SMOOTH, CONSTANT CONTROL IN 4/10 VOLT STEPS. CONSERVATIVE RATINGS. PROVIDES CONTROL OF VOLTAGE TO REGULATE A.C. LINES • POWER • HEAT • LIGHT AND SPEED.

ALL MODELS FINISHED IN BLACK WRINKLE BAKED ENAMEL.

AUTO-TRANSFORMER



PA-CA-MA-NA-PAL-CAL-MAL-NAL MODELS

MANUFACTURED UNDER U. S. PATENT 2,009,013 AND OTHER PATENTS PENDING

Staco
STANDARD ELECTRICAL PRODUCTS CO.
A QUALITY PRODUCT
DAYTON, O.
U.S.A.

TRANSFORMERS

STEP DOWN
STEP UP

ISOLATION AND LINE CORRECTION

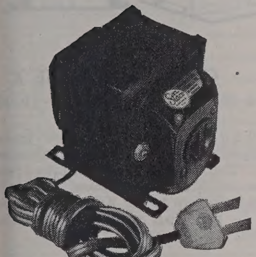


FIG. 1

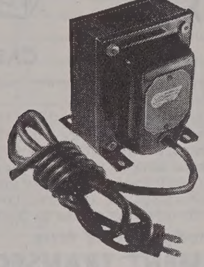


FIG. 2

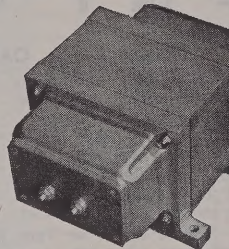


FIG. 3

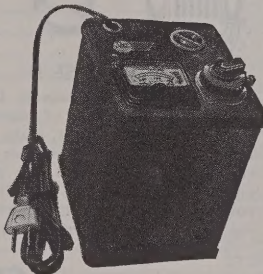


FIG. 4

STEP-DOWN AUTOTRANSFORMERS

Input 220-240 V. 60 cy. Output 115 V. Pri. Cord and Plug Sec. Receptacle

Cat. No.	Code	Mount Fig. No.	Cap. in Watts	Input, Volts	Output, Volts	Cycles	Dimensions in Inches			Net Wt. in Lbs.	List Price	Cat. No.
							H.	W.	D.			
SB-0075	STEBA	1	75	200/240	115	50/60	3⅛″	2⅝″	3¾″	3½	$ 7.00	SB-0075
SB-0150	STECA	1	150	200/240	115	50/60	3⅞″	3¼″	3⅝″	4½	9.25	SB-0150
SB-0250	STEDA	1	250	200/240*	115	50/60	4¾″	3⅞″	4⅜″	8½	13.50	SB-0250
SB-0500	STEFA	1	500	200/240*	115	50/60	4¾″	3⅞″	6⅛″	12½	22.50	SB-0500
SB-1000	STEGA	3	1000	200/240*	115	50/60	4⅞″	7¼″	9″	22½	38.50	SB-1000
SB-2000	STELA	3	2000	200/240*	115	50/60	5¼″	8⅝″	11¼″	40¼	61.90	SB-2000

* These models have primary taps of 200–220–240 Volts. Simply remove cover plate (see Figure 2) and connect to required taps.

LINE CORRECTION STEP-UP AUTOTRANSFORMERS

Models SU 100/105Volt. Input. Models RU 200/210 Volt Input
All SU Models Boost Input 10 Volts. All RU Models Boost Input 20 Volts

SU-0100	SUBAT	1	100	100/110	110/120	50/60	3⅛″	2⅝″	2⅞″	2¾	$ 5.15	SU-0100
SU-0250	SUCAT	1	250	100/110	110/120	50/60	3⅛″	2⅝″	3¾″	3½	7.35	SU-0250
SU-0500	SUDAT	1	500	100/110	110/120	50/60	3⅞″	3¼″	3¼″	4½	8.85	SU-0500
SU-1000	SUFAT	1	1000	100/110	110/120	50/60	4⅝″	3⅞″	4⅛″	8½	17.65	SU-1000
SU-2000	SUGAT	1	2000	100/110	110/120	50/60	4⅝″	3⅞″	5⅝″	14½	35.40	SU-2000
RU-0100	SREBA	1	100	200/210	220/230	50/60	3⅛″	2⅝″	2⅞″	2¾	5.15	RU-0100
RU-0250	SRECA	1	250	200/210	220/230	50/60	3⅛″	2⅝″	3¾″	3½	7.35	RU-0250
RU-0500	SREDA	1	500	200/210	220/230	50/60	3⅞″	3¼″	3¼″	4½	8.85	RU-0500
RU-1000	SREFA	1	1000	200/210	220/230	50/60	4⅝″	3⅞″	4⅛″	8½	17.65	RU-1000
RU-2000	SREGA	1	2000	200/210	220/230	50/60	4⅝″	3⅞″	5⅝″	14½	35.40	RU-2000

ISOLATION TRANSFORMERS

All Models 115 V. Input. 115 V. Output. Electrostatically Shielded.

SI-050	SICAR	1	50	115	115	50/60	3 17/32″	2⅞″	3″	4½	$ 7.50	SI-050
SI-100	SICER	1	100	115	115	50/60	3 29/32″	3 5/32″	3⅝″	7¼	14.50	SI-100
SI-250	SICOR	1	250	115	115	50/60	4¾″	3⅞″	5⅛″	14½	27.50	SI-250

LINE VOLTAGE ADJUSTORS, METERED

8 Position Rotary Switch Corrects Low or High Line to 115 V. from 85-95-105-115-125-135 V-AUTOTRANSFORMER

LC-150	LABAD	4	150	85–135	115	50/60	6½″	4⅜″	5″	7¾	$24.75	LC-150
LC-350	LAFAD	4	350	85–135	115	50/60	6½″	4⅜″	5″	10¾	31.50	LC-350
LC-500	LAJAD	4	500	85–135	115	50/60	6½″	4⅜″	5″	11½	37.50	LC-500

STACO Transformers are compact and modern in design. Only the highest quality silicon lamination steel is used which assures cool operating transformers. Each coil is layer wound with the best quality enameled wires, each layer is insulated with heavy insulating material, each coil is varnished impregnated and high temperature baked. High Voltage Breakdown Test is performed on each coil and transformer in accordance with existing RMA Specs. This combination of high quality materials plus the finest workmanship is assurance of better and lasting performance at highest operating efficiency, yet costs no more than average.

Finishes: Mount type #1, Black baked enamel, Mount type #2, Black baked enamel, Mount type #3, Natural Buffed Aluminum, Mount type #4, Black Wrinkle baked enamel.

PEERLESS · TRANSFORMERS

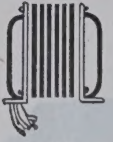
PEERLESS ELECTRICAL PRODUCTS DIVISION

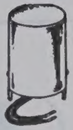
TRANSFORMERS

ALTEC
LANSING CORPORATION

1161 N. VINE STREET
HOLLYWOOD 38, CALIF.

161 SIXTH AVENUE
NEW YORK 13, N. Y.


CASE A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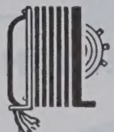
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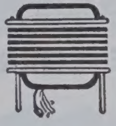
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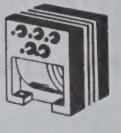
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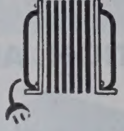
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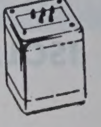
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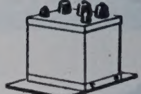
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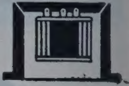
CASE X

Peerless Electrical Products Division of Altec Lansing Corporation presents two new lines of transformers. The standard commercial line includes power, filament, plate, isolation, television, input, interstage, bridging, output, impedance matching transformers and power chokes. The commercial line of audio transformers have a flat frequency response within ±1 db from 30 cycles to 15,000 cycles, the power transformers are conservatively rated for a maximum heating rise of 55°C., and the output transformers are conservatively rated to give full rated power within ± 3 db from 30 cycles to 10,000 cycles.

The superb new audio line of 20-20 transformers covers input, interstage, bridging, output and impedance matching transformers which are unsurpassed in any market. The 20-20 line of audio transformers have a flat frequency response within ±1 db from 20 cycles to 20,000 cycles and have good transmission up to 50 KC. The output transformers are conservatively rated to give full rated power within ±3 db from 20 cycles to 20,000 cycles.

* Suffix Letter on Type Number Indicates Case Style.

COMBINATION PLATE AND FILAMENT TRANSFORMERS

Type Number*	High Voltage Secondary AC Volts	DC MA.	Filament Current, Amperes 2.5 V. C.T.	5 V.	6.3 V. C.T.	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
R-080-A	275-0-275	20			2.	3⅛	2⅞	2 9/16	2¼	$8.75
R-080-Q	275-0-275	20			2.	4⅛	3 3/16	3 1/16	3	18.00
R-160-A	275-0-275	40		2.	2.	3⅛	3⅛	2 9/16	2¾	7.10
R-160-G	275-0-275	40		2.	2.	3⅜	3 1/16	2 9/16	2¾	7.10
R-196-A	300-0-300	50		2.	2.5	3⅛	3⅜	2 9/16	3¼	7.90
R-196-G	300-0-300	50		2.	2.5	3⅝	3 1/16	2 9/16	3¼	7.90
R-319-A	325-0-325	70	7.5	3.		3½	3⅝	2⅞	4	9.00
R-320-A	325-0-325	70		3.	3.	3½	3⅝	2⅞	4	8.60
R-320-G	325-0-325	70		3.	3.	3⅝	3 7/16	2⅞	4	8.60
R-399-A	350-0-350	90	10.	3.		4 3/16	3⅝	3¾	6¼	9.85
R-400-A	350-0-350	90		3.	4.	4 3/16	3⅝	3¾	6¼	9.50
R-400-G	350-0-350	90		3.	4.	4⅛	4⅛	3⅝	6¼	9.50
R-400-Q	350-0-350	90		3.	4.	5	4 5/16	4 1/16	7½	19.00
R-401-A	350-0-350	90	3.5	3.	2.5	4 3/16	3⅝	3¾	6¼	9.50
R-479-A	350-0-350	120	12.5	3.		4 3/16	3⅞	3¾	6¾	11.15
R-480-A	350-0-350	120		3.	5.	4 3/16	3⅞	3¾	6¾	10.90
R-480-G	350-0-350	120		3.	5.	4⅜	4⅛	3⅝	6¾	10.90
R-480-Q	350-0-350	120		3.	5.	5	4 5/16	4 1/16	8	21.00
R-481-A	350-0-350	120	3.5	3.	3.5	4 3/16	3⅞	3¾	6¾	11.25
R-559-A	400-0-400	200	5. - 10.	3.		5	4⅞	4⅜	11¾	16.75
R-560-A	400-0-400	200		3.	6.	5	4⅞	4⅜	11¾	15.50
R-560-Q	400-0-400	200		3.	6.	6	5⅛	5⅛	17	27.00
R-561-A	400-0-400	200		3.	2. - 4.	5	4⅞	4⅜	11¾	16.75
R-640-A	575-0-575	225		3.		5	6	4⅜	15¼	19.50
R-720-A	750-700-0-700-750	200-250†		3.		5	6¼	4⅜	16½	23.00
R-800-A	400-0-400	300		4.	4. - 5.	5	6¼	4⅜	16½	24.00

†Choke input only.

CATHODE RAY AND TELEVISION

Type Number*	High Voltage Secondary AC Volts	DC MA.	DC Volts	Filament Current, Amperes Rect. 2.5 V.	6.3 V.	Tapped 2.5 V.	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
R-870-A	1775	2	2500	1.75	.6	2.1	4 3/16	3½	3¾	6¼	$15.00
R-960-A	4600	2	6500	1.75	.6	2.1	4 3/16	4½	3¾	9¼	24.75

PLATE TRANSFORMERS

Type Number*	Secondary AC Volts	DC Volts Choke Input	DC MA. ICAS	CCS	Primary Volts 50-60 Cycle	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
P-110-K	900-725-0-725-900	600-750	425	300	117	7	8	5¾	25	$37.00
P-110-S	900-725-0-725-900	600-750	425	300	117	9	8	6¼	34	48.00
P-330-K	1175-880-0-880-1175	750-1000	425	300	117	7	8½	5¾	27	40.00
P-330-S	1175-880-0-880-1175	750-1000	425	300	117	9	8	6¼	37	58.00
P-440-K	1750-1450-0-1450-1750	1250-1500	450	325	117-234	7	10	7¾	47	60.00
P-440-S	1750-1450-0-1450-1750	1250-1500	450	325	117-234	9	8	8¼	60	85.00
P-550-K	2300-1725-0-1725-2300	1500-2000	550	400	117-234	7	10¾	7¾	57	80.00
P-550-S	2300-1725-0-1725-2300	1500-2000	550	400	117-234	10	9	8¼	75	115.00
P-660-K	2850-2275-0-2275-2850	2000-2500	625	450	117-234	9¼	11½	9¼	70	110.00
P-660-S	2850-2275-0-2275-2850	2000-2500	625	450	117-234	12¼	11	10	100	160.00
P-770-K	3375-2800-2250-0-2250-2800-3375	2000-2500-3000	800	600	117-234	9¼	13	9¼	92	200.00
P-770-S	3375-2800-2250-0-2250-2800-3375	2000-2500-3000	800	600	117-234	12¼	11	10	120	260.00
P-880-K	3350-2800-2250-0-2250-2800-3350	2000-2500-3000	1250	1000	117-234	9¼	15¼	9¼	135	245.00
P-880-S	3350-2800-2250-0-2250-2800-3350	2000-2500-3000	1250	1000	117-234	12¼	14	10	180	360.00

VIBRATOR TRANSFORMERS

Type Number*	Secondary AC Volts	DC Volts	DC MA. CCS	Primary Volts 50-60 Cycle	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
V-950-A		180	40	6-8 V. DC 115 Cycle Vibrator	2⅝	2½	2¼	1	$5.70
V-970-A		300	80	6-8 V. DC 115 Cycle Vibrator	3⅛	3⅜	2 9/16	3¼	7.25
V-980-A	Separate Primary for 117 V. 50/60 C.	350	135	6-8 V. DC 115 Cycle Vibrator	5	4½	4⅜	10	12.50

PEERLESS ELECTRICAL PRODUCTS DIVISION
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SMOOTHING CHOKES

Type Number*	Current DC MA.	Inductance Henries	Resistance Ohms	Test Volts R.M.S.	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
C-065-X	20	25	1800	1500	1 7/16	2½	1½	⅜	$1.90
C-130-X	40	15	950	1500	1⅝	2⅞	1⅝	½	2.00
C-195-X	50/70	15/10	360	1500	2	3½	2	1	2.50
C-305-A	90	10	285	1500	2 13/16	2 11/16	2¼	1⅝	3.55
C-305-X	90	10	285	1500	2⅜	3¾	2¼	1½	2.85
C-325-A	120	10	240	1500	3⅛	2⅞	2 9/16	2¼	4.90
C-325-X	120	10	240	1500	2⅝	4¼	2½	2⅛	3.95
C-390-A	200	10	150	1500	4 3/16	3¼	3¾	5½	6.80
C-455-A	250	10	110	2500	4 3/16	3¾	3¾	6½	9.55
C-520-A	300/325	10/8.5	110	4100	5	4¼	4⅜	9¼	13.00
C-520-K	300/325	10/8.5	110	4100	5½	5¾	4⅜	10½	20.00
C-520-S	300/325	10/8.5	110	4100	6⅞	4⅞	4⅝	9½	27.00
C-585-K	450/500	10/8.5	65	6500	7	7¼	5¾	25	25.50
C-585-S	450/500	10/8.5	65	6500	9	8	6¼	40	37.50
C-650-K	600	10	45	7500	7	9	7¾	40	47.00
C-650-S	600	10	45	7500	9	8	8¼	52	70.00
C-715-K	1000	10	25	7500	9¼	11¼	9¼	80	115.00
C-715-S	1000	10	25	7500	12¼	11	10	110	155.00

SWINGING CHOKES

Type Number*	Current DC MA.	Inductance Henries	Resistance Ohms	Test Volts R.M.S.	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
W-519-A	30/300	20/4	110	4100	5	4¼	4⅜	9¼	$13.00
W-519-K	30/300	20/4	110	4100	5½	5¾	4⅜	10½	20.00
W-519-S	30/300	20/4	110	4100	6⅞	4⅞	4⅝	9½	27.00
W-584-K	45/450	20/4	65	6500	7	7¼	5¾	30	25.50
W-584-S	45/450	20/4	65	6500	9	8	6¼	40	37.50
W-649-K	60/600	20/4	45	7500	7	9	7¾	40	47.00
W-649-S	60/600	20/4	45	7500	9	8	8¼	52	70.00
W-714-K	100/1000	20/4	25	7500	9¼	11¼	9¼	80	115.00
W-714-S	100/1000	20/4	25	7500	12¼	11	10	110	155.00

FILAMENT TRANSFORMERS

Type Number*	Secondary Current, Amperes 2.5 V. C.T.	5 V. C.T.	6.3 V. C.T.	7.5 V. C.T.	10 V. C.T.	Test Volts R.M.S.	Primary Volts 50-60 Cycle	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
F-012-X			1.			2000	117	1⅝	2⅞	1⅝	½	$2.80
F-024-X	4.					2000	117	2	3½	2	1	3.60
F-036-X			1.8			2000	117	2	3½	2	1	3.40
F-048-X	5.					7500	117	2⅜	3¾	2¼	1½	5.20
F-060-X		4.				2000	117	2⅜	3¾	2¼	1½	4.25
F-072-X			3.6			2000	117	2⅜	3¾	2¼	1½	4.25
F-096-X	10.					7500	117	2⅝	4¼	2½	2⅛	5.95
F-096-S	10.					7500	117	6⅜	4⅜	3⅝	6	19.00
F-104-X			5.			2000	117	2⅝	4¼	2½	2⅛	6.00
F-120-X				5.		2000	117	2⅝	4¼	2½	2⅛	6.00
F-121-X	15.					7500	117	2⅝	4¼	2½	2⅛	8.00
F-138-E		10.				2000	117	3½	3⅛	2⅞	3½	6.95
F-139-E			8.			2000	117	3½	3⅛	2⅞	3½	6.95
F-140-E					5.	2000	117	3½	3⅛	2⅞	3½	6.95
F-156-E				10.		2000	117	3½	3¼	2⅞	3¾	7.25
F-168-E					10.	2000	117	4 3/16	3¼	3⅝	5¼	8.20
F-169-S		20.				10,000	117	7½	4⅞	5⅝	9	22.00
F-180-E				15.		2000	117	4 3/16	3¾	3⅝	6¼	9.50
F-192-E	10.				10.	7500-2000	117	5	4¼	4⅜	9¼	14.50
F-192-S	10.				10.	7500-2000	117	7½	4⅞	5⅝	9½	24.50

ISOLATION TRANSFORMERS

Type Number*	Primary Volts AC 50-60 C.	Secondary Volts AC	V. A. Continuous	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
T-111-L	117	117	75	4 3/16	3¼	3¾	5½	$13.00
T-112-L	234	117	75	4 3/16	3¼	3¾	5½	14.00
T-311-L	117	117	150	5	4	4⅜	8⅜	19.00
T-312-L	234	117	150	5	4	4⅜	8⅜	20.50
T-511-L	117	117	250	5	5¼	4⅜	14	30.00
T-512-L	234	117	250	5	5¼	4⅜	14	32.00

AUTOFORMERS (Step-Down)

Type Number*	Input Volts AC 50-60 C.	Output Volts AC	V. A. Continuous	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
A-014-L	234	117	75	3⅛	2⅞	2 9/16	2¼	$9.75
A-028-L	234	117	150	4 3/16	3¼	3¾	5½	12.00
A-042-L	234	117	300	5	4	4⅜	8⅜	16.00
A-056-L	234	117	500	5	5¼	4⅜	14	20.50

PEERLESS · TRANSFORMERS

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AUTOFORMERS (Line Voltage Correcting)

Type Number*	Voltages AC 50-60 Cycles	V. A. Continuous	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
A-070-E	0-100-105-110-115-120-125	250	4 3/16	3 ¾	3 ⅝	5 ¾	$13.50
A-084-K	0-100-105-110-115-120-125	500	5 ½	4 ¾	4 ⅜	9 ½	24.50
A-098-K	0-100-105-110-115-120-125	1000	5 ½	5 ½	4 ⅜	12 ¾	40.00
A-114-K	0-100-105-110-115-120-125	2000	7	6 ⅜	5 ¾	26	55.00

20-20 INPUT TRANSFORMERS

20-20 Type Number*	Descriptive Data	Impedance, Ohms Primary	Secondary**	Max. Level	Primary DC MA. Max.	Unbal.	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
K-221-Q	Secondary may be used single ended or Push-Pull—has two secondaries with balanced capacitance to ground. Static shield between primary and secondary. 90 db magnetic shielding.	500, 250 30 or 600, 300 36	70,000 or 84,000	—20 db 6 mw ref.	0	—	3 ½	2 ⅜	2 ½	1 ⅝	$36.50
K-231-Q	Same data as K-221-Q.	250, 125 62 ½, 31 or 300, 150 75, 37 ½	70,000 or 84,000	—20 db 6 mw ref.	0	—	3 ½	2 ⅜	2 ½	1 ⅝	36.50
K-251-Q	Same data as K-221-Q except 30 db magnetic shielding.	500, 250 125, 62 ½ or 600, 300 150, 75	40,000 or 48,000	+ 15 db 6 mw ref.	0	—	4 ⅛	3 3/16	3 1/16	2 ⅜	45.00
K-281-Q	For Push-Pull only—two secondaries with balanced capacitance to ground.	500, 220 125, 56, 14 or 600, 265 150, 67, 17	30,000 or 36,000	+ 30 db 6 mw ref.	0	—	4 ⅝	3 ⅝	3 ½	5 ½	52.50

**Secondary impedance is total of two separate windings.

20-20 INTERSTAGE TRANSFORMERS

20-20 Type Number*	Descriptive Data	Impedance, Ohms Primary	Secondary	Max. Level	Primary DC MA. Max.	Unbal.	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
G-212-Q	Both primary and secondary may be used single-ended or in Push-Pull—has two secondary windings with balanced capacitance to ground—static shield between primary and secondary—parallel feed recommended. 90 db magnetic shielding.	10,000 2,500	40,000 10,000	—20 db 6 mw ref.	5 Per Winding Push-Pull Only	0	3 ½	2 ⅜	2 ½	1 ⅝	$36.50
G-252-Q	Same data as G-212-Q except 30 db magnetic shield.	10,000 2,500	40,000 10,000	+ 15 db 6 mw ref.	10 Per Winding Push-Pull Only	0	4 ⅛	3 3/16	3 1/16	2 ⅜	45.00

20-20 OUTPUT TRANSFORMERS

20-20 Type Number*	Descriptive Data	Impedance, Ohms Primary	Secondary	Max. Level	Primary DC MA. Max.	Unbal.	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
S-215-Q	Primary may be used single ended or in Push-Pull — two secondaries with balanced capacitance to ground — parallel feed is recommended. 60 db magnetic shield.	20,000 5,000 or 24,000 6,000	500, 250 125, 62 ½ or 600,300 150, 75	+ 15 db 6 mw ref.	15 Per Winding Push-Pull Only	0	4 ⅛	3 3/16	3 1/16	2 ⅛	$45.00
S-220-Q	Same data as S-215-Q.	12,500 3125 or 15,000 3750	500, 250 125, 62 ½ or 600,300 150, 75	+ 15 db 6 mw ref.	15 Per Winding Push-Pull Only	0	4 ⅛	3 3/16	3 1/16	2 ⅛	45.00
S-230-Q	Secondary may be operated with one end grounded.	6600 C.T.	16, 8, 4, 2	20 watts + 35 db	70	7	4 ⅝	3 ⅝	3 ½	6	26.00
S-235-Q	Secondary should be operated balanced to ground.	6600 C.T.	500, 250 125, 62 ½	20 watts + 35 db	70	7	4 ⅝	3 ⅝	3 ½	6	26.50
S-240-Q	Same as S-230-Q.	5000 C.T.	16, 8, 4, 2	20 watts	90	9	4 ⅝	3 ⅝	3 ½	6	26.00
S-245-Q	Same as S-230-Q.	3000 C.T.	16, 8, 4, 2	20 watts	110	11	4 ⅝	3 ⅝	3 ½	6	26.00
S-250-Q	Same as S-235-Q.	3000 C.T.	500, 250 125, 62 ½	20 watts	110	11	4 ⅝	3 ⅝	3 ½	6	26.50
S-265-Q	Two center-tapped primaries may be used in series or parallel. Secondary may be operated with one end grounded.	10,000 C.T. 2500 C.T.	16, 8, 4, 2	40 watts + 38 db	110 220	11 22	5	4 5/16	4 1/16	10	45.00
S-270-Q	Same as S-265-Q except secondary should be operated balanced to ground.	10,000 C.T. 2500 C.T.	500, 250 125, 62 ½	40 watts + 38 db	110 220	11 22	5	4 5/16	4 1/16	10	45.00

20-20 IMPEDANCE MATCHING TRANSFORMERS

20-20 Type Number*	Descriptive Data	Impedance, Ohms Primary	Secondary	Max. Level	Primary DC MA. Max.	Unbal.	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
E-214-Q	Between line and speaker.	1000 500, 250	16, 8, 4, 2	10 watts + 32 db	—	—	4 ⅛	3 3/16	3 1/16	2 ¾	$19.50
E-224-Q	Same as E-214-Q.	1000 500, 250	16, 8, 4, 2	20 watts + 35 db	—	—	4 ⅝	3 ⅝	3 ½	6	27.00
E-234-Q	Same as E-214-Q.	1000 500, 250	16, 8, 4, 2	40 watts + 38 db	—	—	5	4 5/16	4 1/16	10	45.00

PEERLESS ELECTRICAL
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20-20 LINE TRANSFORMERS

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INPUT TRANSFORMERS

Type Number*	Application	Impedance, Ohms Primary	Impedance, Ohms Secondary	Turns Ratio	Freq. Range ±1 db	Dimensions, Inches Height	Dimensions, Inches Depth	Dimensions, Inches Width	Weight Lbs.	List Price
K-007-X	Single-Button Mic. to 1 or 2 Grids.	100	700,000 C.T.	1:84	Voice	1⅝	2⅞	1⅝	½	$3.85
K-021-X	Dbl.-But. Mic. or Line to 1 or 2 Grids	200 C.T.	100,000 C.T.	1:22½	100-5,000	2	3½	2	1	3.80
K-035-X	Dbl.-But. Mic. or Line to 1 or 2 Grids	500 C.T.	100,000 C.T.	1:14	100-5,000	2	3½	2	1	3.80
K-049-D	Line to P.-P. Grids Max. Level -34 db. Level=0 db. 30 db Mag. Shielding.	500 C.T.-333-250 200 C.T.-125-50	60,000		30-15,000	2⅞	1¾	1¾	1	17.50
K-049-Q	Same as K-049-D except has 90 db Magnetic Shielding	500 C.T.-333-250 200 C.T.-125-50	60,000		30-15,000	3½	2⅜	2½	1½	24.00
X-420-X	Voice Coil to Grid.	4	25,000	1:80	Voice	1 7/16	2½	1½	⅜	2.75
K-063-A	Line to P.-P. Grids. Max. Level -34 db.	500 C.T.-125	12,500		30-15,000	3⅛	3	2 9/16	2½	11.75
K-077-X	S. B. Mic. and Single Plate to Grid.	10,000-100	40,000	1:2,1:20	Voice	1¼	1 15/16	1¼	¼	3.50

INTERSTAGE TRANSFORMERS

G-306-X	Single Plate to 1 or 2 Grids.	10,000	96,000 C.T.	1:3.1	100-5,000	1⅝	2⅞	1⅝	½	$3.05
G-318-D	Single Plate to Single Grid. Max. Level, 0 db. 30 db. Mag. Shielding.	10,000	60,000		30-15,000	2⅞	1¾	1¾	1	16.00
G-324-A	Single Plate to 1 or 2 Girds.	10,000	60,000	1:2.45	40-10,000	2 13/16	2 11/16	2¼	1⅝	6.25
G-336-A	Push-Pull Plates to 1 or 2 Grids.	20,000 C.T.	30,000 C.T.		40-10,000	2 13/16	2 11/16	2¼	1⅝	6.85

REACTORS

Type Number*	Application	Res. Ohms	Ind. Henries	DC MA. Normal	DC MA. Max.	Dimensions, Inches Height	Dimensions, Inches Depth	Dimensions, Inches Width	Weight Lbs.	List Price
L-350-X	Smp. Pentode Eqlz. for Hi Fre. Peak.	90	2	2	10	1⅝	2⅞	1⅝	½	$5.85
L-355-X	Smp. Pentode Eqlz. for Low Fre. Peak.	4200	160	2	10	1⅝	2⅞	1⅝	½	6.90
L-360-D	Tone Control (Cathode Circuit).	220	23	0	0	2⅞	1⅝	Round	½	4.80
L-365-Q	HF and LF Equalizer for Pentode, 30 db Shielding.	90-4200	2-160	2-2	10-10	4⅝	3⅝	3½	3	19.50
Q-370-X	To Isolate DC from Interstage Transf.	4000	275	5	10	1⅝	2⅞	1⅝	½	3.90

IMPEDANCE MATCHING TRANSFORMERS

Type Number*	Application	Impedance, Ohms Primary	Impedance, Ohms Secondary	Audio Watts	Freq. Range	Dimensions, Inches Height	Dimensions, Inches Depth	Dimensions, Inches Width	Weight Lbs.	List Price
E-372-Q	Mic. or Line to Line—Static Shield Btwn. Pri. & Sec. 60 db Mag. Shield.	500 C.T.-333-250 200 C.T.-125-50	500 C.T.-333-250 200 C.T.-125-50	+10 db	30-15,000	3½	2⅜	2½	1½	$27.00
E-377-X	Line to Speaker.	500	16-8	5	40-10,000	2	3½	2	1	4.50
E-382-X	Line to Speaker.	2000-1500-1000 500-250	16-12-8-4-2	10	40-10,000	2⅜	3¾	2¼	1½	9.50
E-387-E	Line to Speaker.	2000-1500-1000 500-250	16-12-8-4-2	25	40-10,000	3½	3¼	2⅞	3¾	12.00

DRIVER TRANSFORMERS

Type Number*	Driver Tubes	Output Tubes	Turns Ratio Pri.-½ Sec.	Pri. Current MA. DC	Dimensions, Inches Height	Dimensions, Inches Depth	Dimensions, Inches Width	Weight Lbs.	List Price
D-001-X	1-1H4, 30, 1G4G	1-1J6G, 1G6G or 2-1H4G	2.66:1	15	1¼	1 15/16	1¼	¼	$3.00
D-006-X	1-6J5, 6A6, 6N7, 76, 30	2-6A6, 6N7, 19, 30	2.66:1	25	2	3½	2	1	4.40
D-011-X	1-6F6, 42, 2A5, 45	2-6L6, 2A3, 6F6, 45, 6V6	1.33:1	50	2	3½	2¼	1¼	5.70
D-016-X	2-6C5, 6J5, 76, 56, or 1-6F6, 42, 45, 6A6, 6N7	2-6L6, 2A3, 6F6, 45 6V6, 6A6, 6N7	4.4, 2.8:1 2.2, 1.4:1	15 Per Winding	2⅜	3¾	2¼	1½	6.50
D-026-A	Universal Driver Plates to B or AB Grids. 15 Watts Audio.	Any Grids	2.0:1 2.9:1	70 Per Winding	3⅛	3	2 9/16	2½	10.75
D-031-A	Universal Driver Plates to B or AB Grids. 30 Watts Audio.	Any Grids	2.0:1 2.9:1	160 Per Winding	3½	3¾	2⅞	4¼	14.75
K-063-A	500-Ohm or 125-Ohm line. 15 Watts Audio.	Any Grids			3⅛	3	2 9/16	2½	11.75

MODULATION TRANSFORMERS

Type Number*	Tubes Used	Audio Watts	Impedance, Ohms Primary	Impedance, Ohms Secondary	Sec. Current MA. DC	Dimensions, Inches Height	Dimensions, Inches Depth	Dimensions, Inches Width	Weight Lbs.	List Price
M-003-X	1-1S6G, 1G6G or 2-1H4G, etc.	2	10,000 C.T.	10,000-8000-5000	25	1¼	1 15/16	1¼	¼	$3.90
M-008-X	1-19, 6N7, 6A6	5	10,000 C.T.	8000-5000-3500	50	1⅝	2⅞	1⅝	½	3.35
M-013-X	1-6N7, 6A6, 53, or 2-6F6, 42, 2A5	10	10,000 C.T.	8000-5000-3500	100	2⅜	3¾	2¼	1½	6.20

UNIVERSAL MODULATION TRANSFORMERS

Type Number*	Audio Watts	Primary Current DC MA. Per Side	Seconday Current DC MA. Series	Seconday Current DC MA. Parallel	Dimensions, Inches Height	Dimensions, Inches Depth	Dimensions, Inches Width	Weight Lbs.	List Price
M-303-A	20	80	80	160	3⅛	3	2 9/16	2½	$9.25
M-328-A	40	100	100	200	4 3/16	3½	3¾	6	14.50
M-353-A	60	130	130	260	5	4¼	4⅜	9½	17.00
M-353-S	60	130	130	260	6⅞	4⅞	4⅝	9½	24.75
M-378-A	85	160	160	320	5	4⅞	4⅜	11¾	21.50
M-403-S	150	200	200	400	8	6	7⅝	35	38.00
M-429-K	375	325	325	650	7	9½	5¾	31	70.00
M-453-K	650	500	500	1000	7	10½	7¾	51	110.00
M-453-S	650	500	500	1000	10	9	8¼	68	135.00
M-478-K	1000	650	650	1300	9¼	14	9¼	110	220.00

PEERLESS ELECTRICAL PRODUCTS DIVISION TRANSFORMERS

ALTEC LANSING CORPORATION

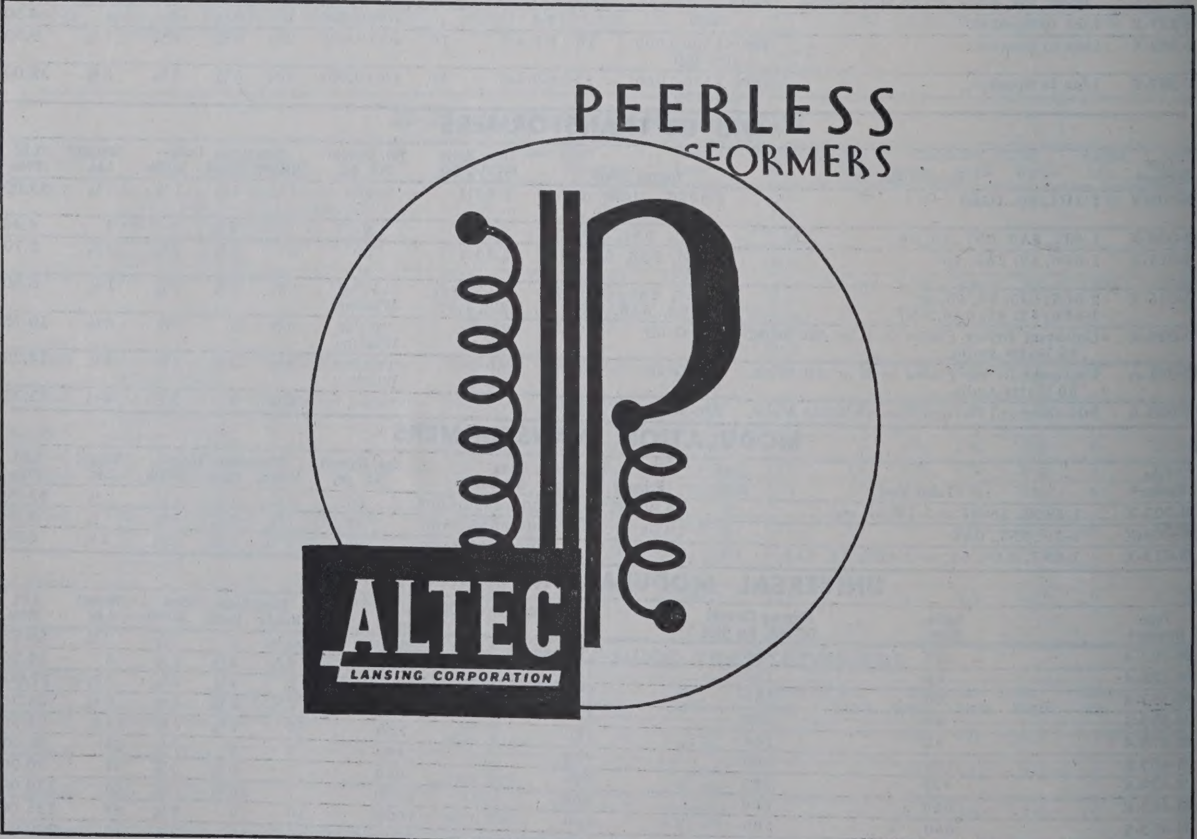
1161 N. VINE STREET
HOLLYWOOD 38, CALIF.
161 SIXTH AVENUE
NEW YORK 13, N. Y.

REPLACEMENT OUTPUT TRANSFORMERS

Type Number*	Application	Turns Ratio	Impedance, Ohms Primary	Impedance, Ohms Secondary	Max. Pri. MA. DC	Audio Watts	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
X-404-X	1-1Q5, 3Q5, 1G6, 1S4, 3S4, 1C5, etc.	50:1	8000	4 to 2½ 3.2 Nominal	15	1	1¼	$1\frac{15}{16}$	1¼	¼	**$2.90**
X-408-X	1-25L6, 35L6, 50L6, etc.		2500-2000-1500	6 to 2	60	5	$1\frac{7}{16}$	2½	1½	⅜	**2.90**
X-412-X	1-6F6, 6V6, 41, 6K6, 6G6, 6A4, 25A6, etc.		10,000-7000 5000-3500	6 to 2	40	5	$1\frac{7}{16}$	2½	1½	⅜	**2.90**
X-416-X	1-1S4, 1C5, 3Q5, 1Q5, 1T5, etc.		14,000-8000	6 to 2	20	5	$1\frac{7}{16}$	2½	1½	⅜	**2.90**
X-420-X	1-1A5	80:1	25,000	6 to 2 4 Nominal	10	5	$1\frac{7}{16}$	2½	1½	⅜	**2.75**
X-424-X	1 or 2-41, 42, 6K6, 6V6, etc		10,000-7000 5000-3500 C.T.	6 to 1.04	40	7	1⅝	2⅞	1⅝	½	**3.00**
X-428-X	Universal 1 or 2 tubes.		14,000-10,000 7000-5000-4000 C.T.	16 to .13	50	10	2	3½	2	1	**3.75**
X-432-X	2-6F6, 6V6, 6K6, 42, 2A5, 45, 71, 50, 6L6		10,000 8000 C.T.	10-6 4-2½	50	15	2⅜	3¾	2¼	1½	**4.25**

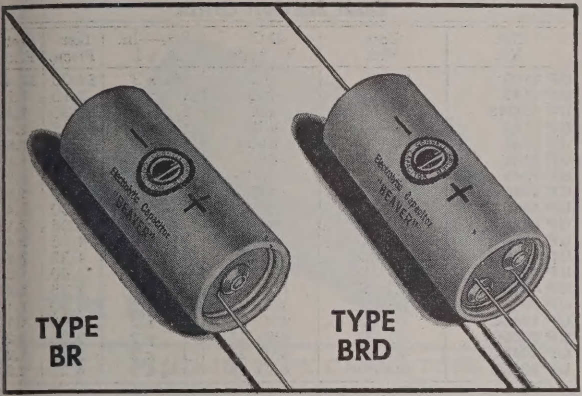
STANDARD OUTPUT TRANSFORMERS

Type Number*	Application	Freq. Range ±1 db	Impedance, Ohms Primary	Impedance, Ohms Secondary	Pri. DC MA. Max.	Unbal.	Audio Watts	Dimensions, Inches Height	Depth	Width	Weight Lbs.	List Price
S-448-Q	S. or P.-P. plates to line. 30 db hum bucking.	30-15,000	20,000 C.T. 12,500 C.T. 5000-3125	500 C.T. 200 C.T. 333-250-125-50	15	2	.06	3½	2⅜	2½	1½	**$20.00**
S-456-X	S. or P.-P. plates to line.	Voice	8000 C.T.	500-200-50	10	2	1	1¼	$1\frac{15}{16}$	1¼	¼	**3.85**
S-464-X	S. or P.-P. plates to line.	100-5000	18,000 C.T.	500-200-50	10	2	5	1⅝	2⅞	1⅝	½	**4.15**
S-472-X	S. plate to VC or line.	100-5000	7000	500-200-15 8-4-2½	40	40	10	2⅜	3¾	2¼	1½	**6.50**
S-508-A	P.-P. plates to VC.	30-15,000	8000 C.T.	16-12-8-4	45	5	10	$2\frac{13}{16}$	$2\frac{13}{16}$	2¼	1¾	**9.25**
S-516-A	P.-P. plates to VC.	30-15,000	6600 C.T.	16-12-8-4	70	7	20	3⅛	3	$2\frac{9}{16}$	2½	**11.75**
S-524-A	P.-P. plates to VC or line.	30-15,000	6600 C.T. 5000 C.T.	500 C.T. 125 16-12-8-4	70	7	20	3½	3¼	2⅞	3	**12.50**
S-532-A	P.-P. plates to VC.	30-15,000	5000 C.T. 3000 C.T.	16-12-8-4	90	9	20	3⅛	3	$2\frac{9}{16}$	2½	**12.00**
S-540-A	P.-P. plates to VC or line.	30-15,000	2500 C.T. 1500 C.T.	500 C.T. 125 16-12-8-4	200	20	40	$4\frac{3}{16}$	3¾	3¾	6¼	**18.50**
S-548-A	P.-P. plates to VC or line.	30-15,000	3800 C.T. 3200 C.T.	500 C.T. 125 16-12-8-4	250	25	60	5	4⅝	4⅜	12	**29.00**



CORNELL DUBILIER

TUBULAR CAN-TYPE DRY ELECTROLYTIC CAPACITORS



"BLUE BEAVER"* CAPACITORS

Types BR and BRD "Blue Beavers" are the most popular electrolytic capacitors employed for all applications where units are required for convenient mounting in small spaces beneath a chassis or connected directly in the wiring assembly. They are small in physical size and self-supporting by means of strong, bare tinned-copper wire leads, while the larger sizes may be mounted with a metal strap.

Cat. No.	Cap. Mfd.	Size—Inches Diam. x Length	List Price	Net Price
		25 V. D.C.		
BR 102A	10	5/8 x 1 1/16	$ .75	**$ .45**
BR 202A	20	5/8 x 1 1/16	.80	**.48**
BR 252A	25	5/8 x 1 1/16	.85	**.51**
BR 502A	50	5/8 x 1 1/16	.95	**.57**
		50 V. D.C.		
BR 550	5	5/8 x 1 1/16	.75	**.45**
BR 105	10	5/8 x 1 1/16	.80	**.48**
BR 205A	20	5/8 x 1 1/16	.85	**.51**
BR 255A	25	5/8 x 1 1/16	.90	**.54**
BR 505	50	5/8 x 1 11/16	1.05	**.63**
		150 V. D.C.		
BR 415	4	5/8 x 1 1/16	.75	**.45**
BR 815	8	5/8 x 1 1/16	.80	**.48**
BR 1015	10	5/8 x 1 1/16	.80	**.48**
BR 1215	12	5/8 x 1 7/16	.85	**.51**
BR 1615	16	5/8 x 1 7/16	.90	**54**
BR 2015A	20	5/8 x 1 7/16	.95	**.57**
BR 2515	25	3/4 x 1 7/16	.95	**.57**
BR 3015A	30	3/4 x 1 7/16	1.00	**.60**
BR 4015A	40	3/4 x 1 11/16	1.10	**.66**
BR 5015A	50	7/8 x 1 11/16	1.20	**.72**
BR 6015	60	7/8 x 2	1.30	**.78**
BR 8015A	80	7/8 x 2	1.45	**.87**
		250 V. D.C.		
BR 425	4	5/8 x 1 1/16	.80	**.48**
BR 825	8	5/8 x 1 7/16	.80	**.48**
BR 1225A	12	5/8 x 1 11/16	1.00	**.60**
BR 1625	16	3/4 x 1 11/16	1.10	**.66**
BR 2025	20	3/4 x 1 11/16	1.20	**.72**
BR 3025A	30	7/8 x 1 11/16	1.30	**.78**
BR 4025A	40	7/8 x 2	1.40	**.84**
BR 5025	50	1 x 2	1.50	**.90**
		350 V. D.C.		
BR 435	4	5/8 x 1 7/16	.85	**.51**
BR 835A	8	5/8 x 1 11/16	.90	**.54**
BR 1235A	12	3/4 x 1 11/16	1.05	**.63**
BR 1635A	16	7/8 x 1 11/16	1.20	**.72**
BR 2035A	20	7/8 x 1 11/16	1.30	**.78**
BR 3035	30	1 x 2	1.40	**.84**
BR 4035	40	1 x 2 1/2	1.50	**.90**
		450 V. D.C.		
BR 145	1	5/8 x 1 1/16	.80	**.48**
BR 245	2	5/8 x 1 1/16	.85	**.51**
BR 445	4	5/8 x 1 7/16	.90	**.54**
BR 845A	8	3/4 x 1 7/16	.95	**.57**
BR 1045A	10	3/4 x 1 11/16	1.05	**.63**
BR 1245A	12	3/4 x 1 11/16	1.15	**.69**
BR 1645A	16	7/8 x 2	1.35	**.81**
BR 2045A	20	7/8 x 2	1.50	**.90**
BR 3045A	30	1 x 2 1/2	1.65	**.99**
BR 4045A	40	1 x 2 1/2	2.00	**1.20**
		500 V. D.C.		
BR 450A	4	5/8 x 1 11/16	1.20	**.72**
BR 850A	8	3/4 x 1 11/16	1.30	**.78**
BR 1650A	16	1 x 2	2.00	**1.20**
BR 2050A	20	1 x 2	2.40	**1.44**
BR 3050A	30	1 x 2 1/2	2.75	**1.65**

For cardboard tube electrolytic units, see page 6.

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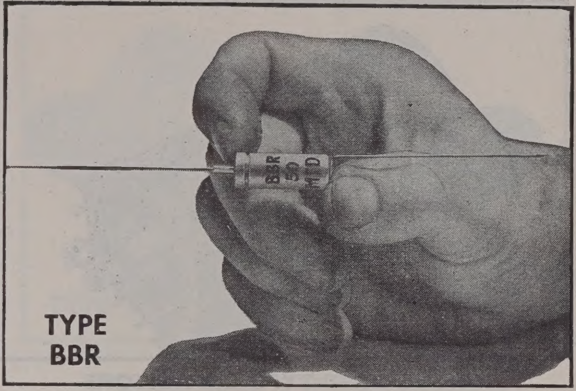
* Reg. U. S. Pat. Off.

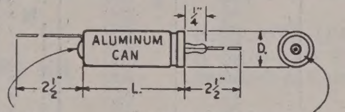


MINIATURE TUBULAR CAPACITORS

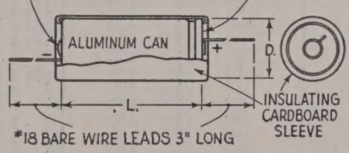
Type BBR "baby BR-type capacitors" are designed for use in compact apparatus such as hearing aids, pocket radios and other small assemblies. They are hermetically sealed in tubular aluminum containers and ideally suited to meet requirements in low voltage circuits.

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
BBR 50-3	50	3	3/8 x 1 1/16	$1.00	**$.60**
BBR 25-3	25	3	3/8 x 1 1/16	1.00	**.60**
BBR 50-6	50	6	3/8 x 1 1/16	1.00	**.60**
BBR 25-6	25	6	3/8 x 1 1/16	1.00	**.60**
BBR 5-6	5	6	3/8 x 1 1/16	1.00	**.60**
BBR 20-25	20	25	1/2 x 1 1/16	1.00	**.60**
BBR 10-25	10	25	3/8 x 1 1/16	1.00	**.60**
BBR 10-50	10	50	1/2 x 1 1/16	1.00	**.60**
BBR 5-50	5	50	3/8 x 1 1/16	1.00	**.60**
BBR 10-90	10	90	1/2 x 1 1/16	1.00	**.60**
BBR 16-90	16	90	1/2 x 1 7/16	1.00	**.60**

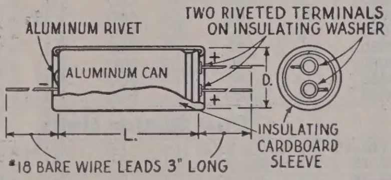
TYPE BBR



TYPE BR

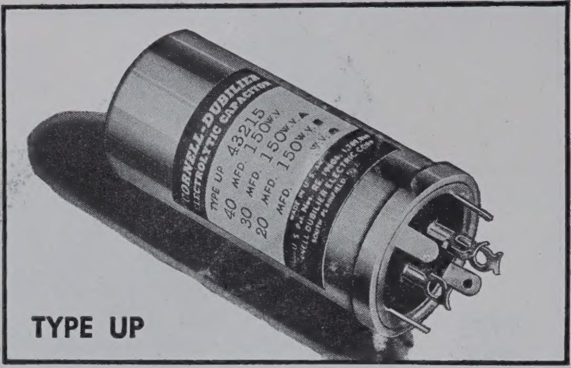


TYPE BRD


ALUMINUM RIVET
TWO RIVETED TERMINALS ON INSULATING WASHER
ALUMINUM CAN
+
+
D.
L.
INSULATING CARDBOARD SLEEVE
*18 BARE WIRE LEADS 3" LONG

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
BRD 202B	20–20	25	3/4 x 1 1/16	$1.10	**$.66**
BRD 2215A	20–20	150	7/8 x 1 7/16	1.30	**.78**
BRD 3315A	30–30	150	7/8 x 1 11/16	1.50	**.90**
BRD 4215A	40–20	150	7/8 x 1 11/16	1.50	**.90**
BRD 4415A	40–40	150	1 x 1 11/16	1.70	**1.02**
BRD 5315A	50–30	150	1 x 1 11/16	1.70	**1.02**
BRD 5515A	50–50	150	1 x 2 1/2	1.90	**1.14**
BRD 8415	80–40	150	1 x 2 1/2	2.10	**1.26**
BRD 2225A	20–20	250	1 x 1 11/16	1.80	**1.08**
BRD 4225	40–20	250	1 x 2 1/2	1.95	**1.17**
BRD 2235A	20–20	350	1 x 2 1/2	2.10	**1.26**
BRD 8D45	8– 8	450	1 x 1 11/16	1.70	**1.02**
BRD 1145A	10–10	450	1 x 2	1.85	**1.11**
BRD 16D45	16–16	450	1 x 3	2.25	**1.35**
BRD 2245	20–20	450	1 x 3	2.35	**1.41**

PRONG-BASE DRY ELECTROLYTIC CAPACITORS



TYPE UP

PRONG-BASE TYPE CAPACITORS

Type UP capacitors are small, conveniently-mounted, round can-type electrolytic units furnished with bakelite and metal mounting washers. Terminals are tinned for soldering.

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—In. D. x L.	List Price	Net Price
UP 3M-10	3000	10	1⅜ x 2½	$4.50	**$2.70**
UP 1M-15	1000	15	1 x 2½	3.25	**1.95**
UP 2M-15	2000	15	1⅜ x 2½	4.70	**2.82**
UP 3M-15	3000	15	1⅜ x 3	4.80	**2.88**
UP 40-25	40	25	¾ x 2	1.10	**.66**
UP 100-25	100	25	¾ x 2	1.45	**.87**
UP 500-25	500	25	1 x 2	2.45	**1.47**
UP 1M-25	1000	25	1⅜ x 2	3.55	**2.13**
UP 100-50	100	50	¾ x 2	2.35	**1.41**
UP 150-50	150	50	1 x 2	2.45	**1.47**
UP 500-50	500	50	1⅜ x 2	2.65	**1.59**
UP 1M-50	1000	50	1⅜ x 3⅝	3.65	**2.19**
UP 3015	30	150	¾ x 2	1.25	**.75**
UP 4015	40	150	1 x 2	1.35	**.81**
UP 5015	50	150	1 x 2	1.45	**.87**
UP 6015	60	150	1 x 2	1.55	**.93**
UP 8015	80	150	1 x 2	1.75	**1.05**
UP 10015	100	150	1 x 2½	1.85	**1.11**
UP 15015	150	150	1 x 3	1.95	**1.17**
UP 2025	20	250	¾ x 2	1.45	**.87**
UP 4025	40	250	1 x 2	1.70	**1.02**
UP 6025	60	250	1 x 2½	2.05	**1.23**
UP 5030	50	300	1 x 2½	1.95	**1.17**
UP 8030	80	300	1 x 3	2.35	**1.41**
UP 1535	15	350	1 x 2	1.45	**.87**
UP 3035	30	350	1 x 2	1.70	**1.02**
UP 5035	50	350	1 x 3	2.05	**1.23**
UP 8035	80	350	1⅜ x 2½	2.75	**1.65**
UP 12535	125	350	1⅜ x 3	3.55	**2.13**
UP 8040	80	400	1⅜ x 3	3.85	**2.31**
UP 1045	10	450	1 x 2	1.30	**.78**
UP 1AJ57	10	450	¾ x 2	1.30	**.78**
UP 1545	15	450	1 x 2	1.55	**.93**
UP 2045	20	450	1 x 2	1.75	**1.05**
UP 3045	30	450	1 x 2½	1.90	**1.14**
UP 4045	40	450	1 x 3	2.25	**1.35**
UP 5045	50	450	1 x 3⅝	2.60	**1.56**
UP 8045	80	450	1⅜ x 3	3.85	**2.31**
UP 1050	10	500	1 x 2	1.75	**1.05**
UP 2050	20	500	1 x 2½	2.65	**1.59**
UP 3050	30	500	1 x 3	3.50	**2.10**
UP 4050	40	500	1 x 3⅝	4.25	**2.55**
UP 8050	80	500	1⅜ x 3⅝	4.65	**2.79**

Dual Section Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—In. D. x L.	List Price	Net Price
UP 11M-15	1000–1000	15	1⅜ x 2½	$4.95	**$2.97**
UP 22-25	20–20	25	1 x 2	1.35	**.81**
UP 44-25	40–40	25	1 x 2	1.50	**.90**
UP 55-50	50–50	50	1 x 2	1.75	**1.05**
UP 2215	20–20	150	1 x 2	1.55	**.93**
UP 3215	30–20	150	1 x 2	1.65	**.99**
UP 3315	30–30	150	1 x 2	1.75	**1.05**
UP 4215	40–20	150	1 x 2	1.75	**1.05**
UP 4315	40–30	150	1 x 2	1.85	**1.11**
UP 4415	40–40	150	1 x 2	1.95	**1.17**
UP 5315	50–30	150	1 x 2	1.95	**1.17**
UP 5515	50–50	150	1 x 2½	2.10	**1.26**
UP 75D15	75–75	150	1 x 3	2.35	**1.41**
UP 8415	80–40	150	1 x 2½	2.25	**1.35**
UP 1125	10–10	250	1 x 2	1.65	**.99**
UP 2225	20–20	250	1 x 2	1.75	**1.05**
UP 3325	30–30	250	1 x 2½	2.05	**1.23**
UP 4225	40–20	250	1 x 2½	2.05	**1.23**
UP 4425	40–40	250	1 x 3	2.30	**1.38**
UP 5530	50–50	300	1⅜ x 2½	2.60	**1.56**
UP 8830	80–80	300	1⅜ x 3	2.95	**1.77**
UP 15D35	15–15	350	1 x 2	2.10	**1.26**
UP 2235	20–20	350	1 x 2½	2.35	**1.41**
UP 3335	30–30	350	1 x 3	2.60	**1.56**
UP 5335	50–30	350	1⅜ x 2½	3.10	**1.86**
UP 15D40	15–15	400	1 x 2½	2.30	**1.38**

Dual Section Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—In. D. x L.	List Price	Net Price
UP 8140	80–10	400	1⅜ x 3	$4.00	**$2.40**
UP 1145	10–10	450	1 x 2	2.10	**1.26**
UP 15D45	15–15	450	1 x 2½	2.30	**1.38**
UP 2145	20–10	450	1 x 2½	2.35	**1.41**
UP 2245	20–20	450	1 x 3	2.65	**1.59**
UP 3145	30–10	450	1 x 3	2.65	**1.59**
UP 3345	30–30	450	1⅜ x 2½	3.25	**1.95**
UP 4245	40–20	450	1⅜ x 2½	3.25	**1.95**
UP 4445	40–40	450	1⅜ x 3	4.00	**2.40**
UP 8445	80–40	450	1⅜ x 3⅝	5.25	**3.15**
UP 2250	20–20	500	1⅜ x 2½	4.15	**2.49**
UP 4450	40–40	500	1⅜ x 3⅝	4.35	**2.61**
UP 4215C	40–20	150/25	1 x 2	2.20	**1.32**
UP 4015CV5	40–20	150/50	1 x 2	2.35	**1.41**
UP 2035C	20–20	350/25	1 x 2	1.90	**1.14**
UP 1045C	10–20	450/25	1 x 2	1.95	**1.17**
UP 2045C	20–20	450/25	1 x 2	2.00	**1.20**
UP 4045C	40–20	450/25	1 x 3	2.10	**1.26**
UP 8045C	80–20	450/25	1⅜ x 3	4.25	**2.55**

Triple Section Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—In. D. x L.	List Price	Net Price
UP 222-25	20–20–20	25	1 x 2	$2.00	**$1.20**
UP 444-25	40–40–40	25	1 x 2	2.25	**1.35**
UP 333-50	30–30–30	50	1 x 2	2.30	**1.38**
UP 22215	20–20–20	150	1 x 2	2.30	**1.38**
UP 33115	30–30–10	150	1 x 2	2.30	**1.38**
UP 42115	40–20–10	150	1 x 2	2.35	**1.41**
UP 42215	40–20–20	150	1 x 2	2.40	**1.44**
UP 43215	40–30–20	150	1 x 2	2.45	**1.47**
UP 44415	40–40–40	150	1 x 2½	2.60	**1.56**
UP 47415	40–70–40	150	1 x 3	2.70	**1.62**
UP 64215	60–40–20	150	1 x 2½	2.65	**1.59**
UP 84215	80–40–20	150	1 x 3	2.80	**1.68**
UP 22125	20–20–10	250	1 x 2	2.65	**1.59**
UP 32125	30–20–10	250	1 x 2½	2.95	**1.77**
UP 42225	40–20–20	250	1 x 3	3.00	**1.80**
UP 11135	10–10–10	350	1 x 2	2.30	**1.38**
UP 22135	20–20–10	350	1 x 3	2.45	**1.47**
UP 335-2125	30/20–10	350/250	1 x 3	2.75	**1.65**
UP 4CJ66	20–10/5	350/250	1 x 2	2.45	**1.47**
UP 3135-225	30–10/20	350/250	1 x 3	2.75	**1.65**
UP 11145	10–10–10	450	1 x 2½	2.50	**1.50**
UP 15D145	15–15–10	450	1 x 3	2.85	**1.71**
UP 21145	20–10–10	450	1 x 3	2.85	**1.71**
UP 22245	20–20–20	450	1⅜ x 2½	3.95	**2.37**
UP 32245	30–20–20	450	1⅜ x 3	4.05	**2.43**
UP 41145	40–10–10	450	1⅜ x 2½	3.95	**2.37**
UP 43245	40–30–20	450	1⅜ x 3	4.15	**2.49**
UP 62245	60–20–20	450	1⅜ x 3⅝	4.25	**2.55**
UP 6CJ67	20/15/10	450/350/300	1 x 3	2.85	**1.71**
UP 6CJ17	15/20/20	450/350/250	1 x 3	2.95	**1.77**
UP 15D45-130	15–15/10	450/300	1 x 3	2.80	**1.68**
UP 6CJ68	15–5/15	450/350	1 x 3	2.75	**1.65**
UP 4CJ69	15–15/1200	150/1.5	1 x 2	2.45	**1.47**
UP 2215X10	20–20/100	150/10	1 x 2	2.25	**1.35**
UP 4215X10	40–20/100	150/10	1 x 2	2.45	**1.47**
UP 2215X25	20–20/250	150/10	1 x 2	2.55	**1.53**
UP 4215X25	40–20/250	150/10	1 x 2	2.65	**1.59**
UP 3315X20	30–30/200	150/10	1 x 2	2.65	**1.59**
UP 4215X10	40–20/100	150/10	1 x 2	2.60	**1.56**
UP 4215X20	40–20/200	150/10	1 x 2	2.65	**1.59**
UP 2215C	20–20/20	150/25	1 x 2	2.00	**1.20**
UP 3315C	30–30/20	150/25	1 x 2	2.20	**1.32**
UP 4215C	40–20/20	150/25	1 x 2	2.20	**1.32**
UP 4215C10	40–20/100	150/25	1 x 2	2.45	**1.47**
UP 4215C20	40–20/200	150/25	1 x 2½	2.55	**1.53**
UP 4315C	40–30/20	150/25	1 x 2	2.35	**1.41**
UP 4415C	40–40/20	150/25	1 x 2	2.40	**1.44**
UP 5315C	50–30/20	150/25	1 x 2	2.35	**1.41**
UP 5315C10	50–30/100	150/25	1 x 2½	2.45	**1.47**
UP 5515C	50–50/20	150/25	1 x 2½	2.55	**1.53**
UP 6215C	60–20/20	150/25	1 x 2	2.45	**1.47**
UP 6415C	60–40/20	150/25	1 x 2½	2.55	**1.53**
UP 8415C	80–40/20	150/25	1 x 2½	2.65	**1.59**
UP 3220C	30–20/20	200/25	1 x 2	2.45	**1.47**
UP 15D25C	15–15/20	250/25	1 x 2	2.45	**1.47**
UP 215S25C	20–15/20	250/25	1 x 2	2.50	**1.50**
UP 3325C	30–30/20	250/25	1 x 2½	2.70	**1.62**
UP 2230C	20–20/20	300/25	1 x 2	2.60	**1.56**
UP 3330CV5	30–30/25	300/50	1 x 3	2.80	**1.68**
UP 415S30C	40–15/20	300/25	1 x 3	2.75	**1.65**
UP 1135C	10–10/20	350/25	1 x 2	2.30	**1.38**
UP 15S135C	15–10/20	350/25	1 x 2	2.40	**1.44**
UP 115S135C	10–15/20	350/25	1 x 2	2.40	**1.44**
UP 2135C	20–10/20	350/25	1 x 2	2.45	**1.47**
UP 2235C	20–20/20	350/25	1 x 2½	2.80	**1.68**
UP 3135C	30–10/20	350/25	1 x 2½	2.80	**1.68**
UP 335-330C	30/30/20	350/300/25	1 x 3	2.85	**1.71**
UP 3335C	30–30/20	350/25	1⅜ x 2	2.90	**1.74**
UP 1145C	10–10/20	450/25	1 x 2	2.35	**1.41**
UP 15D45C	15–15/20	450/25	1 x 2½	2.55	**1.53**
UP 2145C	20–10/20	450/25	1 x 2½	2.55	**1.53**
UP 215S45C	20–15/20	450/25	1 x 3	2.80	**1.68**
UP 2245C	20–20/20	450/25	1 x 3	2.95	**1.77**
UP 3345C	30–30/20	450/25	1⅜ x 2½	3.15	**1.89**
UP 4245C	40–20/20	450/25	1⅜ x 2½	3.15	**1.89**
UP 4445C	40–40/20	450/25	1⅜ x 3	4.45	**2.67**

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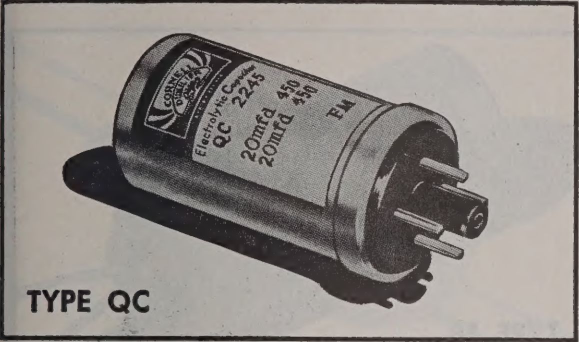
ROUND CAN DRY ELECTROLYTIC CAPACITORS



PLUG-IN TYPE CAPACITORS

Type QC Capacitors are hermetically sealed in round aluminum containers and provided with a four-pin octal base mounting in order to be readily removed and replaced in standard octal base tube sockets.

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lgth.	List Price	Net Price
QC 2215	20–20	150	1 5/32 x 2½	$3.10	**$1.86**
QC 4415	40–40	150	1 5/32 x 2½	3.90	**2.34**
QC 22215	20–20–20	150	1 5/32 x 2½	4.60	**2.76**
QC 44415	40–40–40	150	1⅜ x 2½	5.00	**3.00**
QC 1045	10	450	1 5/32 x 2½	2.60	**1.56**
QC 2045	20	450	1 5/32 x 2½	3.50	**2.10**
QC 4045	40	450	1⅜ x 2½	4.50	**2.70**
QC 8045	80	450	1⅜ x 3½	7.70	**4.62**
QC 1145	10–10	450	1 5/32 x 2½	4.20	**2.52**
QC 2245	20–20	450	1⅜ x 2½	5.30	**3.18**
QC 11145	10–10–10	450	1 5/32 x 2½	5.00	**3.00**
QC 33145C	30–30–10/20	450/50	1⅜ x 4¼	7.75	**4.65**

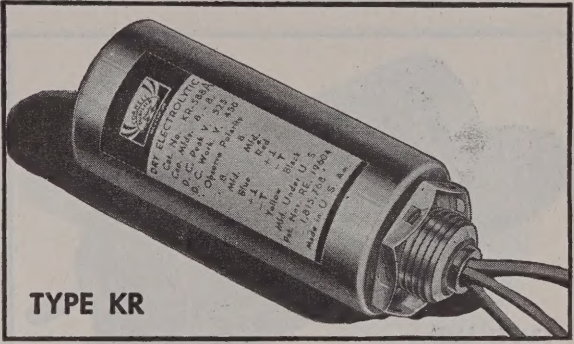
TYPE UP CAPACITORS (Continued)

Quadruple Section Units

UP 444315	40–40–40–30	150	1⅜ x 2	$3.35	**$2.01**
UP 22215C	20–20–20/20	150/25	1⅜ x 2	3.80	**2.28**
UP 32215X20	30-20-20/200	150/10	1⅜ x 2	3.15	**1.89**
UP 33315C4	30–30–30/40	150/25	1⅜ x 2	3.30	**1.98**
UP 44315C	40–40–30/20	150/25	1⅜ x 2	3.10	**1.86**
UP 44215X10	40-40-20/200	150/10	1⅜ x 2	3.15	**1.89**
UP 4415C44	40–40/40–40	150/25	1⅜ x 2	3.35	**2.01**
UP 4415C11	40–40/100–100	150/25	1⅜ x 2	3.45	**2.07**
UP 44415C	40–40–40/20	150/25	1⅜ x 2	3.10	**1.86**
UP 44415C10	40-40-40/100	150/25	1⅜ x 2	3.15	**1.89**
UP 44415C16	40-40-40/160	150/25	1⅜ x 2	3.20	**1.92**
UP 53315C10	50-30-30/100	150/25	1⅜ x 2	3.15	**1.89**
UP 55515C	50–50–50/20	150/25	1⅜ x 2	3.40	**2.04**
UP 64215X20	60-40-20/200	150/10	1⅜ x 2	3.35	**2.01**
UP 75T15C3	75–75–75/30	150/25	1⅜ x 3	3.85	**2.31**
UP 84415C	80–40–40/20	150/25	1⅜ x 2	3.45	**2.07**
UP 84415C10	80-40-40/100	150/25	1⅜ x 2½	3.50	**2.10**
UP 42225C	40–20–10/20	250/25	1⅜ x 2	3.20	**1.92**
UP 442130	40–40–20–10	300	1⅜ x 2½	4.00	**2.40**
UP 11135C	10–10–10/20	350/25	1⅜ x 2	2.95	**1.77**
UP 21535C	20–10–5/10	350/25	1⅜ x 2	3.05	**1.83**
UP 32235C	30–20–20/20	350/25	1⅜ x 2½	3.35	**2.01**
UP 44235C	40–40–20/20	350/25	1⅜ x 3	3.85	**2.31**
UP 2245CC	20–20/20–20	450/25	1⅜ x 2	3.55	**2.13**
UP 2245-3335	20–20/30–30	450/350	1⅜ x 3	4.35	**2.61**
UP 5Q45	5–5–5–5	450	1⅜ x 2	3.05	**1.83**
UP 111145	10–10–10–10	450	1⅜ x 2	3.25	**1.95**
UP 222245	20–20–20–20	450	1⅜ x 3	4.50	**2.70**
UP 411145	40–10–10–10	450	1⅜ x 3	4.60	**2.76**
UP 11145C	10–10–10/20	450/25	1⅜ x 2	3.05	**1.83**
UP 22245C	20–20–20/20	450/25	1⅜ x 2½	3.95	**2.37**
UP 315D45C4	30–15–15/40	450/25	1⅜ x 2½	3.95	**2.37**
UP 32245C	30–20–20/20	450/25	1⅜ x 3	4.15	**2.49**
UP 33145C	30–30–10/20	450/25	1⅜ x 3	4.25	**2.55**
UP 33245C	30–30–20/20	450/25	1⅜ x 3	4.35	**2.61**
UP 43145C	40–30–10/20	450/25	1⅜ x 3	4.15	**2.49**

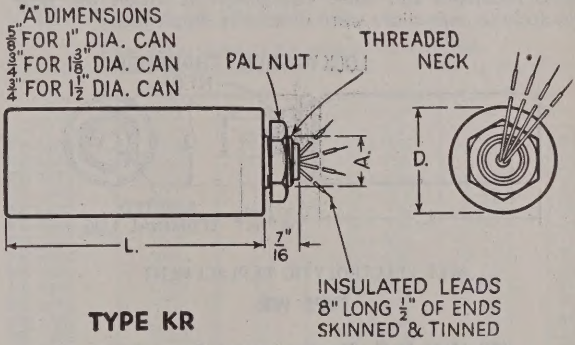
Hardware For Type UP Capacitors

Cat. No.	Item	Description	List Price	Net Price
22272	Wrench for	Mtg. UP Units	$1.13	**$0.67**
19891	Bakelite Washer	For ¾″ UP	.06	**.03**
19884	Bakelite Washer	For 1″ UP	.06	**.03**
19888	Bakelite Washer	For 1⅜″ UP	.06	**.03**
19890	Metal Washer	For ¾″ UP	.06	**.03**
19883	Metal Washer	For 1″ UP	.06	**.03**
19887	Metal Washer	For 1⅜″ UP	.06	**.03**
21368-1	Mounting Clip	For ¾″ UP	.14	**.08**
21368-2	Mounting Clip	For 1″ UP	.14	**.08**
21368-3	Mounting Clip	For 1⅜″ UP	.14	**.08**
22153-1	Insulating Tube	For ¾ x 2″ UP	.06	**.03**
22153-4	Insulating Tube	For 1 x 2″ UP	.06	**.03**
22153-6	Insulating Tube	For 1 x 3″ UP	.06	**.03**
22153-7	Insulating Tube	For 1⅜ x 2″ UP	.06	**.03**
22153-9	Insulating Tube	For 1⅜ x 3″ UP	.06	**.03**



SCREW-NECK TYPE CAPACITORS

Types KR and KRC single-hole mounting units are compact etched foil type dry electrolytic capacitors furnished in round (inverted mounting) aluminum cans. Available in single, dual and triple sections with color-coded leads. Made in all popular voltage ratings for use in A.C.-D.C. or voltage-doubler midgets and A.C. operated sets.



TYPE KR

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Ins. Dia. x Lth.	List Price	Net Price
KR 105	50	25	1 x 2½	$1.75	**$1.05**
KR 204	4	250	1 x 2½	1.55	**.93**
KR 208	8	250	1 x 2½	1.60	**.96**
KR 212	12	250	1 x 2½	1.75	**1.05**
KR 225	25	250	1 x 3½	2.00	**1.20**
KR 350	50	300	1⅜ x 3¾	3.00	**1.80**
KR 504	4	450	1 x 2½	1.70	**1.02**
KR 508	8	450	1 x 2½	1.75	**1.05**
KR 512A	12	450	1 x 2½	2.15	**1.29**
KR 516A	16	450	1 x 3½	2.40	**1.44**
KR 520	20	450	1⅜ x 2½	2.65	**1.59**
KR 530	30	450	1⅜ x 3½	3.00	**1.80**
KR 540	40	450	1⅜ x 4⅜	3.40	**2.04**
KR 604	4	600	1⅜ x 3½	3.00	**1.80**
KR 608	8	600	1⅜ x 4½	4.00	**2.40**
KR 616	16	600	1½ x 4½	5.00	**3.00**

Common Negative Units

KRC 248	4–8	250	1 x 3	$2.15	**$1.29**
KRC 288	8–8	250	1 x 3	2.30	**1.38**
KRC 2888	8–8–8	250	1⅜ x 3	3.80	**2.28**
KRC 548	4–8	450	1 x 3	2.50	**1.50**
KRC 588	8–8	450	1⅜ x 2½	2.75	**1.65**
KRC 5116	16–16	450	1⅜ x 3½	3.50	**2.10**
KRC 5220	20–20	450	1⅜ x 4⅜	4.00	**2.40**
KRC 5888	8–8–8	450	1⅜ x 3½	4.25	**2.55**

Separate Section Units

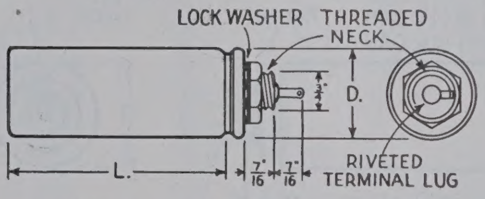
KR 248	4–8	250	1⅜ x 2¾	$2.15	**$1.29**
KR 288	8–8	250	1⅜ x 2¾	2.30	**1.38**
KR 2888	8–8–8	250	1⅜ x 3½	3.80	**2.28**
KR 2881	8–8–16	250	1⅜ x 3½	4.05	**2.43**
KR 2811	8–16–16	250	1⅜ x 3½	4.30	**2.58**
KR 548A	4–8	450	1⅜ x 3	2.50	**1.50**
KR 588A	8–8	450	1⅜ x 3	2.75	**1.65**
KR 5816A	8–16	450	1⅜ x 4½	3.25	**1.95**
KR 5888A	8–8–8	450	1⅜ x 4½	4.25	**2.55**

REPLACEMENT DRY ELECTROLYTIC CAPACITORS

TYPE WR
ELECTROLYTIC CAPACITOR
WR-10
4-12 MFD.
500 VDC

REPLACEMENTS FOR WET-TYPE UNITS

These dry electrolytic capacitors furnished in round aluminum cans are offered as substitutes for replacement of wet electrolytic units which have been discontinued in manufacture during the war. The limited range of capacities listed below cover practically all applications in standard radio receivers and other equipment in which wet type electrolytic capacitors were originally employed.


LOCK WASHER
THREADED NECK
D.
L.
7/16"
7/16"
RIVETED TERMINAL LUG

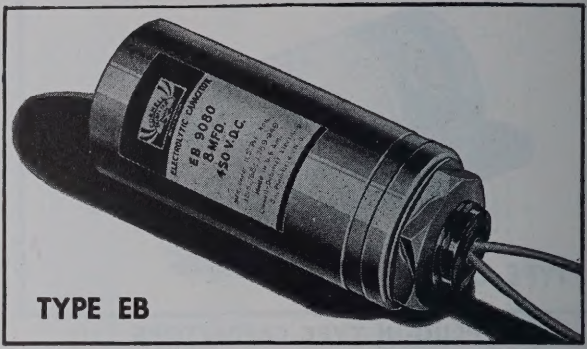
WET ELECTROLYTIC REPLACEMENT

TYPE WR

450-Volt D.C. Replacement Capacitors

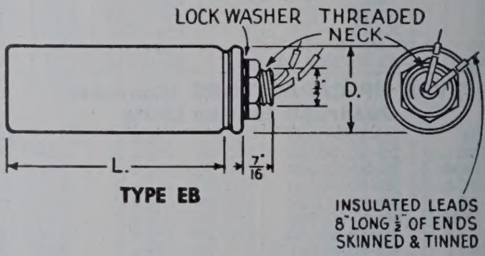
Cat. No.	Cap. Mfd.	Replacement for	Size—Ins. Dia. x Lth.	List Price	Net Price
WR 10	10	4 to 12 mfd.	1⅜ x 2½	$1.45	**$0.87**
WR 20	20	16 to 20 mfd.	1⅜ x 2½	2.25	**1.35**
WR 30	30	20 to 30 mfd.	1⅜ x 3¼	2.60	**1.56**
WR 40	40	30 to 40 mfd.	1⅜ x 3¼	2.90	**1.74**

For one-inch diameter can wet electrolytic replacements we recommend employing C-D Type KR capacitors in one-inch diameter cans of equivalent capacity and voltage ratings.


TYPE EB
ELECTROLYTIC CAPACITOR
EB 9080
8 MFD.
450 V.D.C.

FILTER REPLACEMENT UNITS

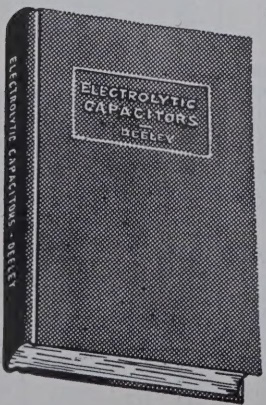
Type EB electrolytic capacitors are especially suited for replacement purposes in radio receivers to replace units of larger physical sizes. They are identical in mounting hole dimensions and general construction to Type WR capacitors except they are provided with insulated color-coded wire leads 8″ long brought through the threaded neck of the unit.


LOCK WASHER
THREADED NECK
D.
L.
7/16"
INSULATED LEADS 8" LONG ½" OF ENDS SKINNED & TINNED

TYPE EB

450-Volt D.C. Replacement Capacitors

Cat. No.	Cap. Mfd.	Size—Ins. Dia. x Lth.	List Price	Net Price
EB 9080	8	1⅜ x 4⅜	$1.80	**$1.08**
EB 9100	10	1⅜ x 4⅜	2.10	**1.26**
EB 9120	12	1½ x 4⅜	2.35	**1.41**
EB 9160	16	1½ x 4⅜	2.65	**1.59**
EB 9180	18	1½ x 4⅜	2.75	**1.65**
EB 9200	20	1½ x 4⅜	2.80	**1.68**
EB 8800	8-8	1½ x 4⅜	2.70	**1.62**


ELECTROLYTIC CAPACITORS DEELEY
ELECTROLYTIC CAPACITORS - DEELEY

"ELECTROLYTIC CAPACITORS"

By PAUL McK. DEELEY

Here in one masterly volume, "Electrolytic Capacitors," you will find a wealth of th- most practical information ever published on the subject of electrolytic capacitors.

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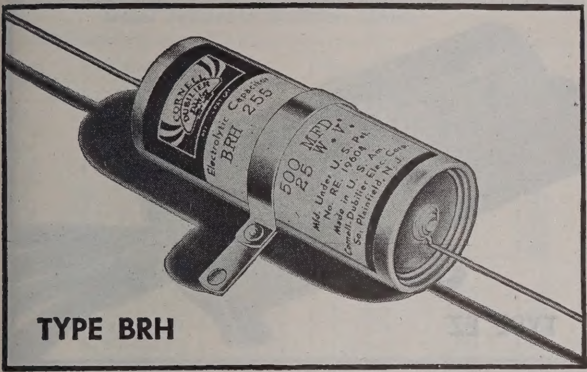
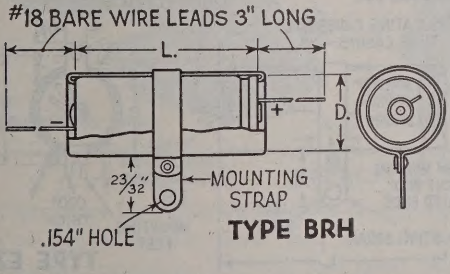
HIGH CAPACITY DRY ELECTROLYTIC CAPACITORS


TYPE BRH

METAL TUBULAR TYPE CAPACITORS

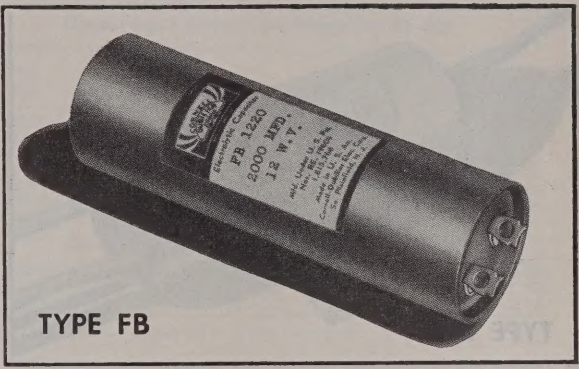
These compact C-D etched foil electrolytic capacitors have been especially designed for all applications requiring high capacity units operating in low voltage D.C. circuits. They are widely employed in portable radio power rectifying circuits, electric fence devices, telephone and D.C. timing circuits. Units are available in standard capacities and voltage ratings for all uses.

Hermetically sealed in pure aluminum cans with an external cardboard insulating sleeve, these units are provided with metal mounting strap and bare wire leads for convenient wiring into any circuit assembly. They are constructed identically the same as Type BR "Blue Beavers" except all units are provided with a mounting strap.



TYPE BRH

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
BRH 601	100	6	⅝ x 1 1/16	$1.20	**$.72**
BRH 6025	250	6	⅝ x 1 7/16	1.45	**.87**
BRH 605A	500	6	¾ x 1 11/16	1.70	**1.02**
BRH 610	1000	6	⅞ x 2	2.25	**1.35**
BRH 620	2000	6	1 x 2½	3.90	**2.34**
BRH 121A	100	12	⅝ x 1 1/16	1.20	**.72**
BRH 1225A	250	12	¾ x 1 11/16	1.75	**1.05**
BRH 125A	500	12	⅞ x 2	1.90	**1.14**
BRH 1210	1000	12	1 x 2	2.90	**1.74**
BRH 1220	2000	12	1 x 3	4.80	**2.88**
BRH 151A	100	15	⅝ x 1 1/16	1.70	**1.02**
BRH 1525A	250	15	¾ x 1 11/16	1.90	**1.14**
BRH 155A	500	15	⅞ x 2	2.10	**1.26**
BRH 1510	1000	15	1 x 2	3.70	**2.22**
BRH 1520	2000	15	1 x 3	5.60	**3.36**
BRH 251A	100	25	⅝ x 1 7/16	1.20	**.72**
BRH 2525A	250	25	⅞ x 1 11/16	2.00	**1.20**
BRH 255A	500	25	1 x 2	2.25	**1.35**
BRH 501	100	50	¾ x 2	1.50	**.90**
BRH 5015	150	50	⅞ x 2	1.70	**1.02**
BRH 5025	250	50	1 x 2	2.36	**1.42**
BRH 5050	500	50	1 x 3	4.60	**2.76**


TYPE FB

INSULATED CAN CAPACITORS

Type FB capacitors in round aluminum cans are designed for high capacity, low voltage applications, and are especially popular as replacements in motion picture sound equipment, and other low voltage circuits. All units are provided with lug terminals on a moulded bakelite cover and furnished with an external cardboard insulating sleeve for protection against short circuits.

Type FB is same as FA except lug terminal.

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
FB 1005	500	10	1⅜ x 2⅜	$2.55	**$1.53**
FB 1010	1000	10	1⅜ x 2⅜	2.70	**1.62**
FB 1015	1500	10	1⅜ x 2⅜	4.25	**2.55**
FB 1020	2000	10	1⅜ x 2⅝	4.55	**2.73**
FB 1030	3000	10	1⅜ x 3⅛	5.60	**3.36**
FB 1040	4000	10	1⅜ x 4⅛	5.90	**3.54**
FB 1050	5000	10	1½ x 4⅛	6.30	**3.78**
FB 1060	6000	10	1¾ x 4⅜	10.27	**6.16**
FB 1205	500	12	1⅜ x 2⅜	2.75	**1.65**
FB 1210	1000	12	1⅜ x 2⅜	2.90	**1.74**
FB 1215	1500	12	1⅜ x 2⅝	4.50	**2.70**
FB 1220	2000	12	1⅜ x 3⅛	4.80	**2.88**
FB 1225	2500	12	1⅜ x 3⅛	5.40	**3.24**
FB 1230	3000	12	1⅜ x 4⅛	6.00	**3.60**
FB 1240	4000	12	1½ x 4⅛	7.10	**4.26**
FB 1260	6000	12	2 x 4⅛	7.50	**4.50**
FB 1505	500	15	1⅜ x 2⅜	3.10	**1.86**
FB 1510	1000	15	1⅜ x 2⅜	3.70	**2.22**
FB 1515	1500	15	1⅜ x 2⅝	5.40	**3.24**
FB 1520	2000	15	1⅜ x 3⅛	5.80	**3.48**
FB 1530	3000	15	1⅜ x 4⅛	7.00	**4.20**
FB 1540	4000	15	1½ x 4⅛	8.10	**4.86**
FB 1560	6000	15	2 x 4⅛	8.70	**5.22**
FB 1805	500	18	1⅜ x 2⅜	3.40	**2.04**
FB 1810	1000	18	1⅜ x 2⅜	4.00	**2.40**
FB 1820	2000	18	1⅜ x 3⅛	6.20	**3.72**
FB 1840	4000	18	1½ x 4⅛	8.75	**5.25**
FB 2005	500	20	1⅜ x 2⅜	3.75	**2.25**
FB 2010	1000	20	1⅜ x 3⅛	4.40	**2.64**
FB 2020	2000	20	1⅜ x 4⅛	6.50	**3.90**
FB 2040	4000	20	2 x 4⅛	9.25	**5.55**
FB 2505	500	25	1⅜ x 2⅜	4.00	**2.40**
FB 2510	1000	25	1⅜ x 3⅛	4.85	**2.91**
FB 2520	2000	25	1⅜ x 4⅛	7.20	**4.32**
FB 2530	3000	25	1¾ x 4⅛	8.95	**5.37**
FB 2540	4000	25	2 x 4⅛	9.85	**5.91**
FB 2550	5000	25	2½ x 4⅛	10.25	**6.15**
FB 3005	500	30	1⅜ x 3⅛	5.25	**3.15**
FB 3010	1000	30	1⅜ x 4⅛	5.75	**3.45**
FB 3020	2000	30	1¾ x 4⅛	7.90	**4.74**
FB 3030	3000	30	2 x 4⅛	9.15	**5.49**
FB 3040	4000	30	2½ x 4⅛	11.20	**6.72**
FB 3505	500	35	1⅜ x 3⅛	5.25	**3.15**
FB 3510	1000	35	1⅜ x 4⅛	6.50	**3.90**
FB 3520	2000	35	1¾ x 4⅛	8.60	**5.16**
FB 3530	3000	35	2 x 4⅛	9.00	**5.40**
FB 3540	4000	35	2½ x 4⅛	11.60	**6.96**
FB 4005	500	40	1⅜ x 3⅛	5.85	**3.51**
FB 4010	1000	40	1⅜ x 4⅛	7.85	**4.71**
FB 4020	2000	40	1¾ x 4⅛	9.25	**5.55**
FB 4030	3000	40	2 x 4⅛	10.10	**6.06**
FB 4040	4000	40	2½ x 4⅛	11.90	**7.14**
FB 5005	500	50	1⅜ x 3⅛	4.80	**2.88**
FB 5010	1000	50	1⅜ x 4⅛	8.50	**5.10**
FB 5020	2000	50	1¾ x 4⅛	10.50	**6.30**
FB 5030	3000	50	2 x 4⅛	11.40	**6.84**
FB 5040	4000	50	2½ x 4⅛	12.65	**7.59**

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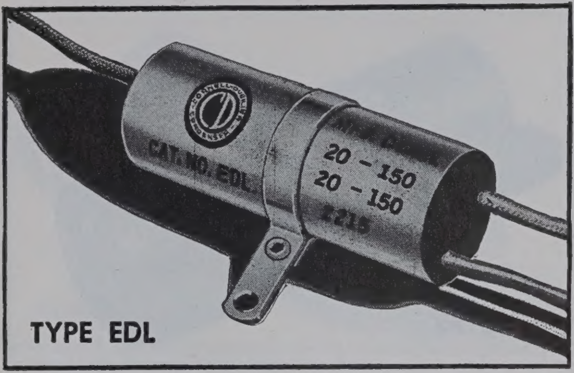
CARDBOARD TUBE DRY ELECTROLYTIC CAPACITORS



CARDBOARD TUBE UNITS (Formerly Type BRL)

Type EDL Capacitors are dual and triple common negative units in cardboard tube containers with wax-filled ends. Capacities, voltages and polarity of the leads are clearly defined by color coding stamped on the cardboard tube casing. Units are provided with insulated wire leads brought out at both ends of the unit. A mounting strap around the center of the cardboard tube casing enables mounting the unit with one screw under the chassis assembly.

Dual Common Negative Units

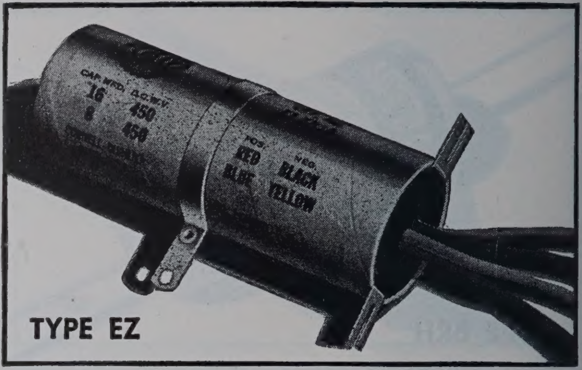
Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
EDL 2202	20–20	25	⅝ x 2¼	$1.10	**$ .66**
EDL 115	10–10	50	⅝ x 2¼	1.15	**.69**
EDL 2115	20–10	150	13/16 x 2¼	1.25	**.75**
EDL 2215	20–20	150	⅞ x 2¼	1.30	**.78**
EDL 3215	30–20	150	⅞ x 2½	1.45	**.87**
EDL 3315	30–30	150	⅞ x 2½	1.60	**.96**
EDL 4215	40–20	150	⅞ x 2½	1.50	**.90**
EDL 4315	40–30	150	15/16 x 2¾	1.60	**.96**
EDL 4415	40–40	150	1 x 2¾	1.70	**1.02**
EDL 5315	50–30	150	1 x 2¾	1.70	**1.02**
EDL 5515	50–50	150	1 x 3	1.85	**1.11**
EDL 8415	80–40	150	1 1/16 x 3	1.95	**1.17**
EDL 16825	16–8	250	13/16 x 2½	1.60	**.96**
EDL 16D25	16–16	250	⅞ x 2½	1.70	**1.02**
EDL 2225	20–20	250	1 x 2½	1.80	**1.08**
EDL 7V225	75–20	250	1 1/16 x 3½	2.25	**1.35**
EDL 8D25	8–8	450	15/16 x 2½	1.70	**1.02**
EDL 16845	16–8	450	1 x 3	2.00	**1.20**
EDL 16D45	16–16	450	1⅛ x 3	2.30	**1.38**
EDL 2245	20–20	450	1 3/16 x 3¼	2.40	**1.44**

Triple Common Negative Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
EDL 22215	20–20–20	150	15/16 x 2½	$2.20	**$1.32**
EDL 32V215	30–25–20	150	⅞ x 3	2.25	**1.35**
EDL 42215	40–20–20	150	1 x 2¾	2.30	**1.38**
EDL 43215	40–30–20	150	1 x 3	2.35	**1.41**
EDL 44215	40–40–20	150	1 x 3	2.40	**1.44**
EDL 44415	40–40–40	150	1 1/16 x 3	2.50	**1.50**
EDL 2215C	20–20, 20	150, 25	⅞ x 2½	1.90	**1.14**
EDL 3315C	30–30, 20	150, 25	15/16 x 2½	2.00	**1.20**
EDL 4215C	40–20, 20	150, 25	15/16 x 2½	2.00	**1.20**
EDL 4415C	40–40, 20	150, 25	1 x 2¾	2.10	**1.26**
EDL 5315C	50–30, 20	150, 25	1 x 2¾	2.10	**1.26**
EDL 5515C	50–50, 20	150, 25	1 x 3	2.25	**1.35**
EDL 8415C	80–40, 20	150, 25	1 1/16 x 3	2.45	**1.47**
EDL 3215C10	30–20, 100	150, 25	1 x 2¾	2.20	**1.32**
EDL 5315X20	50–30, 200	150, 10	1 x 3	2.45	**1.47**
EDL 5315C10	50–30, 100	150, 25	1 x 3	2.40	**1.44**
EDL 8215C10	80–20, 100	150, 25	1⅛ x 3	2.55	**1.53**
EDL 2225C	20–20, 20	250, 25	15/16 x 2¾	1.95	**1.17**
EDL 4225C	40–20, 20	250, 25	1 x 3	2.05	**1.23**
EDL 4425C	40–40, 20	250, 25	1⅛ x 3	2.15	**1.29**
EDL 7J4125	75–40–10	250	1¼ x 3½	3.25	**1.95**
EDL 16T45	16–16–16	450	1⅜ x 3	3.05	**1.83**
EDL 2245C	20–20, 20	450, 25	1 3/16 x 3¼	2.80	**1.68**

Quadruple Common Negative Units

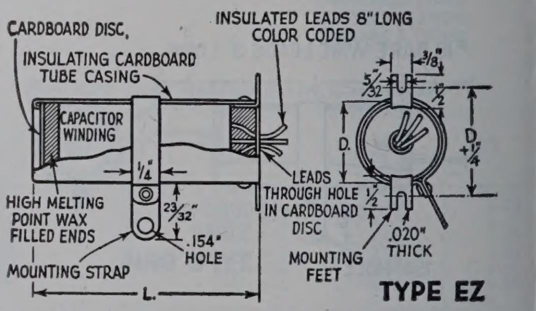
Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
EDL 33215C	30-30-20,20	150, 25	1 x 2¾	$2.80	**$1.68**
EDL 22245C	20-20-20,20	450, 25	1⅜ x 3¾	3.85	**2.31**



UNIVERSAL-MOUNTING UNITS

Type EZ capacitors are especially popular for radio servicing where low cost replacements are required. They are designed with mounting feet for upright mounting to replace inverted can-type units, spade-lug units, or may be mounted beneath the chassis by means of the mounting strap provided around the center of the cardboard tube casing. In any instance, the unused mountings may easily be cut off.

These units are without doubt the most practical all-around replacement capacitors available and incorporate C-D etched foil features in design and construction. They are completely sealed in moisture-proof cardboard tube casing, filled with special wax compound, and provided with insulated wire leads eight inches long. All units are clearly stamped with capacities, voltages and color code designation of leads.


CARDBOARD DISC,
INSULATED LEADS 8" LONG COLOR CODED
INSULATING CARDBOARD TUBE CASING
CAPACITOR WINDING
5/32
3/8
1/2
D.
D. + 1/4
1/4"
LEADS THROUGH HOLE 1/2 IN CARDBOARD DISC
HIGH MELTING POINT WAX FILLED ENDS
23/32"
.154" HOLE
MOUNTING STRAP
L.
MOUNTING FEET
.020" THICK
TYPE EZ

Single Section Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
EZ 825	8	250	⅞ x 2½	$1.05	**$0.63**
EZ 1625	16	250	1 x 2¾	1.30	**.78**
EZ 2425	24	250	1 1/16 x 2¾	1.45	**.87**
EZ 835	8	350	15/16 x 2½	1.10	**.66**
EZ 1235	12	350	15/16 x 2¾	1.30	**.78**
EZ 1635	16	350	1 x 2¾	1.45	**.87**
EZ 2435	24	350	1 x 3½	1.55	**.93**
EZ 845	8	450	⅞ x 2¾	1.15	**.69**
EZ 1245	12	450	1 x 2¾	1.35	**.81**
EZ 1645	16	450	1 1/16 x 2¾	1.55	**.93**
EZ 3045	30	450	1¼ x 3½	1.85	**1.11**

Dual Common Negative Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
EZ 2215	20–20	150	1 x 2½	$1.50	**$0.90**
EZ 3315	30–30	150	1 1/16 x 2¾	1.70	**1.02**
EZ 5515	50–50	150	1 1/16 x 3½	2.05	**1.23**
EZ 8825	8–8	250	1 x 2¾	1.65	**.99**
EZ 8835	8–8	350	15/16 x 3½	1.80	**1.08**
EZ 8845	8–8	450	1 x 3½	1.90	**1.14**

(For Type EZ Multiple Units, see next page.)

CARDBOARD TUBE DRY ELECTROLYTIC CAPACITORS

(Type EZ Universal Mounting Capacitors Continued from preceding page)

Dual Separate Section Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
Z 288	8–8	250	1 3/8 x 2 3/4	$2.20	**$1.32**
Z 2116	16–16	250	1 3/8 x 3 3/4	2.75	**1.65**
Z 388	8–8	350	1 3/8 x 3	2.25	**1.35**
Z 3112	12–12	350	1 3/8 x 3 3/4	2.70	**1.62**
Z 3116	16–16	350	1 3/8 x 4 3/4	3.00	**1.80**
Z 588	8–8	450	1 3/8 x 3	2.30	**1.38**
Z 5816	8–16	450	1 3/8 x 3 3/4	2.70	**1.62**
Z 5112	12–12	450	1 3/8 x 3 3/4	2.70	**1.62**
Z 5116	16–16	450	1 3/8 x 4 3/4	3.20	**1.92**

Triple Common Negative Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
Z 2215C	20–20/20	150/25	1 x 3	$2.10	**$1.26**
Z 3215C	30–20/20	150/25	1 x 3	2.15	**1.29**
Z 3115C	30–10/20	150/25	1 x 3	2.05	**1.23**
Z 4215C	40–20/20	150/25	1 1/16 x 3	2.00	**1.20**
Z 32115	30–20/10	150	1 1/8 x 2 3/4	2.15	**1.29**
Z 42215	40–20–20	150	1 1/8 x 3	2.30	**1.38**
Z 1A135C	15–10/20	350/25	1 1/8 x 3 1/2	2.30	**1.38**
Z 2143C	20/10/20	400/350/25	1 3/8 x 3 1/8	2.50	**1.50**

Triple Separate Section Units*

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
Z 8825S	8–8/20	250/25	1 3/8 x 3	$2.45	**$1.47**
Z 8835S	8–8/20	350/25	1 3/8 x 3 3/4	2.55	**1.53**
Z 12D35S	12–12/20	350/25	1 3/8 x 3 3/4	2.75	**1.65**
Z 16D35S	16–16/20	350/25	1 3/8 x 4 3/4	3.20	**1.92**
Z 8845S	8–8/20	450/25	1 3/8 x 3 3/4	2.65	**1.59**
Z 12D45S	12–12/20	450/25	1 3/8 x 4 3/4	3.00	**1.80**
Z 88825	8–8–8	250	1 3/8 x 3	2.50	**1.50**
Z 88835	8–8–8	350	1 3/8 x 3 3/4	2.65	**1.59**
Z 88845	8–8–8	450	1 3/8 x 3 3/4	2.75	**1.65**

Quadruple Common Negative Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
EZ 8815CC	8–8/10–10	150/25	1 x 2 3/4	$2.35	**$1.41**
EZ 3215CC	30–20/10–10	150/25	1 3/16 x 2 3/4	2.60	**1.56**
EZ 42215C	40–20–20/20	150/25	1 3/16 x 3	2.85	**1.71**
EZ 53215C	50–30–20/20	150/25	1 3/16 x 3 1/2	2.95	**1.77**
EZ 44315C	40–40–30/20	150/25	1 3/16 x 3 1/2	3.00	**1.80**
EZ 55515C	50–50–50/20	150/25	1 3/8 x 3 1/2	3.30	**1.98**

Quadruple Separate Section Units*

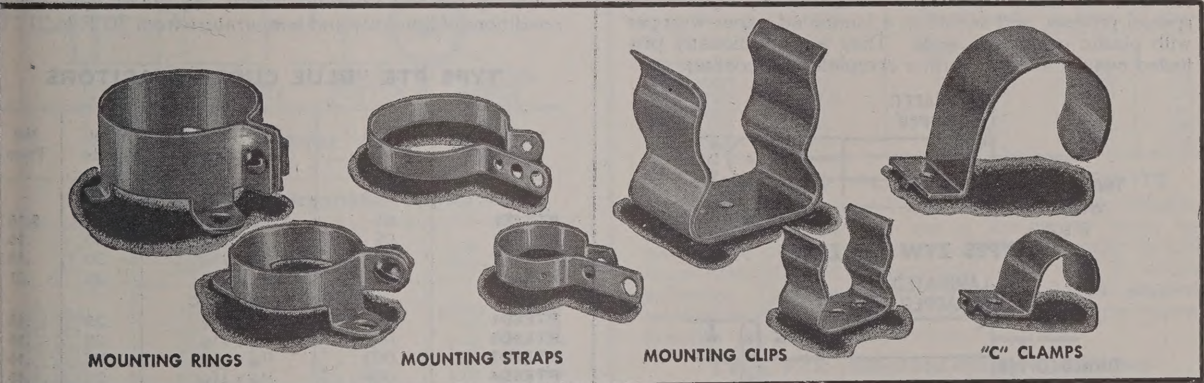
Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
EZ 16D15SS	16–16/10–10	150/25	1 3/8 x 3	$3.15	**$1.89**
EZ 8845SS	8–8/10–10	450/25	1 3/8 x 3 3/4	3.25	**1.95**
EZ 43215SS	40–30–20/20	150/25	1 3/8 x 3 3/4	3.65	**2.19**

*First section separate, others common negative.

Explanation of Terminal Connections

In all cases only a single common negative lead is provided to all sections in multiple section capacitors listed under the heading of Common Negative Units. Separate Section Units are provided with separate negative and separate positive leads.

In triple and quadruple section capacitors with separate sections, indicated with an asterisk (*), the very first capacity listed is a separate section, having separate negative and positive leads, while all other capacities shown are connected to a single common negative lead with separate positive leads to each section.

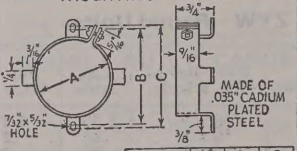


CAPACITOR MOUNTING HARDWARE

Additional hardware for mounting all types of electrolytic capacitors as well as tubular paper units is available as shown in the accompanying diagrams and listed below.

Part No.	Description	List Price	Net Price
4582	Mounting Ring for 1" dia. Cans	$0.09	**$0.05**
2125	Mounting Ring for 1 3/8" dia. Cans	.09	**.05**
5591	Mounting Ring for 1 1/2" dia. Cans	.14	**.08**
5693	Mounting Ring for 1 3/4" dia. Cans	.17	**.10**
4464	Mounting Ring for 2" dia. Cans	.21	**.12**
3590	Mounting Ring for 2 1/2" dia. Cans	.21	**.12**
3591	Mounting Ring for 3" dia. Cans	.21	**.12**
5266	Mounting Ring for 3 1/2" dia. Cans	.21	**.12**
7842	Mounting Ring for 1" dia. Cans	.09	**.05**
9213	Mounting Ring for 1 1/8" dia. Cans	.09	**.05**
3573	Mounting Ring for 1 1/4" dia. Cans	.09	**.05**
7843	Mounting Ring for 1 3/8" dia. Cans	.09	**.05**
7844	Mounting Ring for 1 1/2" dia. Cans	.14	**.08**
368-1	Mounting Clip for 3/4" dia. Cans	.14	**.08**
368-2	Mounting Clip for 1" dia. Cans	.14	**.08**
368-3	Mounting Clip for 1 3/8" dia. Cans	.14	**.08**
7920	"C" Clamp for 5/8"–3/4" Cans or Tubulars	.14	**.08**
7921	"C" Clamp for 7/8"–1" Cans or Tubulars	.14	**.08**
7922	"C" Clamp for 1 1/8"–1 1/4" Cans or Tubulars	.14	**.08**
7923	"C" Clamp for 1 3/8"–1 1/2" Cans or Tubulars	.14	**.08**
5279 to 5287	Tubular Straps for Mounting All Types of Tubular Units	.06	**.03**

MOUNTING RINGS



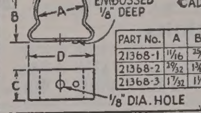
FOR CAN SIZES 1" TO 1 1/2" DIA.

*INSIDE DIAMETER (CAN DIAMETER SIZE)

PART No.	A*	B	C
17842	1	1 3/8	1 1/2
19213	1 1/8	1 17/32	1 21/32
18573	1 1/4	1 5/8	1 3/4
17843	1 3/8	1 11/16	1 7/8
17844	1 1/2	1 7/8	2

MOUNTING CLIPS

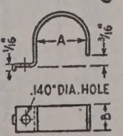
MADE OF CADIUM PLATED STEEL



PART No.	A	B	C	D	FOR CAN SIZE
21368-1	11/16	25/32	1/2	25/32	3/4"
21368-2	29/32	1 3/64	19/32	1 1/16	1"
21368-3	1 7/32	1 1/2	7/8	1 7/16	1 3/8"

"C" CLAMPS

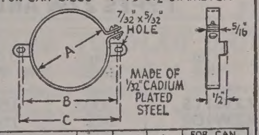
MADE OF CADIUM PLATED STEEL



PART No.	A FOR TUBE SIZE	B
17920	5/8" - 3/4"	1/2
17921	7/8" - 1"	1/2
17922	1 1/8" - 1 1/4"	3/4
17923	1 3/8" - 1 1/2"	3/4

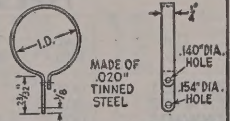
MOUNTING RINGS

FOR CAN SIZES - 1" TO 3 1/2" DIAMETER



PART No.	A	B	C	FOR CAN SIZE
14582	31/32	1 3/8	1 1/2	1"
12125	1 11/32	1 11/16	1 13/16	1 3/8"
15591	1 15/32	1 13/16	1 15/16	1 1/2"
16693	1 23/32	2 3/16	2 5/16	1 3/4"
14464	1 31/32	2 7/16	2 9/16	2"
13590	2 15/32	2 15/16	3 1/16	2 1/2"
13591	2 31/32	3 7/16	3 9/16	3"
15266	3 15/32	3 15/16	4 1/16	3 1/2"

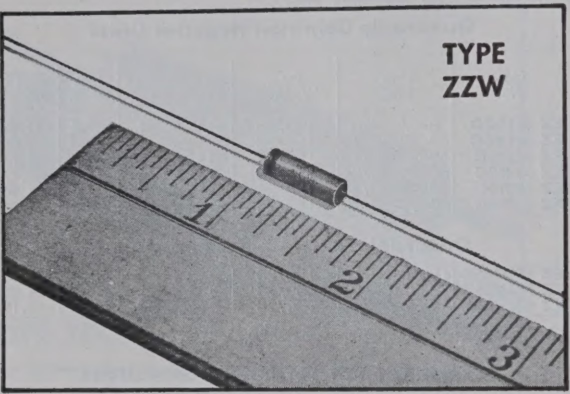
TUBULAR STRAPS



PART No.	I.D.	PART No.	I.D.
16279	7/16	20440	15/16
16280	1/2	27950	1
17203	9/16	21187	1 1/16
17516	5/8	21068-1	1 1/8
16285	11/16	19033-1	1 1/4
17517	3/4	17673-1	1 3/8
27886	7/8	17606	1 1/2

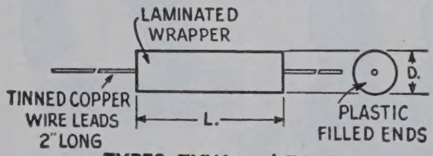
CORNELL DUBILIER

TUBULAR PAPER CAPACITORS

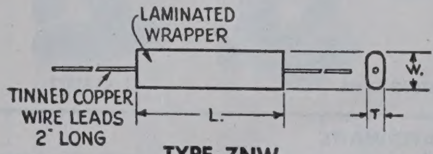


MINIATURE TUBULAR CAPACITORS

Types ZYW, ZZW, and flat type ZNW, tiny tubular paper capacitors are especially suited for use in very small electronic assemblies, such as hearing aids, pocket radios, etc., where minimum space and weight are essential. These capacitors are the result of Cornell-Dubilier developments for the VT radio proximity fuze for shells and bombs made for the Navy during the War and today find many applications in ultra compact electronic equipment of all kinds. All units are non-inductively wound, wax impregnated by special process, and sealed in a laminated paper wrapper with plastic compound ends. They are additionally protected against moisture with a complete wax coating.



TYPES ZYW and ZZW



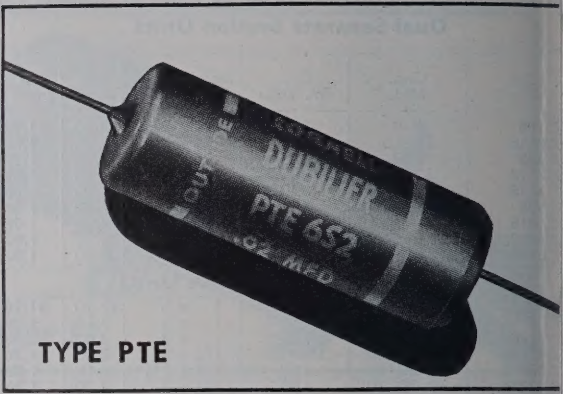
TYPE ZNW

TYPES ZZW AND ZYW—Round Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Dia. x Lgth.	List Price	Net Price
ZZW1T5	.0005	150	5/32 x 1/2	$.35	**$.21**
ZZW1D2	.002	150	3/16 x 1/2	.35	**.21**
ZZW1D4	.004	150	7/32 x 1/2	.35	**.21**
ZZW1D6	.006	150	1/4 x 1/2	.35	**.21**
ZZW1S1	.01	150	9/32 x 1/2	.40	**.24**
ZYW6D1	.001	600	3/16 x 13/16	.65	**.39**
ZYW4D2	.002	400	3/16 x 13/16	.45	**.27**
ZYW4D5	.005	400	1/4 x 13/16	.50	**.30**
ZYW1S3	.03	150	9/32 x 13/16	.45	**.27**
ZYW1S5	.05	150	3/8 x 13/16	.50	**.30**

TYPE ZNW—Flat Units

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches T. x W. x L.	List Price	Net Price
ZNW6D1	.001	600	5/32 x 9/32 x 13/16	$.65	**$.39**
ZNW4D2	.002	400	5/32 x 9/32 x 13/16	.45	**.27**
ZNW4D5	.005	400	5/32 x 5/16 x 13/16	.50	**.30**
ZNW4D6	.006	400	5/32 x 5/16 x 13/16	.50	**.30**
ZNW4S1	.01	400	7/32 x 3/8 x 13/16	.55	**.33**
ZNW1S1	.01	150	5/32 x 5/16 x 13/16	.45	**.27**
ZNW1S2	.02	150	5/32 x 5/16 x 13/16	.50	**.30**
ZNW1S3	.03	150	5/32 x 3/8 x 13/16	.50	**.30**
ZNW1S5	.05	150	7/32 x 1/2 x 13/16	.55	**.33**
ZNW1P1	.1	150	7/32 x 5/8 x 1 1/16	.65	**.39**



"BLUE CUB" MOULDED CAPACITORS

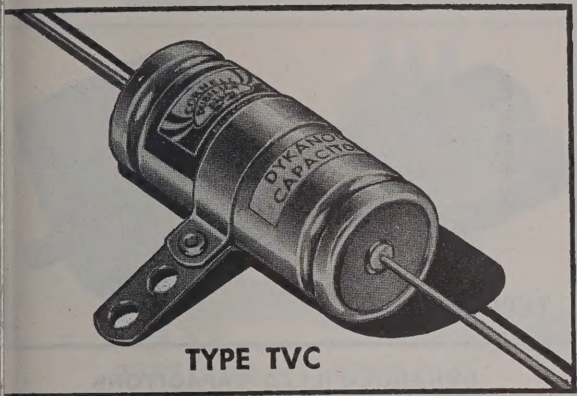
These "Blue Cub" moulded plastic tubulars are especial designed for use in television sets, auto radio, a.c.-d.c. se and other equipment where high temperatures are e countered. No shock, no vibration is too much for the They are Vikane* impregnated **with leads welded to th capacitor section** and sealed in solid mold constructic with final seal-dip of special moisture-proof compoun Capacity remains constant within 5% under most seve conditions of humidity and temperature from 70°F. to 212°

TYPE PTE "BLUE CUB" CAPACITORS

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
		400 V. D.C		
PTE4S1	.01	11/32 x 1 1/16	$.25	**$.15**
PTE4S2	.02	7/16 x 1 5/16	.25	**.15**
PTE4S5	.05	1/2 x 1 5/16	.30	**.18**
PTE4P1	.1	9/16 x 1 9/16	.35	**.21**
		600 V. D.C.		
PTE6D1	.001	11/32 x 1 1/16	.25	**.15**
PTE6D2	.002	11/32 x 1 1/16	.25	**.15**
PTE6D3	.003	11/32 x 1 1/16	.25	**.15**
PTE6D4	.004	11/32 x 1 1/16	.25	**.15**
PTE6D5	.005	11/32 x 1 1/16	.25	**.15**
PTE6D6	.006	7/16 x 1 5/16	.25	**.15**
PTE6S1	.01	7/16 x 1 5/16	.30	**.18**
PTE6S15	.015	7/16 x 1 3/8	.30	**.18**
PTE6S2	.02	1/2 x 1 5/16	.30	**.18**
PTE6S3	.03	9/16 x 1 9/16	.35	**.21**
PTE6S4	.04	9/16 x 1 9/16	.35	**.21**
PTE6S5	.05	9/16 x 1 9/16	.40	**.24**
PTE6P1	.1	11/16 x 1 15/16	.45	**.27**
		1600 V. D.C.		
PTE16D1	.001	7/16 x 1 3/8	.55	**.33**
PTE16D2	.002	7/16 x 1 3/8	.55	**.33**
PTE16D3	.003	7/16 x 1 3/8	.55	**.33**
PTE16D4	.004	1/2 x 1 3/8	.55	**.33**
PTE16D5	.005	9/16 x 1 9/16	.55	**.33**
PTE16D55	.0055	1/2 x 1 3/8	.55	**.33**
PTE16D6	.006	9/16 x 1 9/16	.55	**.33**
PTE16D7	.007	9/16 x 1 9/16	.55	**.33**
PTE16D75	.0075	9/16 x 1 9/16	.55	**.33**
PTE16D8	.008	9/16 x 1 9/16	.55	**.33**
PTE16S1	.01	9/16 x 1 9/16	.60	**.36**
PTE16S15	.015	9/16 x 1 9/16	.60	**.36**
PTE16S2	.02	11/16 x 1 15/16	.60	**.36**
PTE16S25	.025	11/16 x 1 15/16	.60	**.36**
PTE16S3	.03	11/16 x 1 15/16	.60	**.36**
PTE16S4	.04	11/16 x 1 15/16	.60	**.36**
		6000 V. D.C.		
PTE60T5	.0005	11/16 x 1 15/16	1.35	**.81**
PTE60D1	.001	11/16 x 1 15/16	1.35	**.81**
PTE60D5	.005	11/16 x 1 15/16	1.35	**.81**
		10000 V. D.C.		
PTE100T5	.0005	11/16 x 1 15/16	1.50	**.90**

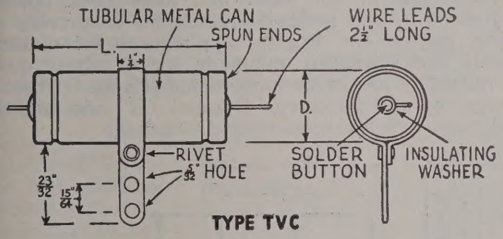
* Reg. U. S. Pat. Off.

TUBULAR TELEVISION CAPACITORS



OIL-IMPREGNATED METAL TUBULAR UNITS

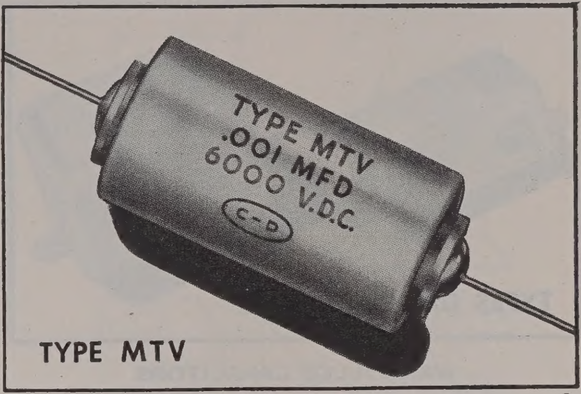
Type TVC capacitors are compact tubular metal can type units designed to withstand severe climatic conditions. They are non-inductively wound, impregnated with Dykanol "B" to maintain high insulation resistance.



TYPE TVC—Oil-Impregnated Capacitors*

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
		400 V. D.C.		
TVC 4D5	.005	7/16 x 1 1/8	$0.90	**$0.54**
TVC 4S1	.01	7/16 x 1 1/8	.90	**.54**
TVC 4S15	.015	7/16 x 1 1/8	1.00	**.60**
TVC 4S2	.02	7/16 x 1 1/4	1.00	**.60**
TVC 4S3	.03	7/16 x 1 3/8	1.05	**.63**
TVC 4S4	.04	17/32 x 1 1/4	1.05	**.63**
TVC 4S5	.05	17/32 x 1 3/8	1.05	**.63**
TVC 4P1	.1	5/8 x 1 11/16	1.15	**.69**
TVC 4P25	.25	3/4 x 2 1/16	1.45	**.87**
TVC 4P5	.5	1 x 2 1/16	1.70	**1.02**
		600 V. D.C.		
TVC 6D5	.005	7/16 x 1 1/8	.95	**.57**
TVC 6S1	.01	7/16 x 1 1/8	.95	**.57**
TVC 6S15	.015	7/16 x 1 1/8	1.00	**.60**
TVC 6S2	.02	7/16 x 1 1/8	1.05	**.63**
TVC 6S3	.03	17/32 x 1 1/8	1.10	**.66**
TVC 6S4	.04	9/16 x 1 1/8	1.10	**.66**
TVC 6S5	.05	9/16 x 1 1/4	1.10	**.66**
TVC 6P1	.1	5/8 x 1 1/2	1.25	**.75**
TVC 6P25	.25	3/4 x 1 13/16	1.70	**1.02**
TVC 6P5	.5	1 x 1 13/16	2.20	**1.32**
		1000 V. D.C.		
TVC 10D5	.005	17/32 x 1 1/8	1.10	**.66**
TVC 10S1	.01	17/32 x 1 1/8	1.10	**.66**
TVC 10S15	.015	17/32 x 1 1/8	1.20	**.72**
TVC 10S2	.02	17/32 x 1 1/4	1.20	**.72**
TVC 10S3	.03	17/32 x 1 3/8	1.20	**.72**
TVC 10S4	.04	17/32 x 1 1/2	1.20	**.72**
TVC 10S5	.05	9/16 x 1 5/8	1.30	**.78**
TVC 10P1	.1	5/8 x 2 1/16	1.50	**.90**
OIL-FILLED UNITS		**1600 V. D.C.**		
TVC 16D5	.005	5/8 x 1 5/16	1.20	**.72**
TVC 16S1	.01	5/8 x 1 5/16	1.20	**.72**
TVC 16S15	.015	5/8 x 1 9/16	1.25	**.75**
TVC 16S2	.02	5/8 x 1 11/16	1.30	**.78**
TVC 16S3	.03	5/8 x 2 1/16	1.30	**.78**
TVC 16S4	.04	3/4 x 1 13/16	1.30	**.78**
TVC 16S5	.05	7/8 x 1 11/16	1.40	**.84**

*For units provided with insulating sleeve over metal tube add 10c to list price. When ordering add "–6" to Cat. No. (Example TVC 4D5–6).



OIL-FILLED METAL TUBULAR UNITS

Type MTV capacitors are impregnated and filled with oil in hermetically sealed metal tube containers and provided with an insulating cardboard sleeve cover. They are small size units especially designed for use in assemblies where high temperatures are encountered, such as television receivers and similar high voltage equipment.

TYPE MTV—Oil-Filled Capacitors

Cat. No.	Cap. Mfd.	Size—Inches Dia. x Length	List Price	Net Price
		6000 V. D.C.		
MTV 60T5	.0005	1 x 1 3/4	$1.30	**$.78**
MTV 60D1	.001	1 x 1 3/4	1.30	**.78**
MTV 60D5	.005	1 x 1 7/8	1.30	**.78**
MTV 60S1	.01	1 x 2 1/4	1.40	**.84**
MTV 60S3	.03	1 3/8 x 2 5/8	1.50	**.90**
MTV 60S5	.05	1 3/8 x 3 1/4	1.60	**.96**

"BLUE CUB" PLASTIC TUBULAR UNITS

Type PTE capacitors are Vikane* impregnated to withstand high voltage breakdown test at low power factor and moulded in plastic for permanency and durability to withstand humidity and temperatures up to 300° F. without softening. They are provided with **wire leads securely welded to the capacitor section** which insures against possible opens and intermittents.

TYPE PTE—Moulded Plastic Capacitors

		6000 V. D.C.		
PTE 60T5	.0005	11/16 x 1 15/16	$1.35	**$.81**
PTE 60D1	.001	11/16 x 1 15/16	1.35	**.81**
PTE 60D5	.005	11/16 x 1 15/16	1.35	**.81**
		10000 V. D.C.		
PTE 100T5	.0005	11/16 x 1 15/16	1.50	**.90**

DOUBLE-BUILT CARDBOARD TUBULAR UNITS

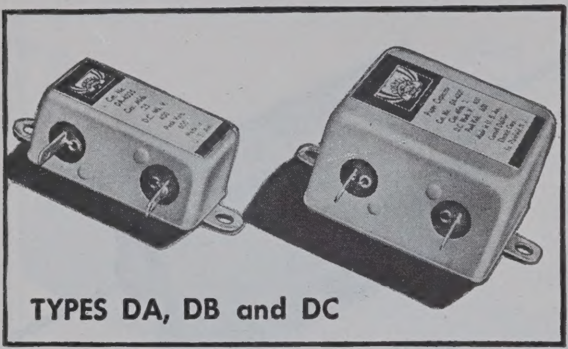
Type DSTH tubular capacitors are designed to meet the high voltage circuit requirements of television receivers, ocilliscopes, and similar high voltage electronic equipment. They are thoroughly impregnated in Vikane*, wax filled and completely enclosed in **two separate concentric-wrapped, wax-sealed cardboard tube casings.** They provide an extra wide margin of safety factor and reliable performance in all circuits within their rated operating voltages and temperature up to 185° F.

TYPE DSTH—VIKANE* Impregnated Capacitors

		3000 V. D.C.		
DSTH 30D1	.001	9/16 x 2 1/8	$ .95	**$.57**
DSTH 30D5	.005	7/8 x 2 1/8	1.00	**.60**
DSTH 30S1	.01	15/16 x 2 3/8	1.05	**.63**
DSTH 30S5	.05	1 3/8 x 3	1.20	**.72**
		4000 V. D.C.		
DSTH 40S1	.01	1 x 2 7/8	1.10	**.66**
DSTH 40S5	.05	1 7/16 x 3 1/2	1.25	**.75**
		6000 V. D.C.		
DSTH 60T5	.0005	3/4 x 2 3/4	1.10	**.66**
DSTH 60D1	.001	7/8 x 2 3/4	1.10	**.66**
DSTH 60D5	.005	1 1/16 x 3 1/4	1.15	**.69**
DSTH 60S1	.01	1 3/16 x 3 3/4	1.20	**.72**
DSTH 60S5	.05	1 13/16 x 5	1.35	**.81**

* Reg. U. S. Pat. Off.

DRAWN METAL SHELL PAPER CAPACITORS

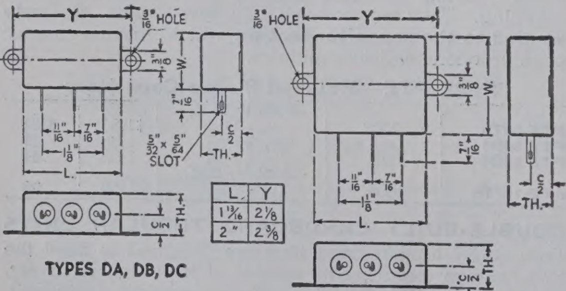

TYPES DA, DB and DC

WAX-FILLED CAPACITORS

Types DA to DC capacitors are non-inductively wound and wax-potted in drawn metal shell containers. They are available in a large variety of ratings for radio frequency bypass, audio frequency coupling and bypass functions. Lug terminals are amply insulated. Integral with casing, the mounting feet allow ease of assembly.

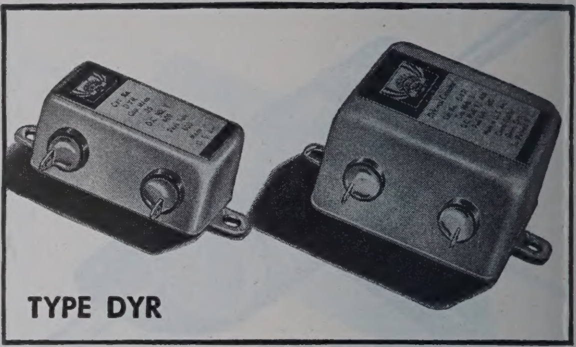
In the single and dual section capacitor units, the terminals are insulated from the container. The duals have three terminals, the common lug being on the left. In the triple section capacitors, the common terminal connection is grounded to the metal case.

All units are wound with the highest grade pure aluminum foil and multi-laminated kraft tissue, thoroughly dried under vacuum pressure, impregnated in the finest grade wax compound, oil-cooled, and potted in a special wax compound. Conservative D.C. ratings of these capacitors by triple testing assure dependable service in operation.



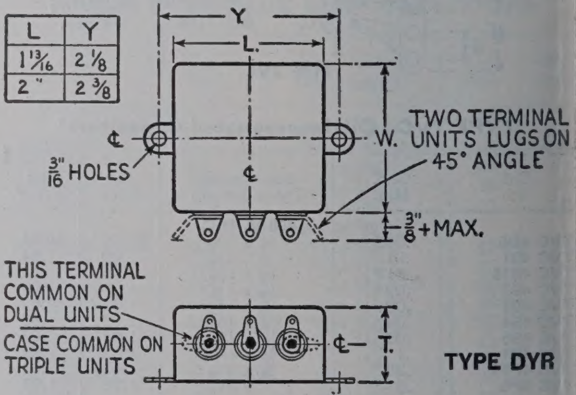
TYPES DA, DB, DC

Cat. No.	Cap. Mfd.	Size—Inches Lth. x Wid. x Thick.	List Price	Net Price
		400 V. D.C. Work.		
DA 4011	.1	1 13/16 x 1 x 3/4	$1.75	**$1.05**
DA 4025	.25	1 13/16 x 1 x 3/4	2.00	**1.20**
DA 4050	.5	1 13/16 x 1 x 7/8	2.15	**1.29**
DA 4100	1	2 x 1 3/4 x 13/16	2.60	**1.56**
DA 4200	2	2 x 2 x 1 1/8	3.35	**2.01**
DB 4010	.1–.1	1 13/16 x 1 x 3/4	2.75	**1.65**
DB 4025	.25–.25	2 x 1 1/4 x 3/4	3.00	**1.80**
DB 4050	.5–.5	2 x 1 3/4 x 1	3.50	**2.10**
DC 4010	.1–.1–.1	1 13/16 x 1 x 3/4	3.40	**2.04**
		600 V. D.C. Work.		
DA 6011	.1	1 3/16 x 1 x 3/4	2.40	**1.44**
DA 6025	.25	1 13/16 x 1 1/4 x 3/4	2.55	**1.53**
DA 6050	.5	2 x 1 3/4 x 13/16	2.75	**1.65**
DA 6100	1	2 x 2 x 1 1/8	3.15	**1.89**


TYPE DYR

DYKANOL-FILLED CAPACITORS

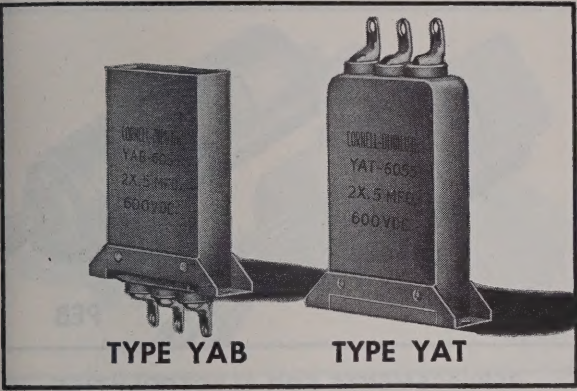
Type DYR Dykanol Bypass Capacitors are non-inductively wound and meet the need for dependable capacitors of fractional capacities that will operate efficiently in R.F. and A.F. bypass, audio frequency coupling and A.C. circuits under all humidity conditions and at temperatures up to approximately 85° C. (185° F.). They are built to stand an immersion test in hot water and have been specially designed to fill the severe requirements of aircraft, submarine, marine and tropical applications for maximum capacity and voltage in minimum space, where quality and reliability are of paramount importance. They are impregnated and filled with Dykanol "G" and sealed in metal cases with leakproof riveted terminals.


L | Y
1 13/16 | 2 1/8
2" | 2 3/8
Y
L.
℄
3/16" HOLES
℄
W.
TWO TERMINAL UNITS LUGS ON 45° ANGLE
3/8"+MAX.
THIS TERMINAL COMMON ON DUAL UNITS
CASE COMMON ON TRIPLE UNITS
℄
T.

TYPE DYR

Cat. No.	Cap. Mfd.	Size—Inches Lth. x Wid. x Thick.	List Price	Net Price
		600 V. D.C. Work.		
DYR 6005	.05	1 13/16 x 1 x 3/4	$2.60	**$1.56**
DYR 6010	.1	1 13/16 x 1 x 3/4	2.65	**1.59**
DYR 6025	.25	1 13/16 x 1 x 3/4	2.80	**1.68**
DYR 6050	.5	1 13/16 x 1 x 7/8	3.00	**1.80**
DYR 6100	1	2 x 1 3/4 x 7/8	3.40	**2.04**
DYR 6200	2	2 x 2 x 1 1/8	4.55	**2.73**
DYR 60055	.05–.05	1 13/16 x 1 x 3/4	3.30	**1.98**
DYR 6011	.1–.1	1 13/16 x 1 x 3/4	3.35	**2.01**
DYR 6022	.25–.25	1 13/16 x 1 1/4 x 3/4	3.40	**2.04**
DYR 6055	.5–.5	2 x 1 3/4 x 7/8	3.90	**2.34**
DYR 6110	1.–1.	2 x 2 x 1 1/8	4.80	**2.88**
DYR 6111	.1–.1–.1	1 13/16 x 1 x 3/4	3.80	**2.28**
DYR 6222	.25–.25–.25	2 x 1 3/4 x 13/16	4.30	**2.58**
DYR 6555	.5–.5–.5	2 x 2 x 1 1/8	5.20	**3.12**
		1000 V. D.C. Work.		
DYR 10005	.05	1 13/16 x 1 x 3/4	2.75	**1.65**
DYR 10010	.1	1 13/16 x 1 x 3/4	2.85	**1.71**
DYR 10025	.25	1 13/16 x 1 x 3/4	2.95	**1.77**
DYR 10050	.5	2 x 1 3/4 x 13/16	3.20	**1.92**
DYR 10100	1	2 x 2 x 1 1/8	4.00	**2.40**
DYR 100055	.05–.05	1 13/16 x 1 x 3/4	3.50	**2.10**
DYR 10011	.1–.1	1 13/16 x 1 x 3/4	3.60	**2.16**
DYR 10022	.25–.25	2 x 1 3/4 x 13/16	3.80	**2.28**
DYR 10055	.5–.5	2 x 2 x 1 1/8	4.95	**2.97**
DYR 10111	.1–.1–.1	1 13/16 x 1 1/4 x 3/4	4.15	**2.49**
DYR 10222	.25–.25–.25	2 x 2 x 1 1/8	5.00	**3.00**

DRAWN METAL SHELL PAPER CAPACITORS



TYPE YAB TYPE YAT

COMPACT DYKANOL CAPACITORS

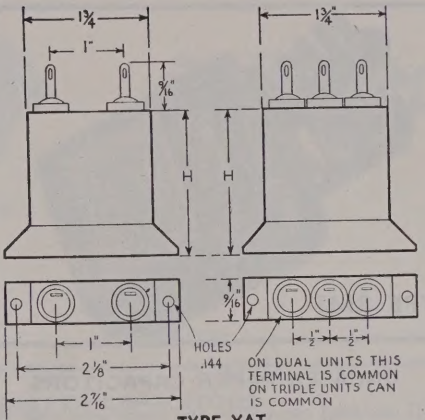
Types YAT and YAB are impregnated and filled with Dykanol "G" (chlorinated diphenyl) a synthetic, non-inflammable, non-oxidizable liquid compound which is unaffected by wide latitude of temperature changes or voltage stresses. They are especially suited for use in bypass, audio frequency coupling circuits and other applications where conditions of high humidity and temperatures are encountered.

Units are sealed in drawn metal shell containers and provided with leakproof terminals either on top or bottom of the can containers, designated as Types YAT and YAB accordingly. All units are provided with rugged metal mounting brackets which provide rigid mountings. Two or more units may be mounted close together in an assembly. Single section units are provided with two terminals while dual and triple section units have three terminals. In single and dual section units terminals are insulated from the metal container. The third terminal of dual section units is the common terminal and marked for identification. In triple section units the common terminal connection is grounded to the metal case.

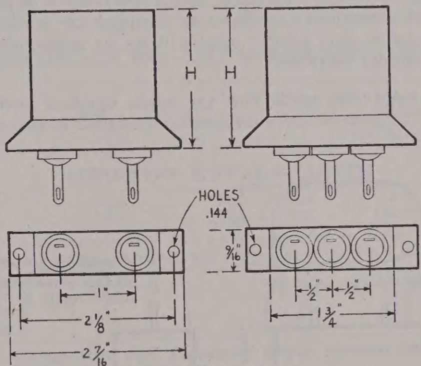
Types WAT and WAB Capacitors are smaller size units of similar construction and electrical characteristics but only supplied in single section units with two terminals. These units are ideally suited for use in assemblies where space is limited and multiple units may be mounted close together for compactness.

TYPES YAT AND YAB—Dykanol "G" Impregnated and Filled Units

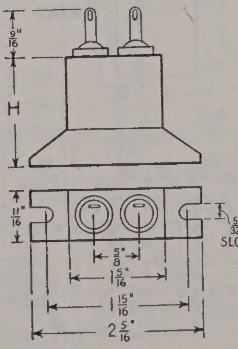
Cat. Nos.	Cap. Mfd.	Size—Inches L. x W. x H.	List Price	Net Price
	600 V. D.C. Work.			
YAT or **YAB 6005**	.05	2 7/16 x 9/16 x 1	$3.25	**$1.95**
YAT or **YAB 6010**	.1	2 7/16 x 9/16 x 1	3.25	**1.95**
YAT or **YAB 6025**	.25	2 7/16 x 9/16 x 1 1/2	3.50	**2.10**
YAT or **YAB 6050**	.5	2 7/16 x 9/16 x 1 7/8	3.75	**2.25**
YAT or **YAB 6100**	1.0	2 7/16 x 9/16 x 2 1/2	4.25	**2.55**
YAT or **YAB 60055**	.05–.05	2 7/16 x 9/16 x 1	3.30	**1.98**
YAT or **YAB 6011**	.1–.1	2 7/16 x 9/16 x 1 1/2	4.25	**2.55**
YAT or **YAB 6022**	.25–.25	2 7/16 x 9/16 x 1 7/8	4.25	**2.55**
YAT or **YAB 6055**	.5–.5	2 7/16 x 9/16 x 2 1/2	5.00	**3.00**
YAT or **YAB 60555**	.05–.05–.05	2 7/16 x 9/16 x 1	4.75	**2.85**
YAT or **YAB 6111**	.1–.1–.1	2 7/16 x 9/16 x 1 1/2	3.80	**2.28**
YAT or **YAB 6222**	.25–.25–.25	2 7/16 x 9/16 x 2 1/2	5.25	**3.15**
	1000 V. D.C. Work.			
YAT or **YAB 10005**	.05	2 7/16 x 9/16 x 1	$3.35	**$2.01**
YAT or **YAB 10010**	.1	2 7/16 x 9/16 x 1	3.60	**2.16**
YAT or **YAB 10025**	.25	2 7/16 x 9/16 x 1 7/8	3.75	**2.25**
YAT or **YAB 10050**	.5	2 7/16 x 9/16 x 2 1/2	4.00	**2.40**
YAT or **YAB 100055**	.05–.05	2 7/16 x 9/16 x 1 1/2	4.00	**2.40**
YAT or **YAB 10011**	.1–.1	2 7/16 x 9/16 x 1 1/2	4.50	**2.70**
YAT or **YAB 10022**	.25–.25	2 7/16 x 9/16 x 2 1/2	4.75	**2.85**
YAT or **YAB 100555**	.05–.05–.05	2 7/16 x 9/16 x 1 1/2	5.25	**3.15**
YAT or **YAB 10111**	.1–.1–.1	2 7/16 x 9/16 x 2 1/2	5.75	**3.45**


1 3/4
1"
9/16
H
H
1 3/4"
9/16
1"
1/2" 1/2"
2 1/8"
2 7/16"
HOLES .144
ON DUAL UNITS THIS TERMINAL IS COMMON ON TRIPLE UNITS CAN IS COMMON

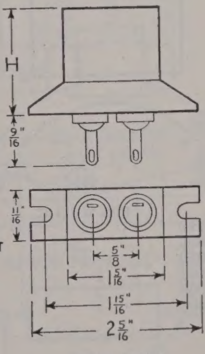
TYPE YAT



TYPE YAB



TYPE WAT



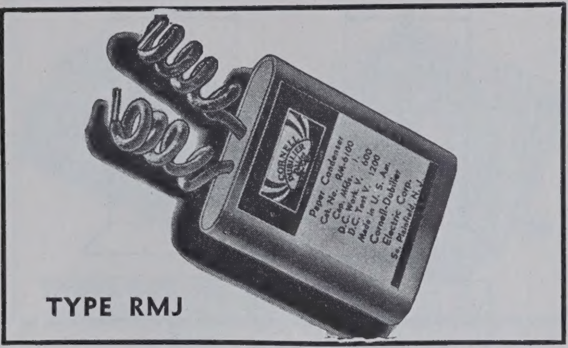
TYPE WAB

TYPES WAT AND WAB—Dykanol "G" Impregnated and Filled Units

Cat. Nos.	Cap. Mfd.	Size—Inches L. x W. x H.	List Price	Net Price
	600 V. D.C. Work.			
WAT or **WAB 6005**	.05	2 5/16 x 11/16 x 1 7/16	$3.50	**$2.10**
WAT or **WAB 6010**	.1	2 5/16 x 11/16 x 1 7/16	3.75	**2.25**
WAT or **WAB 6025**	.25	2 5/16 x 11/16 x 1 11/16	4.00	**2.40**
WAT or **WAB 6050**	.5	2 5/16 x 11/16 x 2 1/16	4.25	**2.55**
WAT or **WAB 6100**	1.0	2 5/16 x 11/16 x 2 1/2	4.75	**2.85**
	1000 V. D.C. Work.			
WAT or **WAB 10005**	.05	2 5/16 x 11/16 x 1 7/16	$3.75	**$2.25**
WAT or **WAB 10010**	.1	2 5/16 x 11/16 x 1 7/16	3.75	**2.25**
WAT or **WAB 10025**	.25	2 5/16 x 11/16 x 2 1/16	4.00	**2.40**
WAT or **WAB 10050**	.5	2 5/16 x 11/16 x 2 1/2	4.00	**2.40**

CORNELL-DUBILIER CAPACITORS DUBILIER

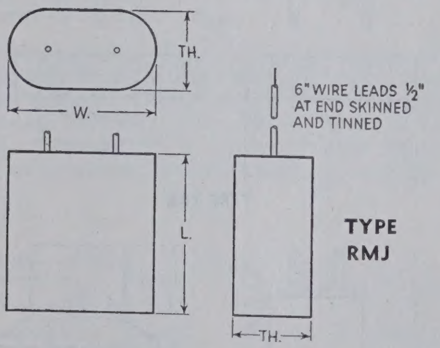
REPLACEMENT PAPER CAPACITORS


TYPE RMJ
CORNELL DUBILIER
Paper Condenser
Cat. No. RMJ-6100
Cap. Mfds. 1.00
D.C. Work. V. 600
D.C. Test V. 1200
Made in U. S. A.
Cornell-Dubilier Electric Corp.
So. Plainfield, N. J.

UNCASED PAPER CAPACITORS

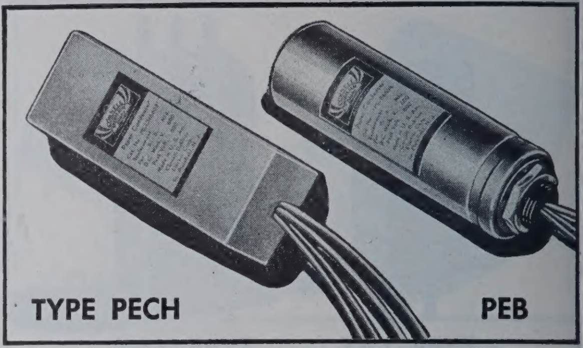
Type RMJ uncased capacitors are made available to repair paper dielectric filter blocks which were used in the early models of A.C. operated radio sets. Also useful in the elimination of electrical interference caused by pushbuttons, bells, buzzers, and similar applications in radio, electronic and electrical devices.

Special capacitor units can be made up and potted into suitable containers by servicemen to fulfill many requirements.


TH.
W.
6" WIRE LEADS ½" AT END SKINNED AND TINNED
L.
TH.

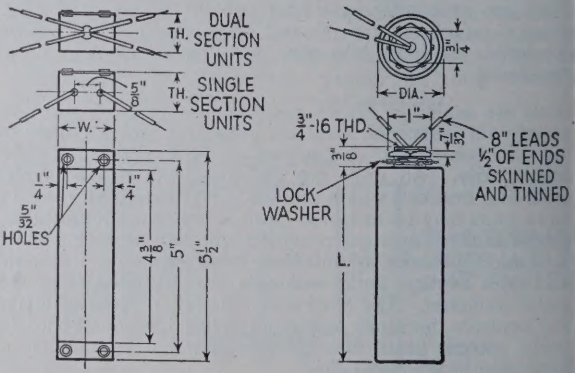
TYPE RMJ

Cat. No.	Cap. Mfd.	Size—Inches Lth. x Wid. x Thick.	List Price	Net Price
	600 V. D.C.			
RMJ 6010	.1	2 x 1 x ¼	$0.80	**$0.48**
RMJ 6025	.25	2 x 1 x ½	.90	**.54**
RMJ 6050	.5	2 x 1½ x 21/32	1.05	**.63**
RMJ 6100	1	2 x 2 x 15/16	1.40	**.84**
RMJ 6200	2	3½ x 2 x 1	2.10	**1.26**
RMJ 6400	4	4⅜ x 2 1/16 x 1½	3.80	**2.28**


TYPE PECH
PEB

REPLACEMENTS FOR ELECTROLYTICS

Paper Replacement Capacitors that simulate electrolytics in appearance; these types fulfill many service requirements. There is no polarity to observe when using these capacitors. Mounting flanges are provided on all cardboard box units. Dual section units have separate leads.


TH.
DUAL SECTION UNITS
5/8"
TH.
SINGLE SECTION UNITS
W.
1/4"
1/4"
5/32" HOLES
4 3/8"
5"
5 1/2"
3/4"
DIA.
1"
3/4"-16 THD.
7/32
3/8
8" LEADS ½" OF ENDS SKINNED AND TINNED
LOCK WASHER
L.

TYPE PECH

TYPE PEB

Cat. No.	"Replacement" for Electrolytic Cap. Mfd.	Actual Capacity Approx. Mfd.	Size—Inches Length x Width x Thickness	List Price	Net Price
		600 V.D.C.			
PECH 6004	4	2	4⅜ x 1⅜ x 15/16	$2.00	**$1.20**
PECH 6008	8	5.5	4⅜ x 1⅝ x 1⅛	3.25	**1.95**
PECH 6808	8–8	2.7–2.7	4⅜ x 2 x 1½	4.00	**2.40**
PEB 6004	4	1.75	4⅜ x 1⅜	2.10	**1.26**
PEB 6008	8	2.75	4⅜ x 1⅜	3.50	**2.10**
PEB 6808	8–8	1.7–1.7	4⅜ x 1½	4.30	**2.58**

The Capacitor
CORNELL-DUBILIER

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Cornell-Dubilier Electric Corp.
So. Plainfield, New Jersey

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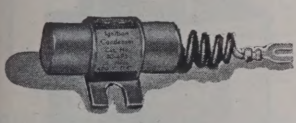
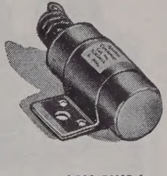
AUTO RADIO CAPACITORS

IC-2P55

FC-2P5A

HC-870E


IC-2P5C


ICH-2W1A

FC-2P5V

MOTOR GENERATOR AMMETER AND BUFFER CAPACITORS

The mechanical design of C-D Auto Radio Capacitors insures against damage by the high temperatures and excessive vibration existing under the hood of an auto. Special units such as these are designed for certain particular installations. Thus, for instance, Ford generator capacitor, FC-2P5V, has a special mounting bracket while others are also provided with special mountings and terminals.

GENERATOR UNITS

Cat. No.	Cap. Mfd.	Size—Inches Lth. x Dia.	List Price	Net Price
ICS 2S5A	.05	1¼ x 7/16	$ .65	**$0.39**
IC 2P5C	.5	1⅞ x 11/16	.65	**.39**
FC 2P5A	.5	1⅞ x 11/16	.85	**.51**
FC 2P5V	.5	1⅞ x 11/16	.65	**.39**
IC 2P55	.5–.5	2 x ⅞	1.05	**.63**
ICH 2W1A	1.0	2 3/16 x 1	.90	**.54**
ICV 2P25A	.25	1⅞ x 11/16	.60	**.36**
ICV 2P5A	.5	1⅞ x 11/16	.65	**.39**
ICV 2W1A	1.0	2 3/16 x 1	.90	**.54**

AMMETER UNIT

HC 870E	.5	¾ x 2	$ .65	**$0.39**

MOTOROLA NO. 3321 VIBRATOR UNIT

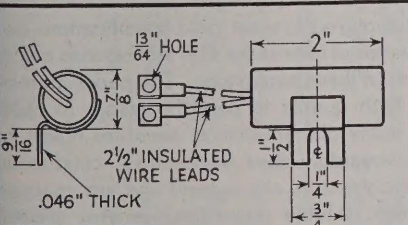
Cat. No.	Cap. Mfd.	V. D.C.	Size—Inches L. x W. T.	List Price	Net Price
MT 10204	2 x .0008	1600	⅝ x 11/16 x 5/16	$.65	**$.39**

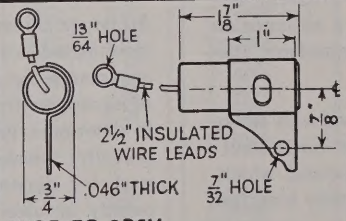
VIBRATOR BUFFER UNITS

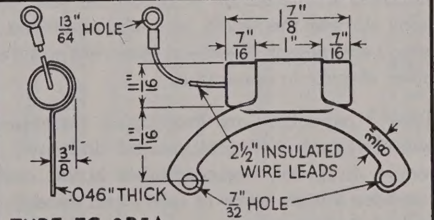
Metal cased oil-impregnated and processed tubular paper capacitors with cardboard insulating sleeve and mounting strap. 2000 V.D.C. Peak.

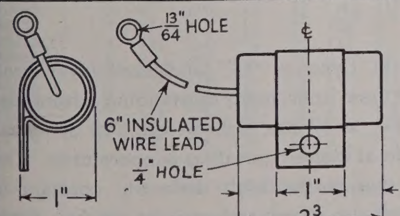
Cat. No.	Cap. Mfd.	Size—Inches Dia. x Lgth.	List Price	Net Price
TVC 16D5-6	.005	11/16 x 1½	$1.20	**$0.72**
TVC 16D7-6	.007	11/16 x 1½	1.20	**.72**
TVC 16S1-6	.01	11/16 x 1½	1.20	**.72**
TVC 16S2-6	.02	11/16 x 1⅞	1.30	**.78**

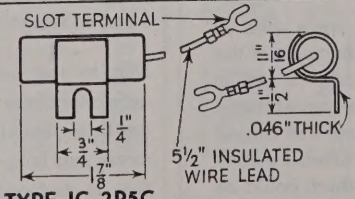
For oil-impregnated and processed paper tubular capacitors, see Type PTE listed on page 8.

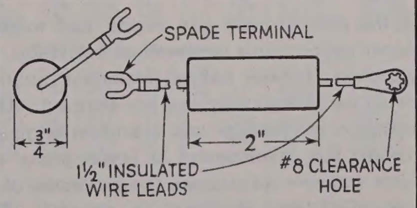

13/64" HOLE
2"
7/8"
9/16"
2½" INSULATED WIRE LEADS
1/2"
.046" THICK
1/4"
3/4"
TYPE IC-2P55

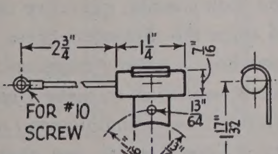

13/64" HOLE
1 7/8"
1"
7/8"
2½" INSULATED WIRE LEADS
3/4"
.046" THICK
7/32" HOLE
TYPE FC-2P5V

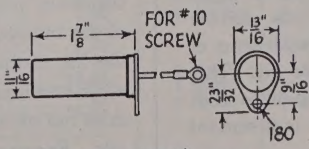

13/64" HOLE
1 7/8"
7/16"
1"
7/16"
11/16
11/16
3/8"
3/16
2½" INSULATED WIRE LEADS
.046" THICK
7/32" HOLE
TYPE FC-2P5A

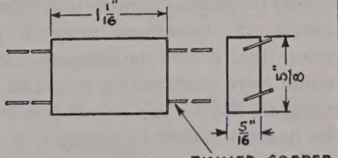

13/64" HOLE
℄
6" INSULATED WIRE LEAD
1/4" HOLE
1"
1"
2 3/16
TYPE ICH-2WIA


SLOT TERMINAL
11/16
1/2"
.046" THICK
1/4"
3/4"
1 7/8"
5½" INSULATED WIRE LEAD
TYPE IC-2P5C
TYPE ICH-2P5C (HOLE INSTEAD OF SLOTS IN MOUNTING CLAMP)


SPADE TERMINAL
3/4"
2"
1½" INSULATED WIRE LEADS
#8 CLEARANCE HOLE
TYPE HC-87OE


2 3/4"
1 1/4"
7/16
FOR #10 SCREW
13/64"
17/32
1/16
5/8"
TYPE
ICS-2S5A


1 7/8"
FOR #10 SCREW
13/16
11/16
23/32
9/16
180
TYPE ICV-2P25A
TYPE ICV-2P5A


1 1/16
5/8"
5/16
TINNED COPPER WIRE LEADS 2½" LONG
TYPE MT 10204
MOTOROLA PART NO. 3321

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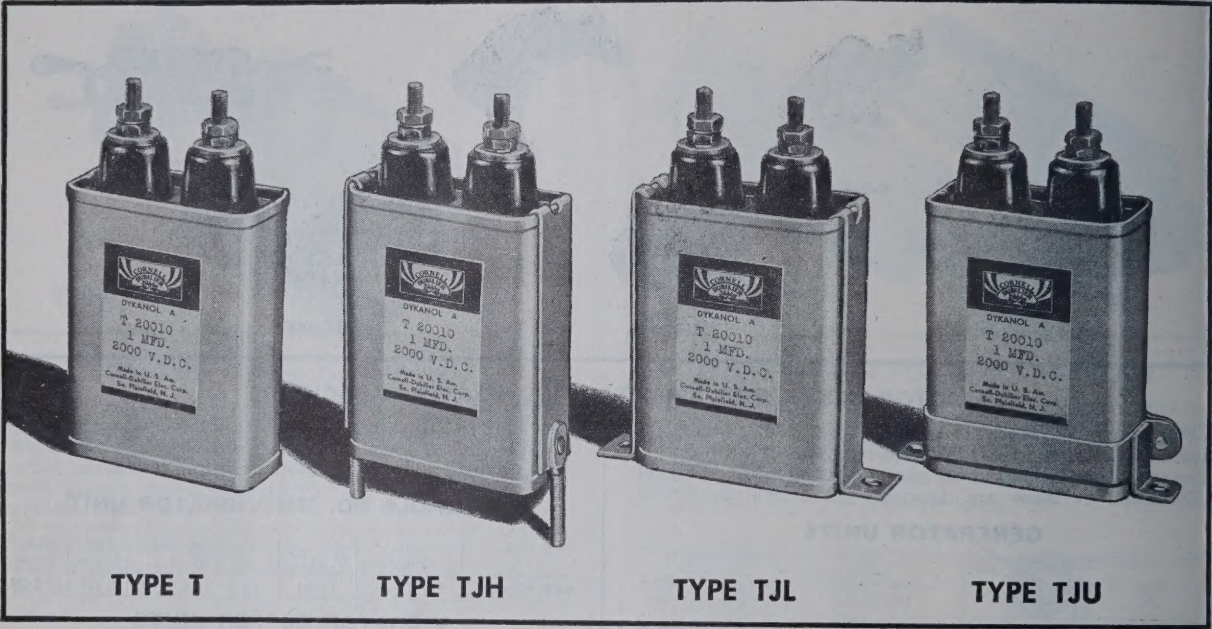
DYKANOL TRANSMITTING CAPACITORS



TYPE T CAPACITORS WITH VARIOUS TYPES OF MOUNTINGS

Type T-series Dykanol transmitting capacitors are the finest and most dependable units obtainable for use in all amateur, broadcast and commercial equipment. Units are provided with well insulated terminals, and mountings desired as shown in the accompanying illustrations. These units are standard in thousands of broadcast and government stations all over the world, and also employed in all types of sound equipment, television receivers and transmitters, and other electronic apparatus.

Type T capacitors are thoroughly impregnated and filled with Dykanol "G" (chlorinated diphenyl), a non-inflammable, fireproof, non-oxidizable liquid compound which provides a high factor of safety and exceptionally long life at high temperatures.

In the past, organic oils, resins, and waxes were used as paper impregnants in electrical insulation. Because of the variation of these natural materials, uniformity of results could be desired only and not attained. The concentrated attention of chemists and electrical engineers was turned toward the development of non-organic, synthetic substitutes and new substances, the properties of which could be controlled and modified as desired. The chlorinated diphenyls were recognized as outstanding among the rapidly increasing number of synthetics available. Of these compounds, continued research pointed to one narrow group, that known as Dykanol "G," the characteristics of which were particularly suited to the capacitor art. This material, having the lowest power factor compatible with the highest dielectric constant, is used as the impregnant in Type T capacitors.

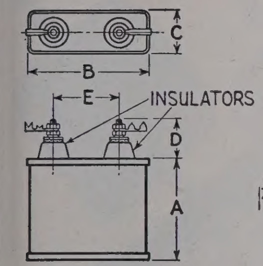
For the dielectric separator in Type T capacitors, only the highest grade of kraft paper is used, ranging in thickness from .0003 to .001 of an inch for a single sheet. Three or more layers of paper dielectric as a separator between foil members are always used. The higher voltage units use as many as six or more layers. This multiple lamination builds a high safety factor into Type T capacitors.

All paper is manufactured to meet rigid specifications and is subjected to a series of tests at the C-D laboratories before acceptance for use in these capacitors. The paper must be of exceptionally high quality to pass the tests. In order to determine its many characteristics, tests are made for porosity, tensile strength, effect of heating, conducting particles, dielectric strength, ash content and ash analysis, acidity or alkalinity, soluble impurities, general appearance, and mechanical considerations such as yield, thickness, width, etc.

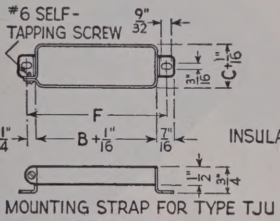
Due to the use of Dykanol "G" and multi-layer kraft capacitor tissue in these units, many outstanding advantages are thus gained, i.e., small size, light weight, low dielectric stress and long life at higher operating temperatures. The size is reduced due to the high dielectric constant of Dykanol "G" which also affords reduction in weight. A low dielectric stress is obtained as the result of efficient use of container volume, and the high specific inductive capacity of the impregnant. And since the dielectric stress is low, the life of the unit in operation is greatly increased. The synthetic liquid impregnant employed in these capacitors does not oxidize or deteriorate like commonly used organic oils. For complete listing of Type T-series, see next page.

For higher voltage units, ranging from 6000 to 25,000 v.d.c., write for data and prices on Type TK capacitors.

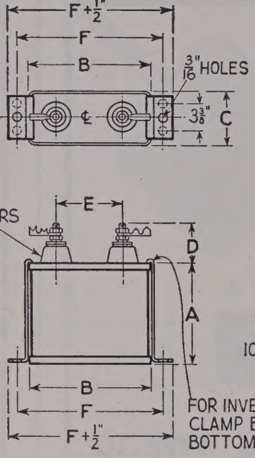
DYKANOL TRANSMITTING CAPACITORS



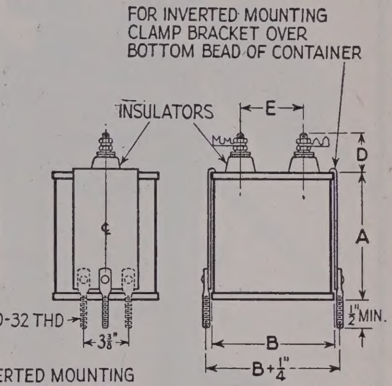
TYPE T
(WITHOUT MOUNTINGS)



TYPE TJU
(WITH MOUNTING STRAP)


F+1/2"
F
B
3/16" HOLES
3 3/8"
C
INSULATORS
E
D
A
B
F
F+1/2"
FOR INVERTED MOUNTING CLAMP BRACKET OVER BOTTOM BEAD OF CONTAINER

TYPE TJL


FOR INVERTED MOUNTING CLAMP BRACKET OVER BOTTOM BEAD OF CONTAINER
INSULATORS
E
D
A
10-32 THD
3 3/8"
1/2" MIN.
B
B+1/4"

TYPE TJH

TYPE DESIGNATIONS—Type T (basic units) are without mountings. To order Types TJH, TJL or TJU with mountings as shown above, add letter symbols of type mountings desired to Cat. No. as follows:

TYPE T—(Basic unit) without mountings.
TYPE TJH—With screw spade-lug brackets.
TYPE TJL—With mounting foot brackets.
TYPE TJU—With universal mounting strap.

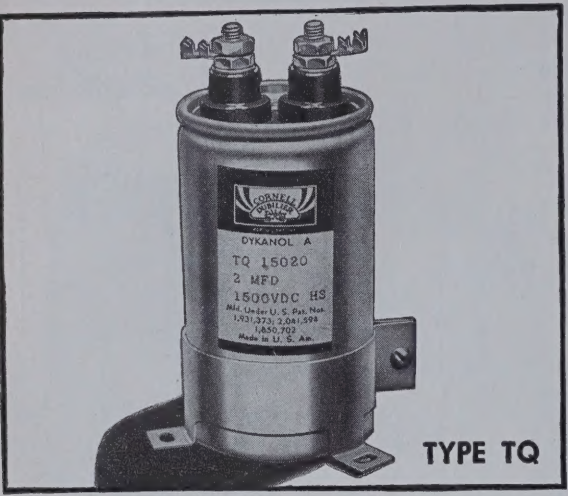
Prices below include mounting brackets or universal mounting strap when ordered according to these type numbers.

Cat. No.	Cap. Mfd.	Dimensions—Inches						List Price	Net Price
		A	B	C	D	E	F		
		600 V. D.C. Working							
T 6005	.5	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	$4.25	**$2.55**
T 6010	1	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	5.25	**3.15**
T 6020	2	2 7/8	1 13/16	1 1/16	7/8	13/16	2 1/4	6.50	**3.90**
T 6030	3	3 7/8	1 13/16	1 1/16	7/8	13/16	2 1/4	7.50	**4.50**
T 6040	4	3 3/8	2 1/2	1 3/16	7/8	1 1/8	3	8.25	**4.95**
T 6050	5	4 3/4	1 13/16	1 1/16	7/8	13/16	2 1/4	9.50	**5.70**
T 6060	6	4 5/8	2 1/2	1 3/16	7/8	1 1/8	3	10.25	**6.15**
T 6080	8	3 13/16	3 3/4	1 1/4	7/8	2	4 3/8	12.25	**7.35**
T 6100	10	4 5/8	3 3/4	1 1/4	7/8	2	4 3/8	13.75	**8.25**
		1000 V. D.C. Working							
T 10001	.1	2	1 13/16	1 1/16	7/8	13/16	2 1/4	3.75	**2.25**
T 100025	.25	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	4.25	**2.55**
T 10005	.5	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	4.50	**2.70**
T 10010	1	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	5.75	**3.45**
T 10020	2	4	1 13/16	1 1/16	7/8	13/16	2 1/4	7.50	**4.50**
T 10030	3	3 1/2	2 1/2	1 3/16	7/8	1 1/8	3	8.75	**5.25**
T 10040	4	4 5/8	2 1/2	1 3/16	7/8	1 1/8	3	9.50	**5.70**
T 10050	5	3 13/16	3 3/4	1 1/4	7/8	2	4 3/8	11.50	**6.90**
T 10060	6	4 3/4	3 3/4	1 1/4	7/8	2	4 3/8	12.75	**7.65**
T 10080	8	4 3/4	3 3/4	1 1/4	7/8	2	4 3/8	13.75	**8.25**
T 10100	10	4 5/8	3 3/4	1 3/4	7/8	2	4 3/8	15.25	**9.15**
T 10120	12	3 13/16	3 3/4	2 1/4	7/8	2	4 3/8	16.50	**9.90**
T 10150	15	4 3/4	3 3/4	2 1/2	7/8	2	4 3/8	18.25	**10.95**
		1500 V. D.C. Working							
T 15005	.5	2 7/8	1 13/16	1 1/16	7/8	13/16	2 1/4	5.75	**3.45**
T 15010	1	4	1 13/16	1 1/16	7/8	13/16	2 1/4	6.75	**4.05**
T 15020	2	4 1/8	2 1/2	1 3/16	7/8	1 1/8	3	9.50	**5.70**
T 15030	3	4 3/4	2 1/2	1 3/16	7/8	1 1/8	3	11.25	**6.75**
T 15040	4	4 5/8	3 3/4	1 1/4	7/8	2	4 3/8	12.75	**7.65**
T 15050	5	4 3/4	3 3/4	1 3/4	7/8	2	4 3/8	13.75	**8.25**
T 15060	6	4 3/4	3 3/4	1 3/4	7/8	2	4 3/8	15.50	**9.30**
T 15080	8	4 3/4	3 3/4	2 1/2	7/8	2	4 3/8	19.00	**11.40**
T 15100	10*	4 3/4	3 3/4	3 3/16	7/8	2	4 3/8	22.75	**13.65**
T 15120	12*	4 3/4	3 3/4	3 3/16	7/8	2	4 3/8	24.75	**14.85**
T 15150	†15*	4 3/4	3 3/4	4 9/16	7/8	2	4 3/8	27.25	**16.35**
		2000 V. D.C. Working							
T 20001	.1	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	$6.00	**$3.60**
T 200025	.25	2 1/8	1 13/16	1 1/16	7/8	13/16	2 1/4	6.50	**3.90**
T 20005	.5	2 7/8	1 13/16	1 1/16	7/8	13/16	2 1/4	6.75	**4.05**
T 20010	1	3 3/8	2 1/2	1 3/16	1 1/4	1 1/8	3	8.25	**4.95**
T 20020	2	4	3 3/4	1 1/4	1 1/4	2	4 3/8	9.75	**5.85**
T 20030	3	4 3/4	3 3/4	1 1/4	1 1/4	2	4 3/8	12.00	**7.20**
T 20040	4	3 13/16	3 3/4	2 1/4	1 1/4	2	4 3/8	13.75	**8.25**
T 20050	5	4 3/4	3 3/4	2 1/4	1 1/4	2	4 3/8	15.25	**9.15**
T 20060	6*	4 3/4	3 3/4	3 3/16	1 1/4	2	4 3/8	18.25	**10.95**
T 20080	8*	4 3/4	3 3/4	3 3/16	1 1/4	2	4 3/8	22.75	**13.65**
T 20100	†10*	4 3/4	3 3/4	4 9/16	1 1/4	2	4 3/8	27.75	**16.65**
T 20120	†12*	5 3/8	3 3/4	4 9/16	1 1/4	2	4 3/8	30.25	**18.15**
		2500 V. D.C. Working							
T 25005	.5	3 1/2	3 3/4	1 1/4	1 1/4	2	4 3/8	10.50	**6.30**
T 25010	1	3 1/4	3 3/4	1 3/4	1 1/4	2	4 3/8	12.00	**7.20**
T 25020	2	4 3/4	3 3/4	1 3/4	1 1/4	2	4 3/8	19.50	**11.70**
T 25040	† 4*	4	3 3/4	4 9/16	1 1/4	2	4 3/8	27.25	**16.35**
T 25100A	†10*	6 3/8	3 3/4	4 9/16	1 1/4	2	4 3/8	68.25	**40.95**
		3000 V. D.C. Working							
T 30001	.1	2	2 1/2	1 3/16	1 1/4	1 1/8	1	12.75	**7.65**
T 300025	.25	2 1/2	2 1/2	1 3/16	1 1/4	1 1/8	3	13.50	**8.10**
T 30005	.5	3 7/8	2 1/2	1 9/16	1 1/4	1 1/8	3	15.25	**9.15**
T 30010	1	3 13/16	3 3/4	2 1/4	1 1/4	2	4 3/8	18.25	**10.95**
T 30020	2*	4 1/8	3 3/4	3 3/16	1 1/4	2	4 3/8	22.75	**13.65**
T 30040	† 4*	4 3/4	3 3/4	4 9/16	1 1/4	2	4 3/8	33.50	**20.10**
		4000 V. D.C. Working							
T 40001	.1	2 3/4	3 3/4	2 1/4	2	2	4 3/8	22.75	**13.65**
T 400025	.25	2 3/4	3 3/4	2 1/4	2	2	4 3/8	24.00	**14.40**
T 40005	.5	4	3 3/4	2 1/4	2	2	4 3/8	27.25	**16.35**
T 40010	1	5	3 3/4	2 1/4	2	2	4 3/8	33.50	**20.10**
T 40020	† 2*	5	3 3/4	4 9/16	2	2	4 3/8	42.50	**25.50**
T 40040A	† 4*	8	3 3/4	4 9/16	2	1 3/4	4 3/8	60.75	**36.45**
		5000 V. D.C. Working							
T 50005	.5	4 1/4	3 3/4	2 1/4	2	2	4 3/8	30.25	**18.15**
T 50010	† 1*	4 1/4	3 3/4	4 9/16	2	2	4 3/8	38.00	**22.80**
T 50020	† 2*	6	3 3/4	4 9/16	2	2	4 3/8	48.75	**29.25**
		6000 V. D.C. Working							
T 60010A	† 1*	8	3 3/4	4 9/16	2	1 3/4	4 3/8	76.00	**45.60**

NOTES—* Type TJU units are not furnished in these larger sizes.
† TYPES TJL and TJH units furnished with two mounting holes or spade-lugs 3 3/8" apart. All other units furnished with a single mounting hole or spade-lug centered on each bracket.

For higher voltage units, from 6000 to 25,000 v.d.c., write for data and prices on Type TK capacitors.

DYKANOL TRANSMITTING CAPACITORS

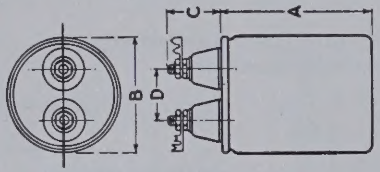

DYKANOL A
TQ 15020
2 MFD
1500VDC HS
Mfd. Under U. S. Pat. Nos.
1,931,373; 2,041,594
1,850,702
Made in U. S. A.

TYPE TQ

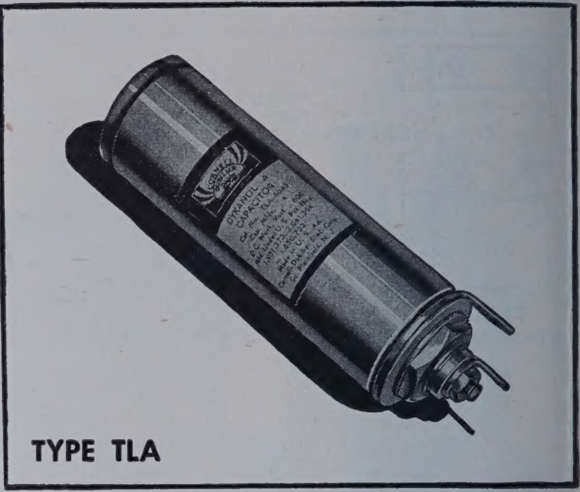
ROUND CAN-TYPE CAPACITORS

Type TQ Dykanol Capacitors, in round metal containers are provided with two insulated terminals and universal mounting rings for mounting the unit in any position with terminals either above or below a subpanel assembly.

TYPE TQ



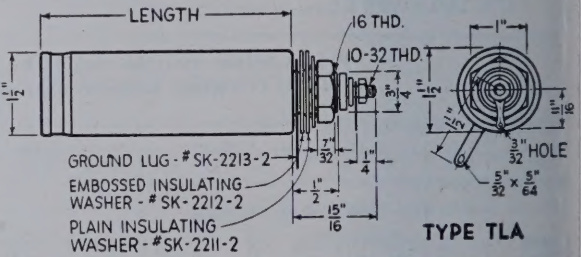
Cat. No.	Cap. Mfd.	Dimensions—Inches A	B	C	D	List Price	Net Price
		600 Volts D.C. Working					
TQ 6020	2	2⅛	2	1	13/16	$4.95	**$2.97**
TQ 6040	4	2¾	2	1	13/16	6.85	**4.11**
		1000 Volts D.C. Working					
TQ 10010	1	1⅞	2	1	13/16	4.20	**2.52**
TQ 10020	2	2½	2	1	13/16	5.70	**3.42**
TQ 10040	4	3⅞	2	1	13/16	7.25	**4.35**
		1500 Volts D.C. Working					
TQ 15010	1	2⅜	2	1	13/16	5.30	**3.18**
TQ 15020	2	3⅝	2	1	13/16	7.25	**4.35**
		2000 Volts D.C. Working					
TQ 20010	1	3⅛	2	1	13/16	6.85	**4.11**
TQ 20020	2	4⅞	2	1	13/16	7.60	**4.56**
TQ 20040	4	4⅜	3	1¼	1¼	10.75	**6.45**
		3000 Volts D.C. Working					
TQ 30010	1	3¼	3	1¼	1¼	13.75	**8.25**
TQ 30020	2	5¼	3	1¼	1¼	16.75	**10.05**



TYPE TLA

ONE-HOLE MOUNTING CAPACITORS

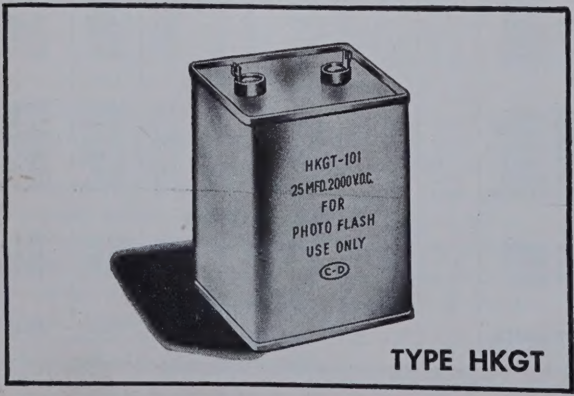
Type TLA capacitors are thoroughly impregnated and filled with Dykanol "G" (chlorinated diphenyl), a non-inflammable, fireproof, non-oxidizable liquid compound which provides a high factor of safety and exceptionally long life.


LENGTH
1½"
16 THD.
10-32 THD.
¾"
1½"
1"
11/16"
1½"
3/32" HOLE
5/32" x 5/64"
7/32"
¼"
½"
15/16"
GROUND LUG - # SK-2213-2
EMBOSSED INSULATING WASHER - # SK-2212-2
PLAIN INSULATING WASHER - # SK-2211-2

TYPE TLA

Cat. No.	Cap. Mfd.	D.C. W. Volts	Size—Inches Lgth. x Diam.	List Price	Net Price
TLA 6020	2	600	2⅞ x 1½	$4.15	**$2.49**
TLA 6040	4	600	4½ x 1½	5.70	**3.42**
TLA 10010	1	1000	2⅞ x 1½	3.80	**2.28**
TLA 10020	2	1000	4½ x 1½	4.95	**2.97**
TLA 15005	.5	1500	2⅞ x 1½	4.55	**2.73**
TLA 15010	1	1500	4½ x 1½	4.95	**2.97**
TLAD 6020	2	600	2⅞ x 1½	$4.90	**$2.94**
TLAD 6040	4	600	4½ x 1½	6.45	**3.87**
TLAD 10010	1	1000	2⅞ x 1½	4.55	**2.73**
TLAD 10020	2	1000	4½ x 1½	5.70	**3.42**
TLAD 15005	.5	1500	2⅞ x 1½	5.30	**3.18**
TLAD 15010	1	1500	4½ x 1½	5.70	**3.42**

Type TLAD units are insulated from can with two terminals.


HKGT-101
25 MFD. 2000 V.D.C.
FOR
PHOTO FLASH
USE ONLY
C-D

TYPE HKGT

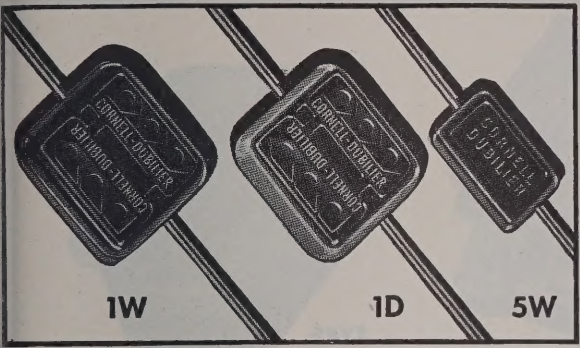
PHOTO-FLASH ENERGY STORAGE CAPACITORS

Cat. No.	Cap. Mfd.	Watt Sec.	Size—Inches L. x W. x H.	Apprx. Wt. Lbs.	List Price	Net Price
			2000 V. D.C. Peak			
HKGT 1A00	15	30	3¾ x 2¼ x 4¾	2¼	$17.00	**$10.20**
HKGT 1A01	25	50	3¾ x 4 9/16 x 4¾	4¼	19.00	**11.40**
			2250 V. D.C. Peak			
HKGT 115	28	71	3¾ x 4 9/16 x 4¾	4¼	31.00	**18.60**
			2500 V. D.C. Peak			
HKGT 1A02	15	50	3¾ x 2½ x 6⅝	3¼	17.00	**10.20**
HKGT 103	25	80	3¾ x 4 9/16 x 6⅝	5¾	23.00	**13.80**
HKGT 104	32	100	3¾ x 4 9/16 x 6⅝	6	37.00	**22.20**
			4000 V. D.C. Peak			
T112-1	12	96	3¾ x 4 9/16 x 5⅛	5¼	26.00	**15.60**

NOTE: Special units can also be furnished in other ratings or round can construction on special order upon request.

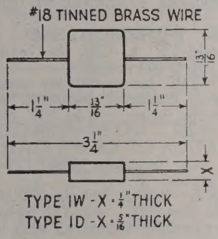
CORNELL DUBILIER

MOULDED MICA RECEIVING CAPACITORS



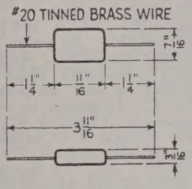
MOULDED BAKELITE UNITS

Types 1W, 1D, and 5W are suitable for numerous electronic uses and are specially adapted to serve many important functions in low-voltage radio receiving circuits. They are individually tested for accuracy of capacity and voltage breakdown and designed to give dependable service where small size units are required.



TYPE IW - X - 1/4" THICK
TYPE ID - X - 5/16" THICK

TYPE 1W & 1D



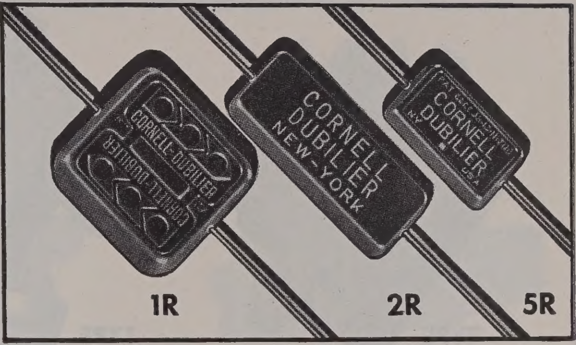
TYPE 5W

Cap. Mfd.	1000 V. D.C. Test—500 V. D.C. Work. Type 5W Cat. No.	Type 1W Cat. No.	Type 1D Cat. No.	List Price	Net Price
.000005	**5W 5V5**			$0.25	**$0.15**
.00001	**5W 5Q1**			.25	**.15**
.00002	**5W 5Q2**			.25	**.15**
.000025	**5W 5Q25**			.25	**.15**
.00003	**5W 5Q3**			.25	**.15**
.00004	**5W 5Q4**			.20	**.12**
.00005	**5W 5Q5**			.20	**.12**
.00007	**5W 5Q7**			.20	**.12**
.0001	**5W 5T1**			.20	**.12**
.00015	**5W 5T15**			.20	**.12**
.0002	**5W 5T2**			.20	**.12**
.00025	**5W 5T25**			.25	**.15**
.0003	**5W 5T3**			.25	**.15**
.0004	**5W 5T4**			.25	**.15**
.0005	**5W 5T5**			.25	**.15**
.0006		**1W 5T6**		.25	**.15**
.0007		**1W 5T7**		.25	**.15**
.0008		**1W 5T8**		.25	**.15**
.0009		**1W 5T9**		.25	**.15**
.001		**1W 5D1**		.30	**.18**
.0015		**1W 5D15**		.30	**.18**
.002		**1W 5D2**		.40	**.24**
.0025		**1W 5D25**		.45	**.27**
.003		**1W 5D3**		.50	**.30**
.004			**1D 5D4**	.55	**.33**
.005			**1D 5D5**	.60	**.36**
.006			**1D 5D6**	.75	**.45**
			600 V. D.C. Test 300 V. D.C. Working		
.007			**1D 3D7**	.90	**.54**
.008			**1D 3D8**	1.00	**.60**
.009			**1D 3D9**	1.00	**.60**
.01			**1D 3S1**	1.20	**.72**

Notes On Ordering Special Units

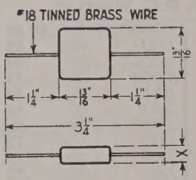
The listing above gives the range of capacities available from stock. Intermediate capacities, not exceeding the maximum as listed for each type, can also be furnished upon request.

Standard capacity tolerance is plus or minus 20%. Also available, on order, in plus or minus 10%, 5%, 3% and 2% tolerance ratings (or within 1 mmfd.—whichever is greater). For capacity tolerance of: 10% add 10% to list prices; 5% add 20% to list prices; 3% add 40% to list prices; 2% add 75% to list prices.



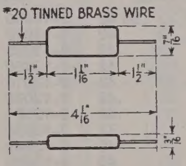
HIGH-STABILITY "SILVER-MIKE" UNITS

Types 1R, 1DR, 2R and 5R "Silver-Mike" silvered mica capacitors are designed for use in high Q electronic circuits where frequency stability and minimum loss must be maintained. They are ideally suited for use in circuits where the LC product must be maintained constant, and particularly adapted for use in tuning IF transformers, push-button tuning circuits and other similar applications. Standard units are moulded in low-loss red bakelite.

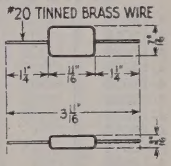


TYPE IR - X - 1/4" THICK
TYPE IDR - X - 5/16" THICK

TYPE 1R and 1DR



TYPE 2R



TYPE 5R

Cap. Mfd.	1000 V. D.C. Test—500 V. D.C. Work. Type 5R Cat. No.	Type 2R Cat. No.	Type 1R & 1DR Cat. No.	List Price	Net Price
.000005	**5R 5V5**			$0.45	**$0.27**
.00001	**5R 5Q1**			.40	**.24**
.00002	**5R 5Q2**			.40	**.24**
.000025	**5R 5Q25**			.40	**.24**
.00003	**5R 5Q3**			.40	**.24**
.00004	**5R 5Q4**			.40	**.24**
.00005	**5R 5Q5**			.40	**.24**
.00007	**5R 5Q7**			.40	**.24**
.0001	**5R 5T1**	**2R 5T1**		.40	**.24**
.00015	**5R 5T15**	**2R 5T15**		.45	**.27**
.0002	**5R 5T2**	**2R 5T2**		.45	**.27**
.00025	**5R 5T25**	**2R 5T25**		.45	**.27**
.0003	**5R 5T3**	**2R 5T3**		.55	**.33**
.0004	**5R 5T4**	**2R 5T4**		.65	**.39**
.0005	**5R 5T5**	**2R 5T5**		.70	**.42**
.0007		**2R 5T7**		.85	**.51**
.0008		**2R 5T8**		.95	**.57**
.0009		**2R 5T9**		1.00	**.60**
.001		**2R 5D1**	**1R 5D1**	1.10	**.66**
.0015			**1R 5D15**	1.35	**.81**
.002			**1R 5D2**	1.35	**.81**
.0025			**1R 5D25**	1.80	**1.08**
.003			**1R 5D3**	2.05	**1.23**
.004			**1DR 5D4**	2.15	**1.29**
.005			**1DR 5D5**	2.25	**1.35**

Notes On Ordering Special Units

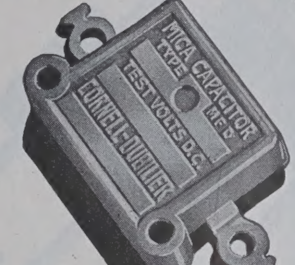
The listing above gives range of capacities which are available from stock. Intermediate capacities, not exceeding the maximum as listed for each type, can also be furnished upon request.

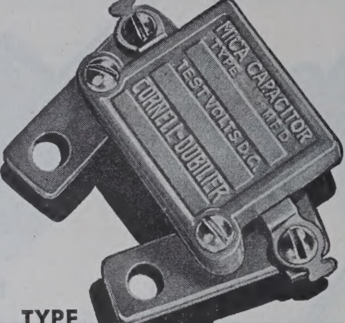
Standard capacity tolerance is 5%. Also available, on special order, in tolerance ratings of plus or minus 3%, add 10% to list prices, 2% add 15% to list prices and 1% add 25% to list prices, (or within 1 mmfd.—whichever is greater). All types can also be supplied in plus or minus 10% and 20% tolerances at lower prices.

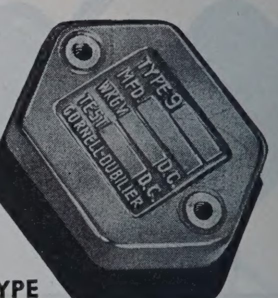
Net

CORNELL DUBILIER

MOULDED MICA TRANSMITTING CAPACITORS


TYPE 4


TYPE 4E


TYPE 9

MOULDED BAKELITE MICA CAPACITORS

C-D Mica Capacitors Types 4 and 9 are designed to meet the requirements of power amplifiers and low-power transmitters. They are principally employed for grid and plate blocking purposes and for r. f. by-pass functions.

TYPE 4

Cat. No.		Cap. Mfd.	List Price	Net Price
1200 V. D.C. Test— 600 V. D.C. Working				
4-14050	*	.00005	$0.70	**$0.42**
4-13010		.0001	.70	**.42**
4-13020		.0002	.70	**.42**
4-13025		.00025	.70	**.42**
4-13030		.0003	.70	**.42**
4-13040		.0004	.70	**.42**
4-13050		.0005	.70	**.42**
4-12010		.001	.70	**.42**
4-12015		.0015	.70	**.42**
4-12020		.002	.80	**.48**
4-12025		.0025	.90	**.54**
4-12030		.003	1.00	**.60**
4-12040		.004	1.00	**.60**
4-12050		.005	1.00	**.60**
4-12060		.006	1.20	**.72**
4-12070		.007	1.30	**.78**
4-12080		.008	1.40	**.84**
4-11010		.01	1.60	**.96**
4-11015	†	.015	1.80	**1.08**
4-11020		.02	2.20	**1.32**
4-11025		.025	2.65	**1.59**
4-11030		.03	2.95	**1.77**
2500 V. D.C. Test— 1200 V. D.C. Working				
4-24050	*	.00005	$1.00	**$0.60**
4-23010		.0001	1.00	**.60**
4-23020		.0002	1.00	**.60**
4-23025		.00025	1.00	**.60**
4-23030		.0003	1.00	**.60**
4-23050		.0005	1.00	**.60**
4-22010		.001	1.25	**.75**
4-22015		.0015	1.60	**.96**
4-22020		.002	1.90	**1.14**
4-22025		.0025	2.00	**1.20**
4-22030		.003	2.10	**1.26**
4-22040	†	.004	2.10	**1.26**
4-22050		.005	2.40	**1.44**
4-22060		.006	2.40	**1.44**
4-22080		.008	3.10	**1.86**
4-21010		.01	3.90	**2.34**
5000 V. D.C. Test— 2500 V. D.C. Working				
4-54050	*	.00005	$1.25	**$0.75**
4-53010		.0001	1.25	**.75**
4-53020		.0002	1.40	**.84**
4-53025		.00025	1.50	**.90**
4-53030		.0003	1.55	**.93**
4-53050		.0005	1.70	**1.02**
4-52010		.001	2.05	**1.23**
4-52015		.0015	2.70	**1.62**
4-52020	†	.002	3.10	**1.86**
4-52025		.0025	3.45	**2.07**
4-52030		.003	3.80	**2.28**
4-52040		.004	4.35	**2.61**
4-52050		.005	4.70	**2.82**

TYPE 9

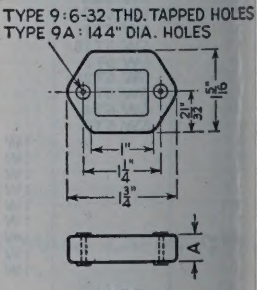
Cat. No.		Cap. Mfd.	List Price	Net Price
1200 V. D.C. Test— 600 V. D.C. Working				
9-14050	*	.00005	$0.85	**$0.51**
9-13010		.0001	.85	**.51**
9-13025		.00025	.85	**.51**
9-13050		.0005	.85	**.51**
9-12010		.001	.85	**.51**
9-12020		.002	.90	**.54**
9-12025		.0025	1.00	**.60**
9-12030		.003	1.20	**.72**
9-12040		.004	1.20	**.72**
9-12050		.005	1.20	**.72**
9-12060		.006	1.40	**.84**
9-12080		.008	1.65	**.99**
9-11010		.01	1.95	**1.17**
9-11015		.015	2.25	**1.35**
9-11020		.02	2.60	**1.56**
9-11025		.025	3.20	**1.92**
9-11030		.03	3.45	**2.07**
9-11040	†	.04	4.50	**2.70**
9-11050		.05	5.35	**3.21**
9-11060		.06	6.20	**3.72**
2500 V. D.C. Test— 1200 V. D.C. Working				
9-24050	*	.00005	$1.00	**$0.60**
9-23010		.0001	1.00	**.60**
9-23025		.00025	1.00	**.60**
9-23050		.0005	1.00	**.60**
9-22010		.001	1.25	**.75**
9-22020		.002	1.90	**1.14**
9-22025		.0025	2.00	**1.20**
9-22030		.003	2.20	**1.32**
9-22040		.004	2.20	**1.32**
9-22050		.005	2.40	**1.44**
9-22060		.006	2.40	**1.44**
9-22080		.008	3.10	**1.86**
9-21010		.01	3.90	**2.34**
9-21015	†	.015	4.65	**2.79**
9-21020		.02	5.45	**3.27**
9-21025		.025	6.10	**3.66**
9-21030		.03	6.40	**3.84**
5000 V. D.C. Test— 2500 V. D.C. Working				
9-54050	*	.00005	$1.25	**$0.75**
9-53010		.0001	1.25	**.75**
9-53025		.00025	1.50	**.90**
9-53050		.0005	1.70	**1.02**
9-52010		.001	2.05	**1.23**
9-52020		.002	3.10	**1.86**
9-52025		.0025	3.45	**2.07**
9-52030		.003	3.80	**2.28**
9-52040		.004	4.35	**2.61**
9-52050	†	.005	4.70	**2.82**
9-52060		.006	4.85	**2.91**
9-52080		.008	5.30	**3.18**
9-51010		.01	5.70	**3.42**
9-51015		.015	6.20	**3.72**

***** Dimension "A" in diagram—15/32"

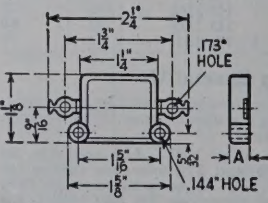
† Dimension "A" in Diagram—3/4"

Notes on Ordering Special Capacitors

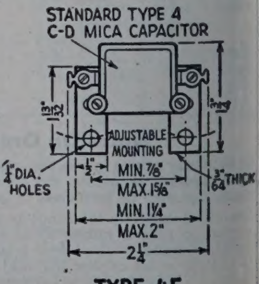
Type No. Suffix	
	STANDARD TOLERANCE is plus or minus 10%. Also available on order in plus or minus 5% and 2%. For capacity tolerance of: 5% add 15c to list prices; 2% add 40c to list prices.
"L"	MOULDED IN LOW-LOSS BAKELITE available on order. Add "L" to Cat. No. (example: 4L-22060; 9L-11010). Add 25c to list prices.
"S"	SPECIAL SALT WATER IMMERSION SEAL AGAINST HUMIDITY. To order, add "S" to Cat. No. (example: 4S-53010; 9S-12050). Add 10c to list prices.
"T"	HEAT AGEING TREATMENT for stabilizing capacity over extremely wide temperature changes, minus 40° C. to plus 70° C., furnished on special order. Add "T" to Cat. No. (example: 4T-12010; 9T-21020). Add 15c to list prices
"LST"	TO ORDER A COMBINATION OF ABOVE FEATURES, add letters specified to Cat. No. (example: 4LST-12040; 9LST-13020). Add 50c to list prices.
	INSULATION RESISTANCE—Brown Bakelite, 20,000 megohms per unit—Low-Loss Bakelite. 40,000 megohms per unit. Low-Loss Bakelite provides higher Q and lowers the power factor.
"4E"	SMALL METER BRACKETS adapted for Weston Model 301 meters, add "E" to Cat. No. (example: 4E-22050). Add 20c to list prices.
"9A"	UNTAPPED MOUNTING HOLES. Standard units are tapped for 6-32 and furnished with round head screws. For untapped mounting hole, .144" diameter (No. 6 clearance), add "A" to Cat. No. (example: 9A-11030).
"9F"	HIGHER VOLTAGE CONSTRUCTION, rated 6,000 v.d.c. test, 3,000 v.d.c.—1500 v.a.c. operating. Capacity range limited. Moulded in low-loss Bakelite, BM 262. The thickness of these units, or "A" dimension, is 7/16" for capacities up to .002 mfd. and 3/4" for capacities from .0022 to .005 mfd. max. To order, add "F" to Cat. No. (example: 9F-63050, the numeral "6" designating 6,000 volts test). Prices of "9F" units are double the list prices shown.
"9R"	HIGH STABILITY UNITS—Special high stability units, comprising low-loss Bakelite, BM 262, temperature aged and sealed construction for use as low power master oscillator tank capacitors or accessory positions. These units are fixed and permanent in characteristics, having a capacity-temperature coefficient of approximately plus .003% (30 parts per million) per degree C. To order, add "R" to Cat. No. (example: 9R-52020). Prices of 9R units are double the list prices shown.



TYPE 9

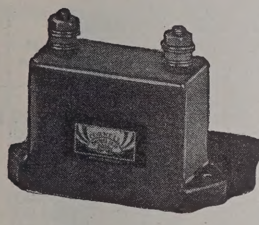


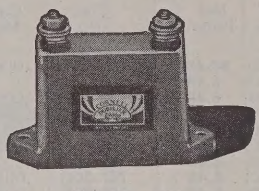
TYPE 4

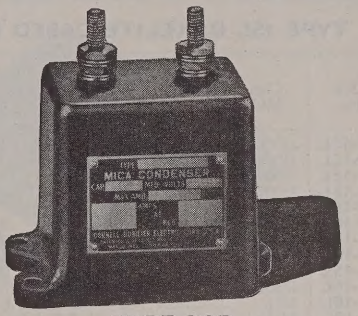


TYPE 4E

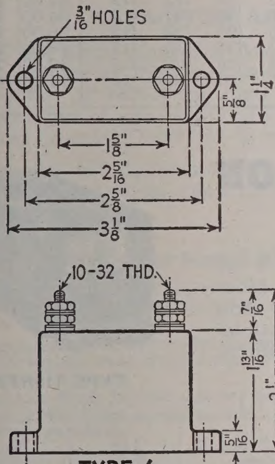
BAKELITE CASED MICA TRANSMITTING CAPACITORS


TYPE 6

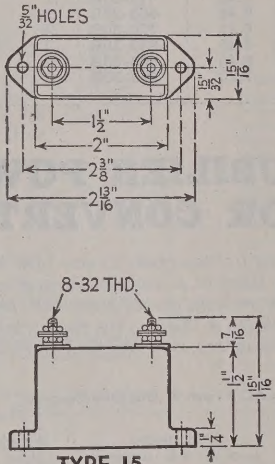

TYPE 15L


TYPE 30B

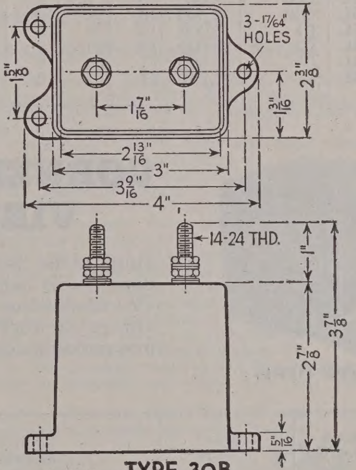
BAKELITE CASED MICA CAPACITORS



TYPE 6



TYPE 15



TYPE 30B

Types 6, 15L and 30B Mica Capacitors in moulded bakelite cases are designed for a wide variety of radio frequency applications where size and weight are at a premium, such as in aircraft, portable equipment, low-power transmitters and the earlier stages of high-power transmitters. They are specially suited for use as grid, plate, coupling, tank and by-pass functions. These units are among the smallest types employing the patented series-stack construction permitting their use on higher r.f. voltages.

Notes on Ordering Special Capacitors

Type 15L units are available only in low-loss Bakelite (BM-262 or equivalent) cases. Types 6 and 30B may be had in either standard (brown) or low-loss (yellow) Bakelite cases. When ordering low-loss units, add "L" to Çat. No. (example: 217-6L; 604-30BL). Add $1.00 to list price for Type 6. Add $1.50 to list price for Type 30B.
STANDARD CAPACITY TOLERANCES—Plus or minus 5%. Tolerance of 2% can be furnished on special order. Add $1.50 to list price for Types 6 and 15L. Add $2.00 to list price for Type 30B.
OPERATING AMBIENT TEMPERATURE—Up to 60° C. maximum.
SALT WATER IMMERSION SEAL—To order, add "S" to Cat. No. (example: 246-6S; 726-15LS; 113-30BS). Add to list: $.30 for Types 6 and 15L. Add to list: $.50 for Type 30B.
"H" Type—These units have been developed for use where excellent retrace and low temperature coefficient are required. Over a range of −40° C. to +70° C. the capacity temperature coefficient is approximately +.003% per degree C. A limited range of capacity and voltage ratings is available. Made only in low-loss Bakelite and sealed for immersion test. To order, add "H" to Cat. No. (example: 6H, 15H, 30BH). Add to list: $4.00 for Type 6. Add to list: $2.00 for Type 15L. Add to list: $5.00 for Type 30B.
TYPE 6K—This unit is a still further refinement being a compensated unit which can be made with a positive, zero or negative coefficient within the limits of +.003% to −.005% per degree C. over a temperature range of from −40° C. to +70° C. Type 6K is available in a limited range of low capacities and voltage ratings. "K" Type includes low-loss Bakelite and immersion seal. When ordering Type 6K, temperature coefficient must be specified. (Type 6 only) Add to list Price: for plus or minus 5%—$12.00; for plus or minus 3%—$13.00; for plus or minus 2%—$14.00; for plus or minus 1%—$18.00.

TYPE 6 BAKELITE CASED MICA UNITS

Cat. No.	Cap. Mfd.	Test. Volt. Effective	Max. Oper. Cur. in Amps. 3000 kc.	1000 kc.	300 kc.	100 kc.	List Price	Net Price
390-6	.00005	5,000	1.5	.8	.2	.07	$14.40	**$8.64**
362-6	.0000625	5,000	1.8	.8	.2	.07	14.40	**8.64**
321-6	.0001	5,000	2	1	.3	.1	14.40	**8.64**
395-6	.00015	5,000	3	1.5	.5	.16	14.40	**8.64**
307-6	.0002	5,000	3.5	1.7	.7	.18	14.40	**8.64**
364-6	.00025	5,000	5	2.5	1	.3	14.40	**8.64**
294A-6	.0003	5,000	3.5	2	.8	.4	14.40	**8.64**
283-6	.0004	5,000	4	2.5	1	.5	14.40	**8.64**
272-6	.0005	5,000	4	2	1.4	.8	14.40	**8.64**
266-6	.0006	5,000	5	3	1.6	.8	14.40	**8.64**
654-6	.00075	5,000	5	3.5	2	1	14.40	**8.64**
599-6	.0008	5,000	6	4	2	1	14.40	**8.64**
246-6	.001	5,000	7	4	2	1	14.40	**8.64**
234-6	.0015	5,000	9	5	3	1.5	14.40	**8.64**
215-6	.002	3,000	6	3	1.5	.8	14.40	**8.64**
217-6	.002	6,000	9	6	4	2	14.40	**8.64**
473-6	.0025	5,000	9	6	4	2	14.40	**8.64**
197-6	.003	3,000	8	6	4	2	14.40	**8.64**
184-6	.004	3,000	8	6	5	2	14.40	**8.64**
173-6	.005	2,000	8	5	3	1.5	14.40	**8.64**
474-6	.005	3,000	9	6.5	4	2	14.40	**8.64**
565-6	.0075	2,000	10	8	5	3	14.40	**8.64**
476-6	.008	2,000	11	9	7	3	14.40	**8.64**
162-6	.008	3,000	10	8	5	3	14.40	**8.64**
151-6	.01	2,000	10	8	5	3.5	14.40	**8.64**
140-6	.015	1,500	12	10	7	4	13.00	**7.80**
784-6	.015	2,000	12	12	8	4	14.40	**8.64**
131-6	.02	2,000	12	11	10	7	16.00	**9.60**
479-6	.03	2,000	14	20	15	7	16.00	**9.60**
480-6	.04	1,500	12	13	11	6	14.40	**8.64**
118-6	.05	1,500	13	15	12	7	14.50	**8.70**
111-6	.1	500	17	20	15	8	16.50	**9.90**
406-6	.1	1,000	18	20	15	8	14.40	**8.64**
110-6	.1—.1	250	20	20	15	10	14.40	**8.64**
105-6	.2	250	18	20	16	12	22.00	**13.20**
885-6	.25	250	18	20	16	12	24.00	**14.40**

(Types 15L and 30B listed on next Page)

CORNELL DUBILIER

BAKELITE CASED MICA TRANSMITTING CAPACITORS

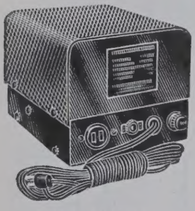
(Continued from preceding page)

TYPE 15L BAKELITE CASED MICA UNITS

Cat. No.	Cap. Mfd.	Test. Volt. Effective	Max.Oper. Cur. in Amps. 3000 kc.	1000 kc.	300 kc.	100 kc.	List Price	Net Price
639-15L	.00005	3,000	1.2	.6	.15	.05	$10.80	**$6.48**
583-15L	.0001	3,000	2.2	.8	.3	.1	10.80	**6.48**
657-15L	.00015	3,000	2.3	1	.45	.15	10.80	**6.48**
582-15L	.0002	3,000	3	1.2	.6	.2	10.80	**6.48**
805-15L	.00025	3,000	3	2.5	1	.4	10.80	**6.48**
640-15L	.0003	3,000	3.5	2	.8	.4	10.80	**6.48**
641-15L	.0004	3,000	4	2	.9	.45	10.80	**6.48**
642-15L	.0005	3,000	4	2	1	.55	10.80	**6.48**
643-15L	.0006	3,000	4.5	2	1.2	.6	10.80	**6.48**
727-15L	.0008	3,000	4.5	2.5	1.5	.7	10.80	**6.48**
581-15L	.001	3,000	5	3	1.6	.8	10.80	**6.48**
679-15L	.0015	3,000	6	3.5	2	1	10.80	**6.48**
726-15L	.002	3,000	6.5	4	2.5	1.5	10.80	**6.48**
645-15L	.003	2,000	7.5	5	3	1.5	10.80	**6.48**
699-15L	.004	2,000	8	6	3.5	1.6	10.80	**6.48**
725-15L	.005	2,000	8.5	6.5	4	2	10.80	**6.48**
580-15L	.006	2,000	9	7.5	4.5	2.2	10.80	**6.48**
724-15L	.008	1,500	10	8	5	2.3	10.80	**6.48**
677-15L	.01	1,000	10	8	5	2.5	10.80	**6.48**
723-15L	.02	1,000	11	10	7	3	11.50	**6.90**
722-15L	.05	500	11	10	8	5	10.80	**6.48**
721-15L	.1	250	11	12	10	6	12.00	**7.20**

TYPE 30B BAKELITE CASED MICA UNITS

Cat. No.	Cap. Mfd.	Test. Volt. Effective	Max.Oper. Cur. in Amps. 3000 kc.	1000 kc.	300 kc.	100 kc.	List Price	Net Price
533-30B	.0001	4,000	(20 Amps. at 60 mc.)		(3 Amps. at 4 mc.)		$30.00	**$18.00**
958-30B	.00025	8,000	7	4.5	1.5	.5	30.00	**18.00**
959-30B	.0005	8,000	8.5	6	3	1	30.00	**18.00**
960-30B	.001	8,000	10	8.5	4.5	1.5	34.00	**20.40**
961-30B	.002	8,000	11	11	7.5	2.5	34.00	**20.40**
759-30B	.003	8,000	12	14	10	5	36.00	**21.60**
757-30B	.004	8,000	12	14	10	6	38.00	**22.80**
758-30B	.005	8,000	13	15	11	6	42.00	**25.20**
756-30B	.006	6,000	15	15	11	6	42.00	**25.20**
962-30B	.01	5,000	16	20	15	8	45.00	**27.00**
915-30B	.01	8,000	16	20	15	8	48.00	**28.80**
963-30B	.02	5,000	18	20	17	10	48.00	**28.80**
741-30B	.03	4,000	20	20	18	12	48.00	**28.80**
771-30B	.05	2,000	18	25	22	12	54.00	**32.40**
964-30B	.05	4,000	18	25	22	12	54.00	**32.40**
113-30B	.1	2,000	18	25	22	12	42.00	**25.20**
603-30B	.2	600	18	25	22	12	34.00	**20.40**
750-30B	.25	600	18	25	22	12	38.00	**22.80**
933-30B	.3	600	18	25	22	12	38.00	**22.80**
604-30B	.5	600	18	25	22	12	46.00	**27.60**
898-30B	1.0	600	18	25	22	12	72.00	**43.20**



TYPE 110R10

CORNELL-DUBILIER POWERCON VIBRATOR CONVERTERS

Think of the new sales opportunities open to you now that you have the dependable name of C-D in back of a complete line of converters. More TV installations! More work on farm power supplies! Marine work! And always you work with confidence in the quality, dependability and trouble-free performance of these converters, because they're typical C-D products.

TYPE 110RT25

110 Volts AC From A Battery Source

Model & Accessories	Input Voltage	Output Ratings	Dimensions L. x W. x D. (Inches)	Weight Lbs.	C-D Type Vibrator	List Price	Net Price
6R5 +	6V DC	110V AC 60-cycle 50-watt 80–100 P.F.	6¾ x 7¾ x 5⅞	12	3103 H-D Single	$41.95	**$25.17**
6R10 **	6V DC	110V AC 60-cycle 100-watt 80–100 P.F.	7 x 12⅝ x 7½	19	4123 H-D Tandem	59.50	**35.70**
12R8 +	12V DC	110V AC 60-cycle 80-watt 80–100 P.F.	6¾ x 7¾ x 5⅞	12	3087 H-D Single	41.95	**25.17**
12RU15 **	12V DC	110V AC 60-cycle 150-watt 60–100 P.F.	7 x 12⅝ x 7½	22	3047 H-D Tandem	78.95	**47.37**
32R8 +	32V DC	110V AC 60-cycle 80-watt 80–100 P.F.	6¼ x 7⅝ x 5⅞	13¼	2989 H-D Single	48.50	**29.10**
32RU15 ** †	32V DC	110V AC 60-cycle 150-watt 60–100 P.F.	6⅜ x 12⅜ x 7½	22¼	2989 H-D Single	73.50	**44.10**

110 Volts AC From A 110-Volt DC Line

Model & Accessories	Input Voltage	Output Ratings	Dimensions L. x W. x D. (Inches)	Weight Lbs.	C-D Type Vibrator	List Price	Net Price
110PA5	110V DC	110V AC 60-cycle 50 VA 50–100 P.F.	3¾ x 6¼ x 2¾	2	2522 Auto-type	14.95	**8.97**
110PB5	110V DC	110V AC 60-cycle 50 VA 50–100 P.F.	3¾ x 6¼ x 2¾	2	2522 Auto-type	16.95	**10.17**
110R10	110V DC	110V AC 60-cycle 100-watt 80–100 P.F.	6⅜ x 7¾ x 5¼	10½	1315 H-D Single	39.95	**23.97**
110R15 †	110V DC	110V AC 60-cycle 150-watt 80–100 P.F.	6¼ x 12¼ x 7½	15	1315 H-D Single	66.95	**40.17**
110RA15	110V DC	110V AC 60-cycle 150-watt 80–100 P.F.	6¾ x 7¾ x 5⅞	13½	1315 H-D Single	48.75	**29.25**
110RT25 X *	110V DC	110V AC 60-cycle 250-watt 80–100 P.F.	6½ x 12⅜ x 8½	22½	3077V H-D Single	69.95	**41.97**
110RT35 †	110V DC	110V AC 60-cycle 350-watt 80–100 P.F.	7½ x 14 x 8⅝	40½	3079 H-D Tandem	119.50	**71.70**

Battery Eliminators Using 110-Volt AC Power

Model & Accessories	Input Voltage	Output Ratings	Dimensions L. x W. x D. (Inches)	Weight Lbs.	C-D Type Vibrator	List Price	Net Price
110BA6	110V AC	6V DC 10 Amp. 60-W	7⅝ x 12¼ x 8½	16	None	54.95	**32.97**
110BA12	110V AC	12V DC 10 Amp. 120-W 6V DC 20 Amp. 120-W	7⅝ x 13 x 8½	24½	None	85.50	**51.30**

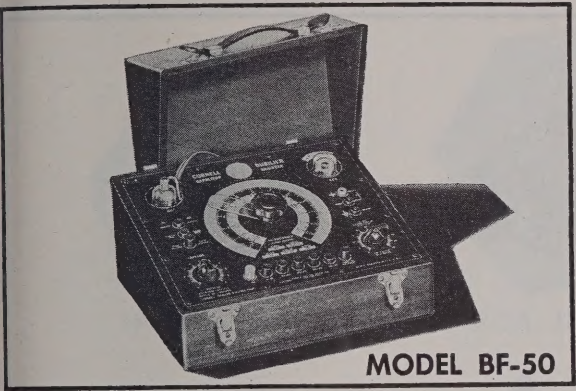
Accessories For Converters

*** 3155**	Separate Auto-switching Unit	Install within Model 110RT25	14.50	**8.70**
+ 3164	Mobile Mounting Brackets	Use with 6R5, 12R8, 32R8	1.95	**1.17**
**** 3165**	Mobile Mounting Brackets	Use with 6R10, 12RU15, 32RU15	1.95	**1.17**

† Denotes automatic switching unit built into converter.
X Denotes converter supplied with adjustable frequency vibrator for television.
NOTE: On Model 110RT25, Type 1315 Standard Vibrator may be used in place of 3077-V Adjustable Vibrator where exact 60 cycles is not required.

CORNELL DUBILIER

CAPACITOR TEST INSTRUMENTS


MODEL BF-50

CAPACITOR ANALYZER

The Model BF-50 Capacitor Analyzer quickly and accurately measures all important characteristics of all types of capacitors. It offers the most accurate and thorough capacitor test of any instrument of its type, and may be operated on any 110-volt, 50-60 cycle power line.

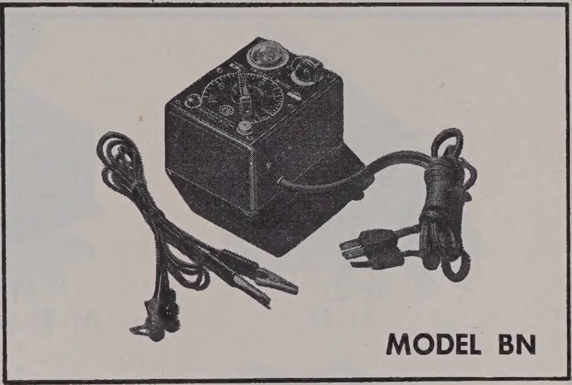
The analyzer will determine the true condition of all paper, mica and electrolytic capacitors, including A.C. motor starting types.

Features of Model BF-50 Analyzer

1. Measures Capacity—Accurately measures capacity of paper, mica, air, electrolytic and motor-starting capacitors from .00001 to 240 mfd.
2. Measures Power Factor—Measurements of power factor from zero to 50 percent on all types of electrolytic capacitors including motor-starting types.
3. Employs Wien Bridge—Assures permanent accuracy of capacity and power factor measurements. Readings not affected by line voltage variations.
4. Indicates Insulation Resistance—Insulation resistance measurements of paper and mica capacitors up to 1500 megohms. Also measures many types of insulation.
5. Indicates Leakage—Measurements of leakage of electrolytic capacitors by means of built-in direct current power supply.
6. Visual Eye Leakage Indicator—Provides simplified and reliable leakage tests on all types of capacitors. Enables measurements to be made rapidly.
7. Detects Defective Capacitors—Character measurements, such as leaky, shorted, open, high and low capacity, and high power factor on all capacitors.
8. High Sensitivity on All Measurements—Amplifier for capacity, power factor and leakage tests provides sharp and accurate readings. Amplifier built-in Analyzer.
9. Balance Sensitivity Control—Provides sharp or broad balances for quick and accurate readings. All readings are made simply and directly.
10. Direct Reading Linear Scale Calibration—Provides simplified measurements. All scales on panel uniformly spaced, easy to read, thus avoiding possible errors in using multipliers or charts.
11. Push-Button Switching—For convenient and simplified adjustments, all tests and circuit changes are made by means of modern push-button switches.
12. Visual Eye Bridge Balance—Visual detector gives positive indication of bridge balance for convenient, simplified and accurate capacity and power factor measurements.
13. Six Color-Coded Scales—Accurately calibrated, six color-coded scales. Uniformly spaced over total spacing of sixty inches. Easy to read. No "blind" spots.
14. General Purpose Instrument—May be used to check continuity capacity between circuits, insulation of transformer windings and other types of coils, etc.
15. Self-Contained—Portable—An instrument complete in itself, requiring no external standard, headphones, meters or accessories. A portable unit, for 110 volt, 50-60 cycle operation, supplied in walnut cabinet, removable cover, with carrying handle. Size, 6½ x 12 x 9¾ inches. Weight, 9 pounds.

MODEL BF-50 CAPACITOR ANALYZER
Net Price complete with tubes........................ **$42.65**

Replacement Tubes for Use in Model BF-50:
6E5—List Price $1.80—Net Price $1 08
12A7—List Price $2.65—Net Price $1.59


MODEL BN

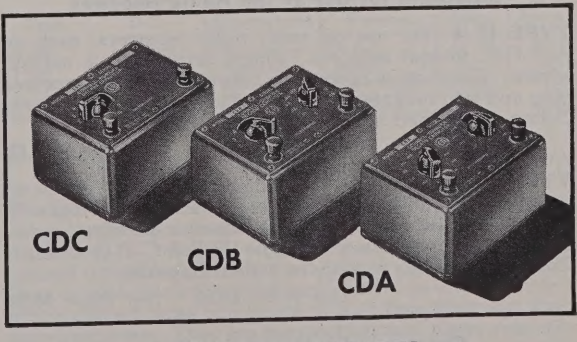
CAPACITOR BRIDGE

Features of Model BN Capacitor Bridge

1. Measures Capacity—Accurately measures capacity of paper mica electrolytic and air capacitors from .00001 mfd. to 50 mfds.
2. Indicates Power Factor—Power factor of electrolytic capacitor indicated by means of visual eye detector tube.
3. Detects Defective Capacitors—Detects open and short circuits, high and low capacity, and high power factor.
4. Checks Circuit Continuity—May be used as continuity meter. A handy instrument for checking circuits, coils, transformers and many other uses. For operation on 110 volts, 60 cycles.
5. Employs Wien Bridge—Employs Wien Bridge circuit for all measurements. Accuracy independent of line voltage variations.
6. Visual Eye Bridge Balance—Dual type visual bridge balance for accurate measurements facilitates quick tests on service jobs.
7. Direct Reading Scale—Direct reading ranges with all scale markings directly in microfarads. Clear reading dial scale. All capacity calibrations marked on panel. No charts or multipliers required.
8. Self-Contained—The Capacitor Bridge is complete in itself and requires no headphones, standards, external meters, etc.
9. Extremely Compact—The unusually small size of this bridge makes it particularly handy for portable use—3⅝" x 5" x 3" weight 2 pounds.
10. Attractive—Supplied in attractive walnut Bakelite case complete with detachable test leads and useful instruction booklet.

MODEL BN CAPACITOR BRIDGE
Net Price complete with tubes...................... **$20.35**

Replacement tubes for use in Model BN Bridge:
6AF6G—List Price $2.20—Net Price $1.32
12A7—List Price $2.65—Net Price $1.59



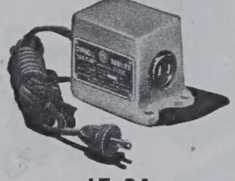
CAPACITOR DECADES

C-D Capacitor Decades provide accurate standards over a wide range of capacity. May be used in groups of the three decades, shown above, or used individually for maximum flexibility. Each decade is furnished with calibration chart giving exact capacity values for all scale markings, extending use to more precise measurements.

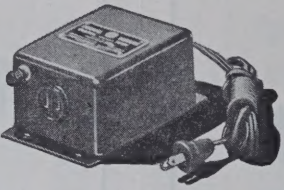
Rated Voltage—600 D.C.—220 A.C.

Model	Capacity	+ or — Tol.	Dielectric	Net Price
CDA-5	.011 mfd. in .0001 mfd. steps	5%	Mica	**$8.50**
CDB-5	1.1 mfd. in .01 mfd. steps	5%	Oil-Paper	**8.50**
CDB-3	1.1 mfd. in .01 mfd. steps	3%	Oil-Paper	**12.00**
CDC-5	10.0 mfd. in 1.0 mfd. steps	5%	Oil-Paper	**17.50**
CDC-3	10.0 mfd. in 1.0 mfd. steps	3%	Oil-Paper	**19.50**

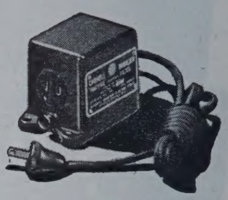
QUIETONE INTERFERENCE FILTERS



IF-21

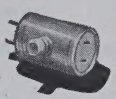


IF-18



IF-19

IF-4 & IF-5



IF-6

IF-22

IF-20

RADIO AND APPLIANCE QUIETONES

Most satisfactory results are obtained when Quietones are installed at the source of the interference. A Quietone installed in connection with an offending appliance corrects the noise caused by that appliance.

Where source of interference cannot be located a Quietone connected in the electric supply line of the radio receiver will alleviate, if not fully correct, the condition. When a Quietone is installed, interference will be greatly reduced. Remaining interference usually enters receiver through the antenna system.

Quietones for Use at the Radio Receiver

TYPE IF-4—For use on small radio receivers, such as A.C.-D.C. midget sets, etc., where noise level is not too severe. Connects in power line between the radio receiver plug and wall receptacle. Rating: 110 V.A.C.-D.C. 5 amps. Colors—Furnished in ivory, walnut, or green finish.
List Price $1.10 Net Price **$0.66**

TYPE IF-18—For use in connection with all radio receivers where noise level is severe. Furnished in Bakelite case (see colors). Employs highly effective all-wave capacitive-inductive type filter. Ratings: 110 V.A.C.-D.C. 5 amps. Colors—Furnished in ivory or walnut Bakelite.
List Price $8.35 Net Price **$5.01**

Quietones for Use at Appliances

TYPE IF-5—For small electrical appliances such as food mixers, hair dryers, etc., where radio interference is of low intensity. Plug type filter. Convenient to install. Rating 110 V.A.C.-D.C. 5 amps. Colors—Furnished in ivory, walnut or green finish. List Price $1.10 Net Price **$0.66**

TYPE IF-6—For all types of home electrical appliances where interference is of moderately low intensity. Installed between appliance and power supply line with short return lead which reduces radiation. Rating: 110 V.A.C.-D.C. 5 amps. Colors—Furnished in ivory, walnut or green finish.
List Price $1.75 Net Price **$1.05**

TYPE IF-18—An efficient all-wave capacitive-inductive sectional band type filter for use in connection with all types of electrical appliances where interference conditions are severe. Provided with frame connection for reduction of radiation. Furnished in Bakelite case (see colors). Rating: 110 V.A.C.-D.C. 5 amps. Colors—Bakelite case, walnut finished.
List Price $8.35 Net Price **$5.01**

TYPE IF-19—Capacitive-inductive type filter for use where interference is severe. Frame connection provided. Furnished in Bakelite case. Rating: 110 V.A.C.-D.C. 5 amps. Colors—Bakelite case. Ivory or walnut finish.
List Price $7.00 Net Price **$4.20**

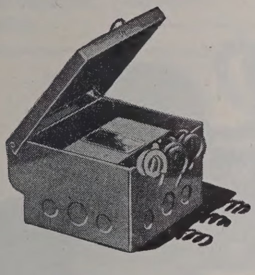
TYPE IF-20—For use on small electrical appliances where interference is very low. Simply connected to cord plug of appliance and plugged into wall receptacle. Rating: 110 V.A.C.-D.C. 5 amps. Colors—Bakelite case. Ivory or walnut finish.
List Price $0.75 Net Price **$0.45**

TYPE IF-21—All-wave capacitive-inductive type filter for use on appliances where return lead to the frame of appliance cannot be made, such as shaver, barber clippers, etc. Furnished in Bakelite case. Rating: 110 V.A.C.-D.C. 1.6 amps. Colors—Bakelite case. Ivory or walnut finish.
List Price $4.00 Net Price **$2.40**

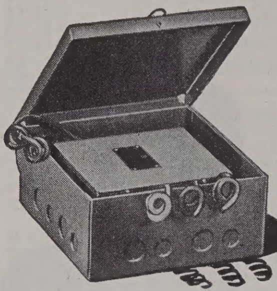
TYPE IF-22—For use in connection with electric shavers of all standard types. Line cord and plug provided with Schick and Packard type adapters which fit practically all type shavers. (Specify type desired when ordering.) Type IF-22A for Schick, Knapp Monarch, and similar type shavers. Type IF-22B for Packard, Zephyr, Remington-Rand and Ronson type shavers. Rating: 110 V.A.C. 5 amps. Colors—Bakelite case. Ivory or black finish.
List Price $2.75 Net Price **$1.65**

CORNELL DUBILIER

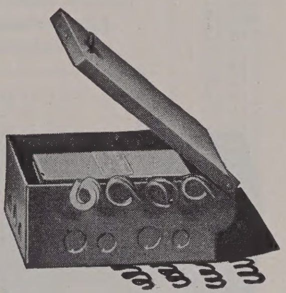
QUIETONE INTERFERENCE FILTERS



IF-11 & IF-12



IF-7A, IF-15 & IF-16

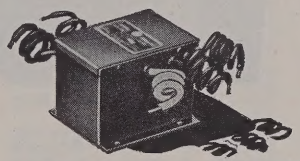


IF-14

IF-24

IF-25 & IF-26

IF-54



IF-27, IF-28 & IF-29

INDUSTRIAL QUIETONES

Although atmospheric disturbances in many instances cause radio noises, this condition is not the principal source of annoying noises. With the average radio receiver, noise is generally caused by the operation of electrical appliances or apparatus which create high frequency oscillations known as "man-made static". Many types of equipment cause minute sparks as a result of a change in electrical conditions within the device, which are essential to its operation. In effect these appliances act as miniature radio transmitters, setting up a disturbance which may affect radio receivers at a considerable distance.

It is highly desirable to correct noise conditions at the source as one filter properly installed at this point may eliminate the noise in a number of radio receivers. Where it is impossible to locate the equipment which is causing the interference a Quietone installed at the receiver will correct the noise in that receiver.

The Quietones listed below will correct radio noise conditions caused by motors, generators, elevators, stokers and many other types of industrial electrical apparatus. They are designed for convenient mounting, and contain highest quality capacitors, with lowest possible impedance internal connections. There are no current limitations for (CP) Capacitive Quietones.

Fluorescent Light Quietones

Among the Quietone Interference Filters especially suited to correct noise conditions caused at fluorescent lights, as well as other electrical appliances, are types IF-6, IF-24 and IF-54, the former being a very convenient plug-in arrangement that fits the receptacles of floor and table lamps.

Type IF-24 Quietone is a dual capacitive type filter for use on fluorescent light and other electrical equipment where noise conditions are not too severe. It is contained in a round metal casing ⅞″ diameter by 2″ long and provided with insulated wire leads 8″ long.

Oil Burner Ignition Quietones

For heavy duty filtering service on oil burners and other equipment such as stokers, motors, refrigerators, etc., Quietone type IF-7A is recommended for efficient results. This unit is mounted close to the equipment causing the interference with wiring in BX or conduit.

Type IF-54 Quietone is a capacitive-inductive filter which provides extremely high attennation over a wide range of frequencies. This unit is housed in a drawn metal container 2″ x 2″ x 1⅛″ high, and provided with insulated wire leads 6″ long. It is rated at 2 amps. 110-220 V.A.C. or D.C.

Fluorescent Light Quietones

Type	Volts A.C.—D.C.	Connections	Housing	List Price	Net Price
IF-6	110	Plug-in	Metal	$1.75	**$1.05**
IF-24	110	Flex-Leads	Metal	1.10	**.66**
IF-54	110–220	Flex-Leads	Metal	2.25	**1.35**

Capacitive (CP) Quietones

Type	Volts A.C.—D.C.	Connections	Housing	List Price	Net Price
IF-25	110–220	Flex-Leads	Metal	$4.50	**$2.70**
IF-26	110–220	Flex-Leads	Metal	6.00	**3.60**
IF-11	110	BX	Cutout Box	12.00	**7.20**
IF-12	220	BX	Cutout Box	16.50	**9.90**
IF-14**	110–220	BX	Cutout Box	22.50	**13.50**

** All Quietones listed above with exception of IF-14 are for single phase circuits. IF-14 is for 2 or 3 phase circuits. The Quietones listed below are for the more severe radio noise conditions caused by motors, generators, elevators, diathermy, oil burners, etc. They are designed for convenient mounting and quick connection to these machines. They consist of low-loss coils and highest quality capacitors which correct noise conditions in both broadcast and short wave receivers. They are the most efficient filters available for heavy duty application. All capacitive-inductive (CI) Quietones are for single phase circuits.

Capacitive-Inductive (CI) Quietones

Type	Volts A.C.—D.C.	Max. Amps.	Connections	Housing	List Price	Net Price
IF-7A*	110–220	5	BX	Cutout Box	$12.50	**$7.50**
IF-15	110–220	10	BX	Cutout Box	25.00	**15.00**
IF-16	110–220	20	BX	Cutout Box	35.00	**21.00**
IF-27	110	5	Flex-Leads	Steel Box	7.00	**4.20**
IF-28	110	10	Flex-Leads	Steel Box	12.50	**7.50**
IF-29	110	20	Flex-Leads	Steel Box	22.00	**13.20**

* For use on oil burners.

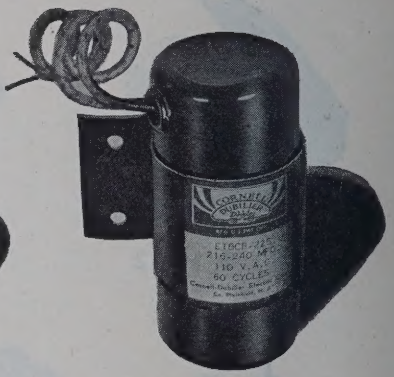
A. C. MOTOR STARTING CAPACITORS

CORNELL DUBILIER
HI-MIKE A.C.
DRY ELECTROLYTIC
CAPACITOR
JDS-100
100 MFD.
110 V.A.C.
60 CYCLES

TYPE JDS

CORNELL DUBILIER
HI-MIKE A.C.
DRY ELECTROLYTIC
CAPACITOR

TYPE ETB



TYPE ETBCB

A.C. MOTOR STARTING REPLACEMENT CAPACITORS

Types ETB and JDS Electrolytic Motor-Starting Capacitors are universal replacement units for use in standard makes of oil-burners, refrigerators and other motor driven equipment. The list of units below simplifies the selection of the capacitor required when the capacity, voltage rating, and size are known.

In many cases where a round can-type unit is to be replaced a smaller size capacitor of the same capacity and voltage rating may be selected as a replacement. The smaller size unit may be wrapped tightly with ordinary corrugated paper and fitted into the capacitor housing on the motor. While only the most widely used range of capacities are listed below, Type ETB 110 V.A.C. capacitors can be supplied in intermediate capacities from 10 mfds. to 480 mfds.

Write for complete A.C. Motor Starting Replacement Capacitors, Catalog No. 163.

TYPE JDS—110 VOLTS A.C. 50-60 CYCLES

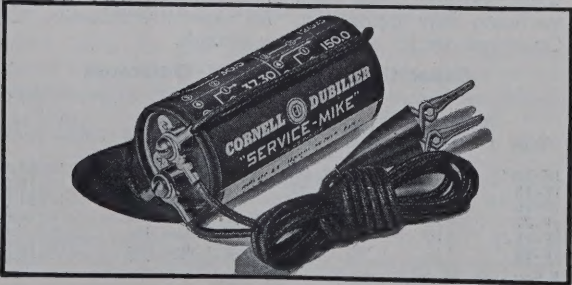
Cat. No.	Cap. Mfd.	Dimensions—Ins. L. x W. x T.	List Price	Net Price
JDS70	70	3½ x 3½ x 2	$3.20	**$1.92**
JDS80	80	3½ x 3½ x 2	3.20	**1.92**
JDS90	90	3½ x 3½ x 2	3.20	**1.92**
JDS100	100	3½ x 3½ x 2	3.34	**2.00**
JDS115	115	3½ x 3½ x 2	3.79	**2.27**
JDS130	130	3½ x 3½ x 2	3.79	**2.27**

Type ETB and JDS units are furnished with tightly fitted insulating tube or paper box casings with screw terminals. Type ETB units are available with black lacquered steel end caps, designated as Type ETBC, or with both end caps and black lacquered steel mounting bracket designated as Type ETBCB (see illustration above). Units must be designated accordingly upon ordering. (See note below.)

TYPE ETB—110 VOLTS A.C. 50-60 CYCLES

Cat. No.	Cap. Mfd. Min.–Max.	Dimensions—Ins. Dia. x Lgth.	List Price	Net Price
ETB-20	20–24	1⅜ x 2⅜	$1.70	**$1.02**
ETB-35	32–36	1⅜ x 2⅜	1.82	**1.09**
ETB-40	38–46	1⅜ x 2⅜	1.82	**1.09**
ETB-45	43–48	1⅜ x 2⅜	1.82	**1.09**
ETB-55	53–60	1⅜ x 2⅜	1.89	**1.13**
ETB-70	64–72	1⅜ x 2⅝	1.89	**1.13**
ETB-80	75–84	1⅜ x 3⅛	2.02	**1.21**
ETB-90	86–96	1⅜ x 3⅛	2.08	**1.25**
ETB-100	97–107	1⅜ x 3⅛	2.14	**1.28**
ETB-110	107–129	1⅜ x 3⅛	2.14	**1.28**
ETB-115	108–120	1⅜ x 3⅛	2.14	**1.28**
ETB-130	124–138	1⅜ x 3⅛	2.27	**1.36**
ETB-145	130–157	1⅜ x 4⅛	2.52	**1.51**
ETB-155	145–162	1⅜ x 4⅛	2.78	**1.67**
ETB-175	161–180	1⅜ x 4⅛	3.03	**1.82**
ETB-200	189–210	1½ x 4⅛	3.59	**2.15**
ETB-215	190–240	1⅜ x 3⅛	4.11	**2.47**
ETB-225	216–240	1¾ x 4⅛	4.11	**2.47**
ETB-340	324–360	2 x 4⅛	6.06	**3.64**
ETB-400	378–420	2 x 4⅛	6.83	**4.10**
ETB-450	432–480	2½ x 4⅛	7.59	**4.55**

NOTE—For units with metal end caps, Type ETBC, add 60c to list price. For units with metal end caps and mounting bracket, Type ETBCB, add $1.00 to list price.



SENIOR AND JUNIOR "SERVICE MIKES"

These capacitors are designed for emergency replacements of A. C. motor starting electrolytic capacitors from 18.75 to 300 mfds. They enable the motor repair man to determine correct capacity required for a given motor and eliminate necessity of carrying stock of assorted sizes.

Each capacitor provides a range of twelve separate capacities by means o changing external connections at four terminals, two at each end. Both units are for 110-120 V.A.C. 60 cycle duty.

JUNIOR "SERVICE MIKE", 18.75 to 150 mfds., size 1$\frac{13}{16}$" dia. x 3⅞" long. Complete with leads, clips and jumpers. Net Price **$4.65**

SENIOR "SERVICE MIKE", 37.5 to 300 mfds., size 2⅛" dia. x 4½" long. Complete with leads, clips and jumpers. Net Price **$5.50**

MALLORY CAPACITORS · LIST PRICES

★ Complete descriptions of these parts will be found on the following pages.

Mallory Page 3

Metal Tubular Dry Electrolytic Capacitors Single Section

Mallory Cat. No.	List Price
TC22	$0.75
TC26	.85
TC29	1.00
TC30	.75
TC32	.80
TC36	.90
TC39	1.05
TC40	.75
TC41	.80
TC42	.85
TC43	.85
TC44	.90
TC45	.95
TC47	1.00
TC48	1.10
TC49	1.20
TC50X	.80
TC51	.80
TC52	.95
TC53	1.00
TC54	1.10
TC55	1.20
TC58	1.40
TC60	.85
TC61	.90
TC62	1.00
TC63	1.05
TC64	1.20
TC65	1.30
TC70	.90
TC71	.95
TC72	1.05
TC73	1.15
TC74	1.30
TC75	1.50
TC77	1.65
TC78	2.00
TC82	2.70
TC92	2.95
TC308	3.00
TC310	1.80
TC420	3.50
TC605	1.70
TC610	2.25
TC1505	2.10
TC2501	1.20
TC2505	2.25

Metal Tubular Dry Electrolytic Capacitors • Dual Section

Mallory Cat. No.	List Price
TCD26	$1.10
TCD45	1.30
TCD47	1.50
TCD48	1.70
TCD485	1.50
TCD49	1.85
TCD497	1.70
TCD52	1.50
TCD55	1.80
TCD62	1.60
TCD65	2.10
TCD71	1.70
TCD72	1.85
TCD74	2.20
TCD75	2.40
TCS44	1.95
TCS45	2.00
TCS47	2.30
TCS48	2.50
TCS52	2.20
TCS55	2.70
TCS61	2.10
TCS64	2.70
TCS71	2.20
TCS74	3.00
TCS75	3.30

Mallory Page 4

FP Dry Electrolytic Capacitors

Mallory Cat. No.	List Price
WP032	$4.50
WP039	3.25
WP041	4.70
WP055	1.45
WP057	2.45
WP059	3.55
WP065	3.55
FP113	1.25
FP115	1.45
FP116	1.95
FP117	2.85
FP125	1.40
FP135	1.70
FP137	2.05
FP138	3.15
FP140	3.55
FP142	1.30
FP143	1.55
FP144	1.75
FP145	1.95
FP146	2.25
FP149	3.90
WP200	4.90
WP204	4.25
FP208	1.55
FP210	1.75
FP211	1.75
FP212	1.95
FP213	1.95
FP214	2.10
FP215	3.55
FP216	2.25
FP217	2.05
FP218	4.20
FP225	2.10
FP227	2.35
FP228	2.65
FP231	2.10
FP234	2.65
FP235	4.10
FP236	3.15
FP237	3.25
FP238	4.00
FP239	4.05
FP240	4.50
FP244	3.95
FP245	4.25
WP302	2.70
FP303	3.40
FP304	3.00
FP306	2.30
FP307	3.00
FP309	3.00
FP310	2.40
FP311	2.55
FP312	2.70
FP313	2.45
FP316	2.45
FP318	4.70
FP326	4.30
FP328	2.30
FP330	2.80
FP331	2.85
FP332	2.35
FP339	2.95
FP341	4.10
FP342	4.00
FP343	4.00
FP344	3.75
FP345	4.35
FP346	4.15
FP354	2.20
FP355	2.40
FP357	2.60
FP360	2.25
FP363	3.00
FP367	2.40
FP369	2.45
FP371	2.85
FP380	3.00
FP389	2.50
FP390	2.85
FP393	4.30
FP395	4.30
FP407	3.25
FP409	3.10
FP410	$3.40
FP413	4.50
FP414	4.55
FP416	3.95
FP421	4.60
FP424	3.40
FP426	3.40
FP428	4.50
FP429	4.20
FP431	4.15
FP432	4.45
FP433	4.50
FP434	3.25
FP444	4.50
WP505	2.10
WP510	2.90
WP520	2.10
WP540	4.50
FP550	4.10

Mallory Page 5

Threaded Neck Dry Electrolytic Capacitors

Mallory Cat. No.	List Price
RS207	$2.25
RS212	1.75
RS213	1.75
RS214	2.15
RS215	2.15
RS216	2.40
RS217	2.40
RS219	2.65
RS223	3.00
RS224	3.40
HD684	2.10
HS693	4.00
RM262	2.75
RM265	4.25
SR638	2.75
SR645	2.75

Cardboard Tubular Dry Electrolytic Capacitors

Mallory Cat. No.	List Price
ST595	$1.15
ST597	1.55
ST598	1.70
ST599	1.85
TN111	1.05
2N509	1.30
2N513	1.50
2N514	1.50
2N511	1.70
2N520	1.70
2N521	2.05
2N516	1.45
2N518	1.90
2S556	2.50
2S567	2.30
2S569	3.20
3N527	1.90
3N533	1.95
TN125	1.85
TN129	2.30
3S579	2.65
3S584	2.75
4S715	3.15

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High Capacity Dry Electrolytic Capacitors and Non-Polarized Dry Electrolytic Capacitors

Mallory Cat. No.	List Price
HC1020	$4.90
HC1040	7.25
HC1060	9.25
HC1060A	7.50
HC1520	5.80
HC1540	8.10
HC1560	10.00
HC2510	4.85
HC2520	7.20
HC2540	9.85
HC5005	4.80
HC5010	7.00
HC5020	9.10
HC15010	10.50
HC20005	9.25
NP0340	8.50
NP0555	6.00
NP1225	5.00
NP1235	6.00
NP1245	7.00
NP1255	8.00
NP2514	6.50
NP2520	8.00
NP2525	10.00
NP3003	3.00
NP3006	3.75
NP3008	4.50
NP3014	7.00
NP3020	9.00
NP3025	11.25
NP4503	5.50
NP4505	7.50
NP4510	10.50

Bath Tub Dry Electrolytic Capacitors

Mallory Cat. No.	List Price
BS26	$2.70
BS29	2.80
BS36	2.75
BS39	3.00
BS45	2.95
BS48	3.20
BS62	3.10
BS65	3.45
BS81	4.85
BS91	5.50

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AC Motor Starting Capacitors • Dry Electrolytic

Mallory Cat. No.	List Price
MSG220	$3.05
MSG221	3.05
MSG222	3.20
MSG223	3.20
MSF224	3.20
MSG225	3.35
MSG226	3.35
MSF227	3.35
MSG228	3.80
MSF229	3.80
MSG230	4.30
MSG231	4.55
MSF232	4.55
MSF233	5.20
MSG234	6.85
MSG250	4.55
MSG251	5.30
MSF252	5.30
MSG253	6.85
MSU120	$1.70
MSU121	1.70
MSU122	1.85
MSU123	1.85
MSU124	1.85
P5310	1.90
P6410	1.90
P7010	2.00
P7510	2.00
P8610	2.10
P9710	2.15
P10810	2.15
P12410	2.25
P13010	2.40
P14510	2.80
P16110	3.05
MSU136	3.65
P19410	3.65
MSU138	4.00
P21610	4.10
P24310	4.55
P27010	5.30
P32410	6.05
P34010	6.40
P37810	6.85
P40010	7.25
P43010	7.90
P2520	3.35
P3220	3.80
P3820	4.30
P4320	4.55
P5320	5.20
P6420	5.95
P7020	6.25
P7520	6.60
P8620	7.35

Capacitor Selector

Mallory Cat. No.	List Price
MSS100	$5.50 net
MSS101	15.00 net

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Continuous Duty • Oil Impregnated AC Capacitors

Mallory Cat. No.	List Price
RP3301	$4.20
RP3302	5.20
RP3303	5.55
RP3304	6.20
RP3305	6.80
RP3306	7.50
RP3307	7.90
RP3308	8.35
RP3310	9.55
RP3312	10.90
RP3315	13.80

Tubular Paper Capacitors

Mallory Cat. No.	List Price
TP400	$0.23
TP401	.23
TP402	.23
TP403	.23
TP404	.23
TP405	.23
TP406	.23
TP407	.23
TP408	$0.23
TP409	.23
TP410	.27
TP411	.27
TP412	.27
TP413	.32
TP414	.32
TP415	.36
TP416	.36
TP417	.45
TP418	.41
TP419	.50
TP420	.50
TP421	.23
TP422	.81
TP423	.23
TP424	.27
TP425	.27
TP426	.27
TP427	.32
TP428	.32
TP429	.36
TP430	.41
TP431	.54
TP432	.72
TP433	1.13
TP434	.45
TP435	.45
TP437	.54
TP439	.68
TP442	.50
TP444	.45
TP445	.27
TP450	.27
TP451	.32
TP452	.41
TP453	.59
TP454	.68
TP455	.45
TP456	.45
TP457	.45
TP458	.45
TP459	.45
TP460	.45
TP461	.45
TP462	.45
TP463	.45
TP464	.45
TP465	.54
TP466	.54
TP467	.63

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Metal Cased Oil Impregnated Paper Capacitors

Mallory Cat. No.	List Price
OW340	$0.55
OW341	.55
OW331	.55
OW342	.55
OW343	.55
OW332	.55
OW344	.55
OW345	.55
OW346	.60
OW333	.60
OW334	.60
OW335	.60
OW336	.60
OW337	.60
OW338	.70
OW339	.70
OW611	1.20
OW612	1.25
OW613	1.25
OW621	1.10
OW622	1.10
OW623	1.15
OW625	1.15
OW6275	1.20
OW635	1.10
OWD335	.90

MALLORY CAPACITORS • LIST PRICES

★ Complete descriptions of these parts will be found on the following pages.

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Oil Impregnated Tubular Paper Capacitors

Mallory Cat. No.	List Price
OT101	$0.95
OT103	1.05
OT106	1.10
OT110	1.25
OT113	1.70
OT116	2.20
OT301	1.10
OT303	1.20
OT306	1.30
OT310	1.50
OT370	1.20
OT371	1.20
OT372	1.20
OT373	1.20
OT375	1.25
OT376	1.30
OT377	1.20
OT378	1.30
OT379	1.30
OT380	1.40
OT458	1.25
OT459	1.25
OT460	1.25
OT461	1.25
OT462	1.30
OT463	1.30
OT464	1.35
OT465	1.40
OT466	1.40
OT467	1.45

Vibrator Buffer Capacitor

Mallory Cat. No.	List Price
VB470	$1.10
VB471	1.15
VD491	.65
VO480	.65

Miniature Metal Tubular Capacitors

Mallory Cat. No.	List Price
MT105	$0.90
MT107	.90
MT115	.90
MT125	.90
MT127	.95
MT135	.95
MT145	1.00
MT605	.95
MT607	.95
MT615	.95
MT625	.95

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Automotive Noise Suppression Capacitors

Mallory Cat. No.	List Price
AG442	$0.80
AG443	1.00
AG444	.60
AG450	1.50
AG451	.65
AG452	.90
AG453	1.50
AS125	1.20
AS145	1.40
AS165	1.50
AS185	1.75
AS525	1.35
AS545	1.60
AS565	2.00
AM454	.65
FM441	.85
FM442	.65

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Mallory Cat. No.	List Price
DL445	$2.25
RF480	.80
RF481	.90
RF482	1.15
CA275X	3.00

Steel Cased Oil Filled Capacitors

Mallory Cat. No.	List Price
CB403	$2.25
CB404	2.40
CB405	2.85
CB406	3.60
CB602	2.65
CB603	2.80
CB604	3.00
CB605	3.40
CB1002	2.85
CB1003	2.95
CB1004	3.20
CBD403	3.25
CBD404	3.75
CBD602	3.35
CBT403	4.00
CBT404	4.75
CBT602	3.80

Uncased Wax Capacitor

Mallory Cat. No.	List Price
UB351	$1.00
UB352	1.50
UB353	2.60
UB354	1.15
UB355	1.80
UB356	3.00
UB357	1.05
UB358	1.40
UB359	2.10
UB364	3.90
UB362	2.30
UB363	3.80

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Ceramic Capacitors

Mallory Cat. No.	List Price
UC521	$0.25
UC522	.25
UC523	.25
UC525	.30
UC531	.25
UC532	.25
UC533	.25
UC535	.25
UC541	.25
UC545	.25
UC5215	.25
UC5225	.25
UC5315	.25
UC5325	.25
UC5375	.25
UC5415	.25
UC5425	.25
UC5475	.25
ZT531	.55
ZT541	.50
ZT542	.50
ZT545	.55
ZT553	.50
ZT555	.50
ZT5425	.50
ZT5433	.50
ZT5475	.55
NT531	.50
NT541	.50
NT555	.50
NT5447	.50
NT5475	.50

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Disk Ceramic Capacitors

Mallory Cat. No.	List Price
DC511	$0.30
DC525	.25

High Voltage Ceramic Capacitors

Mallory Cat. No.	List Price
HV15035	$2.25

Ceramic Trimmer Capacitors

Mallory Cat. No.	List Price
ST553Z	$1.50
ST5515Z	1.50
ST554N	1.50
ST557N	1.50
DT553Z	2.50
DT5515Z	2.50
DT554N	2.50
DT557N	2.50

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Radio Frequency Choke Coils

Mallory Cat. No.	List Price
RF581	$0.60
RF582	.60
RF583	1.25

Motor Brush Noise Filters (Type W)

Mallory Cat. No.	List Price
W7	$1.35
W9	1.75
W11	2.10
W7SP	1.80
W9SP	2.20

Appliance Noise Filters (Type X)

Mallory Cat. No.	List Price
X1	$1.60
X3	1.80
X5	2.70
X6	1.60
X6D	9.60

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Appliance Noise Filters (Type Z)

Mallory Cat. No.	List Price
Z2	$2.20
Z4	2.50
Z6	3.60
Z8	3.60

Heavy-Duty Appliance Noise Filters (Type LC)

Mallory Cat. No.	List Price
LC5	$11.25
LC10	15.00

Fluorescent Lighting Noise Filter

Mallory Cat. No.	List Price
Z8A	$3.00

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Heavy-Duty Appliance Noise Filters (Type LB)

Mallory Cat. No.	List Price
LB10	$17.50
LB20	47.50
LB40	58.75

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Mica Receiver Capacitors

Mallory Cat. No.	List Price
MC205	$0.25
MC215	.25
MC220	.25
MC223	.20
MC225	.20
MC230	.20
MC235	.20
MC236	.20
MC237	.20
MC240	.25
MC241	.25
MC243	.25
MC245	.25
MC251	.25
MC255	.30
MC256	.30
MCB205	.45
MCB215	.40
MCB220	.40
MCB223	.40
MCB225	.40
MCB230	.40
MCB235	.40
MCB236	.45
MCB237	.45
MCB240	.45
MCB241	.55
MCB243	.65
MCB245	.70
MCB251	.95
MCB255	1.10
MCE215	.50
MCE220	.50
MCE223	.50
MCE225	.50
MCE230	.50
MCE235	.50
MCE236	.55
MCE237	.55
MCE240	.55
MCE241	.70
MCE243	.80
MCE245	.85
MCE251	1.10
MCE255	1.35
MC445	.30
MC451	.30
MC456	.40
MC457	.40
MC460	.45
MC461	.50
MC463	.55
MC465	.60
MC467	.75
MC469	.90
MC471	1.00
MC475	1.20
MCB445	.70
MCB451	.95
MCB455	1.10
MCB456	1.35
MCB457	1.35
MCB460	1.80
MCB461	2.05
MCB463	2.15
MCB465	2.25
MCB467	2.60
MCB469	2.90
MCB471	3.20
MCB475	3.50
MCE445	.85
MCE451	1.15
MCE455	1.35

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Mallory Cat. No.	List Price
MCE456	$1.65
MCE457	1.65
MCE460	2.20
MCE461	2.45
MCE463	2.60
MCE465	2.70
MCE467	3.15
MCE469	3.50
MCE471	3.85
MCE475	4.20

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Mica Transmitting Capacitors (Type MH)

Mallory Cat. No.	List Price
MH535	$0.70
MH635	1.00
MH735	1.25
MH545	.70
MH645	1.00
MH745	1.70
MH555	.70
MH655	1.25
MH755	2.05
MH557	.80
MH657	1.90
MH757	3.10
MH565	1.00
MH665	2.40
MH765	4.70
MH575	1.60
MH675	3.90
MH577	2.20

Mica Transmitting Capacitors (Type MX)

Mallory Cat. No.	List Price
MX855	$8.00
MX857	11.00
MX865	14.50
MX875	15.25
MX877	16.00
MX885	18.50
MX895	18.50

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Transmitting Capacitors (Type TX)

Mallory Cat. No.	List Price
TX801	$5.20
TX802	6.50
TX803	8.50
TX804	5.70
TX805	7.60
TX806	9.60
TX807	6.85
TX808	9.50
TX809	12.75
TX810	8.40
TX811	9.95
TX812	12.25
TX813	20.00
TX814	18.75
TX815	23.25
TX816	10.50
TX817	14.00
TX818	39.00
TX819	50.00
TX820	62.00
TX821	77.00
TX822	4.55
TX823	13.75
TX824	12.75
TX825	15.50
TX827	43.00
TX828	62.00
TX829	15.75
TX830	23.00
TX831	6.50
TX832	6.90
TX833	18.00

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Mallory Cat. No.	List Price
TX834	$28.50
TX835	12.75
TX836	14.00
TX837	15.50
TX838	34.00
TX839	34.00

Transmitting Capacitors (Type TZ)

Mallory Cat. No.	List Price
TZ382	$4.65
TZ383	6.20
TZ384	4.30
TZ385	5.45
TZ386	5.05
TZ387	5.45
TZ388	7.25
TZ389	7.25
TZ390	6.85
TZ391	7.60

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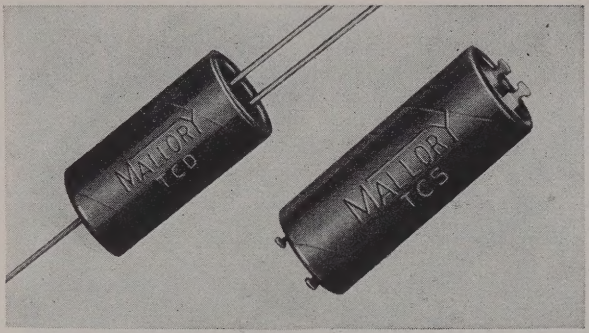
Capacitor Tools & Hardware

Mallory Cat. No.	List Price
115-1	$0.20
116-1	.20
118-1	.20
119-1	.20
121-1	.35
122-1	.35
123-1	.35
124-1	.35
MP-2	.05
MP-4	.05
MP-6	.05
BP-2	.05
BP-4	.05
BP-4A	.05
BP-6	.05
PS-4	.70
PS-6	.90
PSC-4	.10
MW-100	1.75
015-1	.05
015-2	.05
MS-1	.05
A-016	.10
A-017	.10
PL-3	.20
PL-6	.25
PL-8	.30
PLA-3	.20
PLA-6	.25
PLA-8	.30
HB-4	.30
HB-8	.35
TH-13	.05
TH-15	.05
TH-17	.05
TH-19	.05
TH-21	.05
TH-23	.05
TH-25	.10
VR-1	.15
VR-3	.15
VR-4	.20
VR-6	.25
VR-8	.30
VR-10	.35
104-1	.20
OE-1	.05
OE-3	.05
OE-4	.10
OE-5	.10
OE-6	.10
CE-1	.10
CE-3	.10
CE-4	.10
CE-5	.10
CE-6	.10



etal Tubular Dry Electrolytic Capacitors
ingle Section

PLICATION—For under-chassis mounting in filter and audio ypass circuits where long life and small size is desirable.

SCRIPTION—Single section dry electrolytic type encased in ermetically sealed aluminum tube with external insulating sleeve. or extreme dependability at high voltage, types TC82 and TC92 mploy the special Mallory balanced series unit construction.

RMINALS—One 3″ bare solid tinned copper lead at each end. ositive lead marked (+) on insulating sleeve.

UNTING—Designed for mounting by its own leads or with pplicable hardware listed on page 17.

CKAGING—25, 50, or 100 capacitors per display carton. Furished in individual display cartons on orders for less than 25 or hen specified.

allory at. No.	Cap. Mfd.	DC Wkg. Volts	Maximum Surge Voltage	Size Dia. Length
TC310	1000	3	4	¹⁵⁄₁₆ x 1¾
TC605	500	6	10	¹³⁄₁₆ x 1¾
TC610	1000	6	10	¹⁵⁄₁₆ x 2
TC1505	500	15	20	¹⁵⁄₁₆ x 2
TC22	10	25	40	⁹⁄₁₆ x 1¼
TC26	25	25	40	⁹⁄₁₆ x 1¼
TC29	50	25	40	¹¹⁄₁₆ x 1½
TC2501	100	25	40	¹³⁄₁₆ x 1¾
TC2505	500	25	40	1¹⁄₁₆ x 2⅞
TC30	5	50	75	⁹⁄₁₆ x 1¼
TC32	10	50	75	⁹⁄₁₆ x 1¼
TC36	25	50	75	¹¹⁄₁₆ x 1¼
TC39	50	50	75	¹³⁄₁₆ x 1¼
TC40	5	150	200	⁹⁄₁₆ x 1¼
TC41	8	150	200	¹¹⁄₁₆ x 1¼
TC42	10	150	200	¹¹⁄₁₆ x 1¼
TC43	12	150	200	¹¹⁄₁₆ x 1½
TC44	16	150	200	¹¹⁄₁₆ x 1½
TC45	20	150	200	¹³⁄₁₆ x 1½
TC47	30	150	200	¹³⁄₁₆ x 1½
TC48	40	150	200	¹⁵⁄₁₆ x 1¾
TC49	50	150	200	¹⁵⁄₁₆ x 1¾
TC50X	5	250	325	¹¹⁄₁₆ x 1¼
TC51	8	250	325	¹¹⁄₁₆ x 1¾
TC52	10	250	325	¹¹⁄₁₆ x 1¾
TC53	12	250	325	¹³⁄₁₆ x 1¾
TC54	16	250	325	¹³⁄₁₆ x 1¾
TC55	20	250	325	¹³⁄₁₆ x 1¾
TC58	40	250	325	1¹⁄₁₆ x 1¾
TC60	5	350	425	¹¹⁄₁₆ x 1¾
TC61	8	350	425	¹³⁄₁₆ x 1¾
TC62	10	350	425	¹³⁄₁₆ x 1¾
TC63	12	350	425	¹⁵⁄₁₆ x 1¾
TC64	16	350	425	¹⁵⁄₁₆ x 1¾
TC65	20	350	425	¹⁵⁄₁₆ x 1¾
TC70	5	450	525	¹¹⁄₁₆ x 1¾
TC71	8	450	525	¹³⁄₁₆ x 1¾
TC72	10	450	525	¹³⁄₁₆ x 1¾
TC73	12	450	525	¹⁵⁄₁₆ x 1¾
TC74	16	450	525	¹⁵⁄₁₆ x 1¾
TC75	20	450	525	1¹⁄₁₆ x 1¾
TC77	30	450	525	1¹⁄₁₆ x 2¼
TC78	40	450	525	1¹⁄₁₆ x 2⅞
TC82	10	500	650	1¹⁄₁₆ x 2¹⁵⁄₁₆
TC92	10	600	750	1¹⁄₁₆ x 2¹⁵⁄₁₆
TC308	.5Z @ 15750 Cycles 3 V. NP			1¹⁄₁₆ x 2
TC420	1.5Z @ 60 Cycles 4 V. NP			1¹⁄₁₆ x 2⅞

Metal Tubular Dry Electrolytic Capacitors
Dual Section

APPLICATION—For under-chassis mounting in filter and audio bypass circuits where long life and small size is desirable.

DESCRIPTION—Dual section dry electrolytic type encased in hermetically sealed aluminum tube with external insulating sleeve. Type TCD is dual common negative, TCS dual separate section.

TERMINALS—Type TCD is supplied with 3″ bare solid tinned copper leads, both positive leads at one end and common negative lead at opposite end. Type TCS is supplied with soldering lugs, positive and negative of one section at one end and the other section at the opposite end.

MOUNTING—Type TCD is designed for mounting by its own leads or with applicable hardware shown on page 17. Type TCS is supplied with the Mallory TH clips for mounting, further described on page 17.

PACKAGING—Individual display carton.

Dual Common Negative

Mallory Cat. No.	Cap. Mfd.	DC Wkg. Volts	Maximum Surge Voltage	Size Dia. Length
TCD26	25-25	25	40	¹³⁄₁₆ x 1¼
TCD45	20-20	150	200	¹³⁄₁₆ x 2
TCD47	30-30	150	200	¹⁵⁄₁₆ x 2
TCD48	40-40	150	200	1¹⁄₁₆ x 2
TCD485	40-20	150	200	1¹⁄₁₆ x 2
TCD49	50-50	150	200	1¹⁄₁₆ x 3¹⁄₁₆
TCD497	50-30	150	200	1¹⁄₁₆ x 2¼
TCD52	10-10	250	325	¹⁵⁄₁₆ x 2
TCD55	20-20	250	325	1¹⁄₁₆ x 2
TCD62	10-10	350	425	¹⁵⁄₁₆ x 2
TCD65	20-20	350	425	1¹⁄₁₆ x 3¹⁄₁₆
TCD71	8-8	450	525	¹⁵⁄₁₆ x 2
TCD72	10-10	450	525	1¹⁄₁₆ x 2
TCD74	15-15	450	525	1¹⁄₁₆ x 3¹⁄₁₆
TCD75	20-20	450	525	1¹⁄₁₆ x 3¹⁄₁₆

Dual Separate-Section

Mallory Cat. No.	Cap. Mfd.	DC Wkg. Volts	Maximum Surge Voltage	Size Dia. Length
TCS44	15-15	150	200	¹³⁄₁₆ x 2⅜
TCS45	20-20	150	200	¹⁵⁄₁₆ x 2⅜
TCS47	30-30	150	200	1¹⁄₁₆ x 2⅜
TCS48	40-40	150	200	1¹⁄₁₆ x 2⅞
TCS52	10-10	250	325	¹⁵⁄₁₆ x 2⅜
TCS55	20-20	250	325	1¹⁄₁₆ x 2⅜
TCS61	8-8	350	425	¹⁵⁄₁₆ x 2⅜
TCS64	15-15	350	425	1¹⁄₁₆ x 2⅞
TCS71	8-8	450	525	1¹⁄₁₆ x 2⅜
TCS74	15-15	450	525	1¹⁄₁₆ x 2⅞
TCS75	20-20	450	525	1¹⁄₁₆ x 3½

Mallory Page 3 (See Mallory Page 1 for List Prices)

MALLORY DRY ELECTROLYTIC CAPACITORS

MALLORY
FP 433
P. R. MALLORY & CO., INC.
INDIANAPOLIS 6, INDIANA
MALLORY
FP 432
P. R. MALLORY & CO., INC.
INDIANAPOLIS 6, INDIANA

FP† Dry Electrolytic Capacitors

APPLICATION—For top chassis mounting in filter and audio bypass circuits. Extremely dependable under heavy ripple current, high surge voltage and high temperature (up to 185°F.) conditions.

DESCRIPTION—Single, dual, triple and quad section units encased in compact hermetically sealed aluminum cases with self-contained mounting feature. Type FP is supplied with famous Mallory Fabricated Plate (metalized cotton gauze) anodes, type WP with etched plate anodes. Special internal design provides low RF impedance and minimum coupling between sections. Case at negative potential.

TERMINALS—Solder lug type all at one end. Positive terminals identified by symbols in terminal board corresponding to case marking. Mounting ring provides negative terminal connection.

MOUNTING—Primarily designed for twist prong mounting through suitable chassis slots and may also be mounted as follows:

1. Type MP metal wafer providing the necessary slots without actually punching the chassis for grounded negative circuits.
2. Type BP bakelite wafer for insulated mounting, otherwise similar to Paragraph No. 1.
3. Type TH clip for horizontal mounting.
4. Type PS socket for plug-in mounting. (Remove blank ear with diagonal pliers to polarize unit in relation to socket.)
   See page 17 for applicable hardware.

PACKAGING—Individual display carton.

†Only Mallory can supply genuine Fabricated Plate (metalized cotton gauze) capacitors.

Mallory Cat. No.	Capacity Mfd.	Wkg. Volts DC	Size Dia. Length
WP032	3000	10	1⅜ x 2½
WP039	1000	15	1 x 2½
WP041	2000	15	1⅜ x 2½
WP055	100	25	1 x 2
WP057	500	25	1 x 2½
WP059	1000	25	1⅜ x 2
WP065	500	50	1⅜ x 2
FP113	30	150	¾ x 2
FP115	50	150	1 x 2
FP116	100	150	1 x 3
FP117	150	150	1 x 3
FP125	15	250	¾ x 2
FP135	30	350	1 x 2
FP137	50	350	1 x 2½
FP138	80	350	1⅜ x 2½
FP140	125	350	1⅜ x 3
FP142	10	450	¾ x 2
FP143	15	450	1 x 2
FP144	20	450	1 x 2
FP145	30	450	1 x 3
FP146	40	450	1 x 3
FP149	80	450	1⅜ x 2½
WP200	1000-1000	15	1⅜ x 2½
WP204	250-1000	10-6	1⅜ x 2
FP208	20-20	150	1 x 2
FP210	40-20	150	1 x 2
FP211	30-30	150	1 x 2
FP212	40-40	150	1 x 2½
FP213	50-30	150	1 x 2½
FP214	50-50	150	1 x 2½
FP215	125-100	150	1⅜ x 2½
FP216	80-40	150	1 x 3
FP217	20-20	250	1 x 2

Mallory Cat. No.	Capacity Mfd.	Wkg. Volts DC	Size Dia. Leng
FP218	120-20	300	1⅜ x 3
FP225	15-15	350	1 x 2
FP227	20-20	350	1 x 3
FP228	30-30	350-300	1 x 3
FP231	10-10	450	1 x 2
FP234	20-20	450	1 x 3
FP235	20-80	450-350	1⅜ x 2½
FP236	40-10	450	1⅜ x 2
FP237	30-30	450	1⅜ x 2½
FP238	40-40	450	1⅜ x 3
FP239	50-40	450	1⅜ x 3
FP240*	50-50	450	1⅜ x 3
FP550	10-80	450-400	1⅜ x 3
FP244	80-50	450-50	1⅜ x 3
FP245	80-10	450	1⅜ x 3
WP520	40-40-40	25	1 x 2
WP302	15-15-1000	150-150-2	1 x 2
FP303	20-250-100	150-15-15	1⅜ x 2
FP304	40-20-200	150-150-25	1 x 3
FP306	40-20-20	150-150-25	1 x 2
FP307	40-20-100	150-150-25	1 x 2½
FP310	40-40-20	150-150-25	1 x 2½
FP309	50-30-100	150-150-25	1 x 2½
FP311	50-50-20	150-150-25	1 x 3
FP312	100-25-50	150-25-50	1 x 3
FP313	30-20-20	200-200-25	1 x 2
FP316	20-15-20	250-250-25	1 x 2
FP318	90-90-20	200-200-50	1⅜ x 3
FP326	100-60-20	300-150-25	1⅜ x 3
FP328	15-10-20	350-350-25	1 x 2
FP369	20-10-5	350-350-250	1 x 2
FP371	30-10-20	350-350-250	1 x 3
FP330	30-20-20	350-350-25	1 x 3
FP331	30-30-20	350-300-25	1 x 3
FP332	10-10-20	450-450-25	1 x 2
FP341	40-90-50	450-150-150	1⅜ x 3
FP342	40-40-130	450-150-50	1⅜ x 3
FP343	40-100-50	450-150-50	1⅜ x 3
FP344	10-30-30	450-400-300	1⅜ x 2½
FP380	20-15-15	450-350-300	1 x 3
FP339	20-20-20	450-450-25	1 x 3
FP345	40-10-80	450-450-200	1⅜ x 3
FP346	40-40-20	450-450-25	1⅜ x 3
FP395	40-40-40	450-450-150	1⅜ x 3
FP354	20-20-20	150	1 x 2
FP355	40-20-20	150	1 x 2½
FP357	40-40-40	150	1 x 3
FP360	15-20-20	250-150-150	1 x 2
FP363	40-20-20	250	1⅜ x 2
FP367	10-10-10	350	1 x 2
FP389	10-10-10	450	1 x 2½
FP390	15-15-10	450	1 x 3
FP393	40-40-10	450	1⅜ x 3
FP407	30-20-20-200	150-150-150-10	1⅜ x 2
FP409	40-40-30-20	150-150-150-25	1⅜ x 2
FP410	50-50-50-20	150-150-150-25	1⅜ x 2½
FP413	40-40-40-20	300-300-300-150	1⅜ x 3
FP414	15-80-40-200	350-200-200-25	1⅜ x 3
FP416	40-40-20-20	350-300-300-25	1⅜ x 3
FP421	5-5-50-80	400-400-300-250	1⅜ x 3
FP428	40-10-35-10	450-450-350-350	1⅜ x 3
FP424	15-15-10-20	450-450-450-25	1⅜ x 2
FP431	40-10-15-25	450-450-450-25	1⅜ x 3
FP432	40-10-10-250	450-450-450-25	1⅜ x 3
FP426	20-15-20-20	450-450-25-25	1⅜ x 2
FP429	40-30-10-20	450-450-450-25	1⅜ x 3
FP433	60-10-10-20	450-450-450-150	1⅜ x 3
FP434	10-10-10-10	450	1⅜ x 2
FP444	20-20-20-20	450	1⅜ x 3
WP505	10Z@30 cycles to 5 megacycles	3 V. NP	¾ x 2
WP510	.5Z@15750 cycles	3 V. NP	1 x 2
WP540	1.0Z@60 cycles	3 V. NP	1⅜ x 3

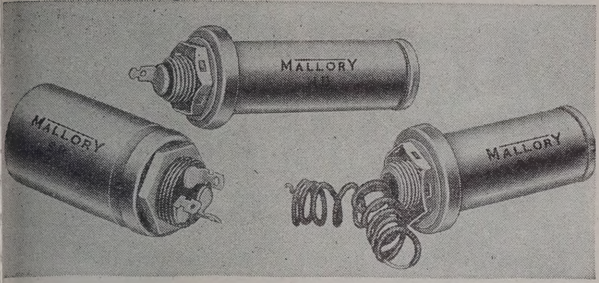
*For Photoflash Applications.

Surge Voltage Data

● Due to the many multiple section listings on FP capacitors, it is not practical to show surge voltage ratings without consuming considerable space in the chart. The surge voltage ratings are, therefore, given separately in the small chart.

Wkg. VDC.	Surge Volts
6	10
10	15
15	20
25	40
150	200
200	275
250	325
300	375
350	425
400-450	525

P.R. MALLORY & CO. Inc. MALLORY DRY ELECTROLYTIC CAPACITORS



Threaded Neck Dry Electrolytic Capacitors

APPLICATION—Designed for replacement of wet or dry electrolytic threaded neck type filter capacitors originally employed in any type of electronic filter or bypass circuit.

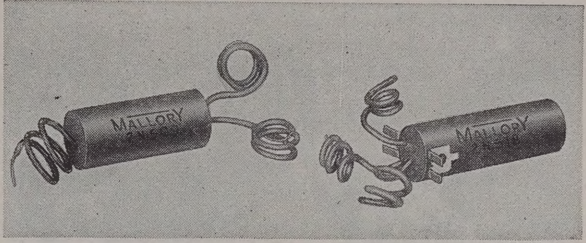
DESCRIPTION—Type RS are single section, RM multiple separate section capacitors encased in aluminum cans equipped with threaded necks for mounting. Both types are internally insulated from their aluminum can. Type HD is for heavy duty, type HS for high surge voltage conditions. Type SR638 is lug type dual. Type SR645 has special internal connections, one terminal common anode, one terminal negative to one section and case negative to the other section.

TERMINALS—RS, RM and HS have 8″ flexible insulated stranded copper leads all out through the threaded neck part of the case. Type HD has one solder lug terminal for positive and case is negative. Type SR has two positive lug terminals with case common negative.

MOUNTING—Types RS, RM, HD and HS have threaded necks (⅝ x 16 for 1″ dia.—¾ x 16 for 1⅜″ dia.) supplied with palnut and special washer providing installation in various chassis hole sizes. All 1″ diameter units in these types are also supplied with a special turned-over washer for 1⅜″ clamp mounting. Type SR has ⅞-16 thread molded necks with solid nut. See page 17 for other hardware.

PACKAGING—Individual display carton.

Mallory Cat. No.	Capacity Mfd.	Volts DC	Size Dia. Length
RS207	30	250	1 x 3½
RS212	8	450	1⅜ x 3
RS213	8	450	1 x 2¾
RS214	12	450	1⅜ x 3
RS215	12	450	1 x 2¾
RS216	16	450	1 x 3½
RS217	16	450	1⅜ x 3
RS219	20	450	1⅜ x 3
RS223	30	450	1⅜ x 3
RS224	40	450	1⅜ x 3
HD684	10	450	1 x 3
HS693	8	600	1⅜ x 4
RM262	8-8	450	1⅜ x 3¾
RM265	8-8-8	450	1⅜ x 4¼
SR638	8-8	450	1⅜ x 2⅞
SR645	8-8	450	1⅜ x 2⅞



Cardboard Tubular Dry Electrolytic Capacitors

APPLICATION—Low cost filter and bypass units for above or below-chassis mounting where humidity conditions are not extreme.

DESCRIPTION—Single, dual, triple and quad section units in cardboard tubes with extra inner seal and ample wax seal at ends. Dual, triple and quad section units are common negative or separate section type, as indicated in chart.

TERMINALS—All types are supplied with flexible covered leads out one end except those marked (*) which have negative lead out opposite end.

MOUNTING—All units (except TN111) are supplied with an adjustable horizontal mounting strap (MS-1) and all units with leads out one end have special feet for vertical mounting in addition to the strap.
For other hardware, see page 17.

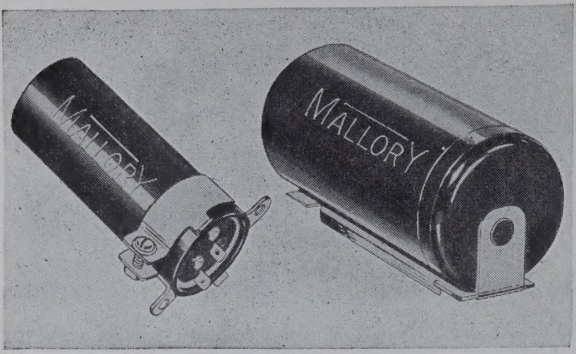
PACKAGING—Individual display carton.

Single Sections

Mallory Cat. No.	Capacity Mfd.	Volts DC	Size Dia. Length
ST595	8	450	¾ x 2½
ST597	16	450	⅞ x 2¾
ST598	20	450	1 x 2¾
ST599	30	450	1 x 3½
Dual Common Negative			
TN111	10-10	25	⅝ x 1¾
2N509*	20-20	150	⅞ x 2⅛
2N513*	30-30	150	⅞ x 2⅜
2N514*	40-20	150	⅞ x 2½
2N511*	40-40	150	15/16 x 2½
2N520*	50-30	150	1 x 2⅜
2N521	50-50	150	1 x 2⅞
2N516*	8-8	250	⅞ x 2⅛
2N518	8-8	450	15/16 x 2¾
Dual Separate Sections			
2S556	30-30	150	1⅛ x 2⅞
2S567	8-8	450	1⅛ x 2¾
2S569	16-16	450	1¼ x 3⅞
Triple Common Negative			
3N527*	20-20-20	150-150-25	15/16 x 2¼
3N533*	30-30-20	150-150-25	1 x 2⅜
TN125*	20-10-10	150	⅞ x 2⅜
TN129	40-20-20	150	1 x 2⅞
Triple Separate Section			
3S579	8-8-20	450-450-25	1 3/16 x 2⅞
3S584	8-8-8	450	1 3/16 x 2⅞
Quad Separate Sections			
4S715	16-16, 10-10	150-25	1⅜ x 2⅝

NOTE—Triple and Quad Separate Section units have first section separate, others common negative.

MALLORY DRY ELECTROLYTIC CAPACITORS



High Capacity Dry Electrolytic Capacitors and Non-Polarized Dry Electrolytic Capacitors

APPLICATION—Type HC are for filtering dry disc rectifiers and for electric fence controls, talking picture equipment, and other high-capacity low-voltage applications. Type HC1060A is especially designed for replacement in fence control equipment.

Type NP are non-polarized units for use where polarity may be applied in either direction, but are not suitable for continuous AC applications. Useful in welding and control equipment as a stored energy device.

DESCRIPTION—High quality etched plate electrolytic capacitors supplied in moisture-proof plastic cases requiring no external insulation. Type HC are polarized, and NP are non-polarized type.

TERMINALS—Two solder lug terminals at one end.

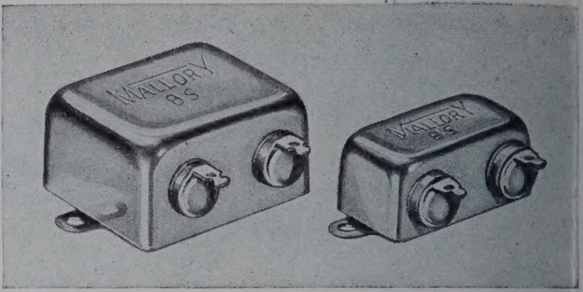
MOUNTING—Supplied with type VR bracket for vertical mounting, and design permits horizontal mounting with protector end cap (sold separately). See page 17 for hardware details.

PACKAGING—Individual display carton.

Mallory Cat. No.	Capacity Mfd.	DC Wkg. Volts	Maximum Surge Voltage	Size Dia. Length
HC1020	2000	10	15	1 7/16 x 3⅜
HC1040	4000	10	15	1 13/16 x 4⅜
HC1060	6000	10	15	2 1/16 x 4⅜
HC1060A*	6000	10	15	1½ x 4⅛
HC1520	2000	15	20	1 13/16 x 3⅜
HC1540	4000	15	20	1 13/16 x 4⅜
HC1560	6000	15	20	1 13/16 x 4⅜
HC2510	1000	25	40	1 7/16 x 3⅜
HC2520	2000	25	40	1 13/16 x 3⅜
HC2540	4000	25	40	1 13/16 x 4⅜
HC5005	500	50	75	1 7/16 x 3⅜
HC5010	1000	50	75	1 13/16 x 3⅜
HC5020	2000	50	75	1 13/16 x 4⅜
HC15010	1000	150	200	2 1/16 x 4⅜
HC20005	500	200	275	2 1/16 x 4⅜

Mallory Cat. No.	Capacity Mfd.	DC Wkg. Volts	Maximum Surge Voltage	Size Dia. Length
NP0340	2000	25	40	2 1/16 x 4⅜
NP0555	500	50	75	1 13/16 x 4⅜
NP1225	200	125	200	1 13/16 x 4⅜
NP1235	300	125	200	2 1/16 x 4⅜
NP1245	400	125	200	2 1/16 x 4⅜
NP1255	500	125	200	2 1/16 x 4⅜
NP2514	100	250	325	1 13/16 x 4⅜
NP2520	150	250	325	1 13/16 x 4⅜
NP2525	200	250	325	2 1/16 x 4⅜
NP3003	15	300	375	1 7/16 x 3⅜
NP3006	30	300	375	1 7/16 x 3⅜
NP3008	50	300	375	1 7/16 x 3⅜
NP3014	100	300	375	1 13/16 x 4⅜
NP3020	150	300	375	2 1/16 x 4⅜
NP3025	200	300	375	2 1/16 x 4⅜
NP4503	30	450	525	1 7/16 x 3⅜
NP4505	50	450	525	1 13/16 x 3⅜
NP4510	100	450	525	2 1/16 x 4⅜

*This unit in Aluminum Case



Bathtub Dry Electrolytic Capacitors

APPLICATION—For filter and bypass circuits in marine, aircraft, geophysical and other applications where extreme operating conditions are encountered. BS81 and BS91 are ideal for power amplifier and other high voltage applications.

DESCRIPTION—Dry electrolytic capacitors where cartridges are first sealed in aluminum tubes and then encased in sturdy corrosion-resistant, hot-tinned steel cases providing complete hermetical seal under all weather conditions. All units internally insulated from outer case. BS81 and BS91 employ the special Mallory balanced series unit construction for extreme dependability at high voltage. Temperature range, −40°F. to +185° F.

TERMINALS—Two solder lug terminals on one side.

MOUNTING—Provided with mounting flanges at each end having 3/16″ holes.

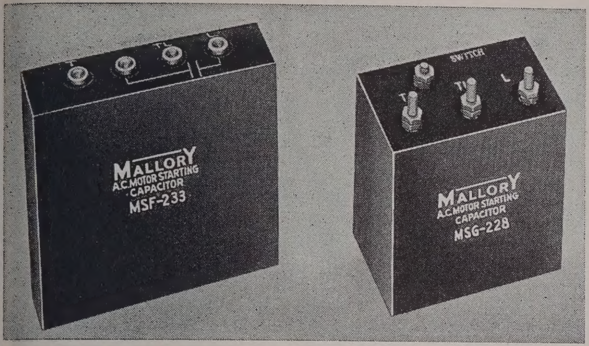
PACKAGING—Individual display carton.

Mallory Cat. No.	Cap. Mfd.	DC Wkg. Volts	Max. Surge Voltage	Size* H	W	L	Y
BS26	25	25	40	¾	x 1	x 1¾	x 2⅛
BS29	50	25	40	¾	x 1	x 1¾	x 2⅛
BS36	25	50	75	¾	x 1	x 1¾	x 2⅛
BS39	50	50	75	⅞	x 1	x 1¾	x 2⅛
BS45	20	150	200	⅞	x 1	x 1¾	x 2⅛
BS48	40	150	200	1	x 1¼	x 1¾	x 2⅛
BS62	10	300	375	⅞	x 1	x 1¾	x 2⅛
BS65	20	300	375	1⅛	x 1¼	x 1¾	x 2⅛
BS81	8	500	650	1	x 1¾	x 2	x 2⅜
BS91	8	600	750	1	x 1¾	x 2	x 2⅜

*H—Height; W—Width; L—Length; Y—Mounting Centers.

MALLORY VIBRATOR GUIDE

Long recognized as one of the most useful publications in the radio service field. Up-to-date, completely organized for quick, accurate reference. Contains all available information through 1947 automobile and battery-operated home radio receivers as well as vibrator power supplies. See your Mallory Distributor.



AC Motor Starting Capacitors Dry Electrolytic

APPLICATION—For replacement of rectangular case type motor starting capacitors.

DESCRIPTION—Dry electrolytic intermittent duty AC capacitors housed in rectangular cases and provided with terminal arrangement similar to the design of the original capacitors they replace.

TERMINALS—Equipped with two capacitor terminals and two dummy terminals. The L and unmarked terminal are the capacitors, while T and TL are dummies for convenience in wiring.

MOUNTING—Designed to mount in the original clamps or boxes used for the original capacitors.

PACKAGING—Individual display carton.

Mallory Cat. No.	Mfd. New	Rating Old	Volts AC	Size* W L H
MSG220	32	32-36	110	2 x 3½ x 3½
MSG221	53	53-60	110	2 x 3½ x 3½
MSG222	64	64-72	110	2 x 3½ x 3½
MSG223	78	78-85	110	2 x 3½ x 3½
MSF224	86	86-96	110	1¼ x 4½ x 4½
MSG225	97	97-107	110	2 x 3½ x 3½
MSG226	108	108-120	110	2 x 3½ x 3½
MSF227	108	108-120	110	1¼ x 4½ x 4½
MSG228	124	124-138	110	2 x 3½ x 3½
MSF229	124	124-138	110	1¼ x 4½ x 4½
MSG230	145	145-162	110	2 x 3½ x 3½
MSG231	161	161-180	110	2 x 3½ x 3½
MSF232	161	161-180	110	1½ x 4¼ x 4¼
MSF233	189	189-210	110	1½ x 4¼ x 4¼
MSG234	270	270-300	110	2 x 3½ x 3½
MSG250	26	26-30	220	2 x 3½ x 3½
MSG251	32	32-36	220	2 x 3½ x 3½
MSF252	32	32-36	220	1¼ x 4½ x 4½
MSG253	43	43-48	220	2 x 3½ x 3½

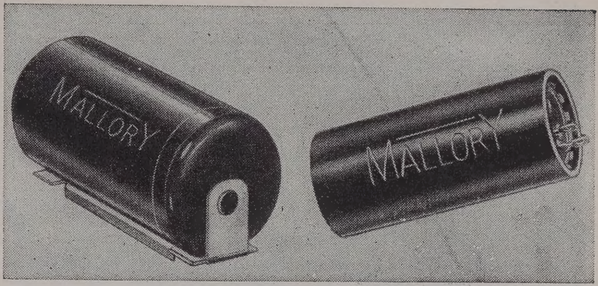
***W—Width; L—Length; H—Height.**

Capacitor Selector

For determining correct capacity to use in making replacements of defective motor starting capacitors which have lost their identity.

For checking capacity ranges from 26 to 161 mfd. 110-125 VAC **Catalog No. MSS-100.**

For checking capacity ranges from 25 to 645 mfd. 110-125 VAC **Catalog No. MSS-101.**



AC Motor Starting Capacitors Dry Electrolytic

APPLICATION—For intermittent duty in starting AC capacitor motors in any application where round type cases are required.

DESCRIPTION—Dry electrolytic non-polarized type capacitors housed in round cases. Rated at the minimum capacity value with a plus tolerance of 20% unless otherwise indicated by reference to old minimum-maximum capacity rating. Type P furnished in moisture-proof plastic containers, and type MSU in aluminum cases with external insulating sleeve.

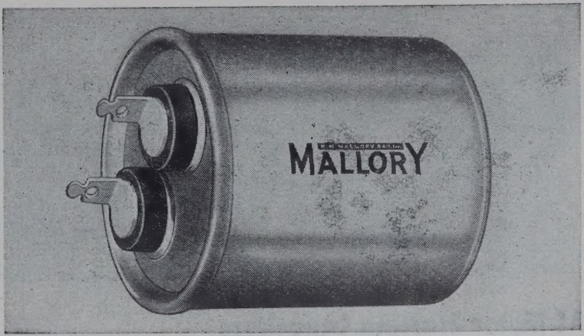
TERMINALS—Two solder lug terminals at one end.

MOUNTING—Both type P and MSU may be mounted interchangeably in any original mounting for units of equivalent size. Type P may also be mounted by means of a plastic end cap (type PL) and sturdy metal snap-in type bracket (type HB) furnished separately when desired. See page 17 for these and other mounting hardware.

PACKAGING—Individual display carton.

Mallory Cat. No.	Mfd. New	Rating Old	Volts AC	Size Dia. Length
MSU120	20	20-24	110	1⅜ x 2¾
MSU121	26	26-30	110	1⅜ x 2¾
MSU122	32	32-36	110	1⅜ x 2¾
MSU123	38	38-42	110	1⅜ x 2¾
MSU124	43	43-48	110	1⅜ x 2¾
P5310	53	53-60	110	1⁷⁄₁₆ x 3⅜
P6410	64	64-72	110	1⁷⁄₁₆ x 3⅜
P7010	70	70-78	110	1⁷⁄₁₆ x 3⅜
P7510	75	75-84	110	1⁷⁄₁₆ x 3⅜
P8610	86	86-96	110	1⁷⁄₁₆ x 3⅜
P9710	97	97-107	110	1⁷⁄₁₆ x 3⅜
P10810	108	108-120	110	1⁷⁄₁₆ x 3⅜
P12410	124	124-138	110	1⁷⁄₁₆ x 3⅜
P13010	130	130-157	110	1⁷⁄₁₆ x 3⅜
P14510	145	145-162	110	1⁷⁄₁₆ x 3⅜
P16110	161	161-180	110	1⁷⁄₁₆ x 3⅜
MSU136	194	194-216	110	1⅜ x 4¼
P19410	194	194-216	110	1⁷⁄₁₆ x 3⅜
MSU138	200	200-220	110	1⅜ x 4¼
P21610	216	216-240	110	1¹³⁄₁₆ x 3⅜
P24310	243	243-270	110	1¹³⁄₁₆ x 3⅜
P27010	270	270-300	110	1¹³⁄₁₆ x 4⅜
P32410	324	324-360	110	1¹³⁄₁₆ x 4⅜
P34010	340	340-412	110	2¹⁄₁₆ x 4⅜
P37810	378	378-420	110	2¹⁄₁₆ x 4⅜
P40010	400	400-450	110	2¹⁄₁₆ x 4⅜
P43010	430	430-485	110	2¹⁄₁₆ x 4⅜
P2520	25	26-30	220	1⁷⁄₁₆ x 3⅜
P3220	32	32-36	220	1¹³⁄₁₆ x 3⅜
P3820	38	38-42	220	1¹³⁄₁₆ x 3⅜
P4320	43	43-48	220	1¹³⁄₁₆ x 3⅜
P5320	53	53-60	220	1¹³⁄₁₆ x 3⅜
P6420	64	64-72	220	1¹³⁄₁₆ x 4⅜
P7020	70	70-78	220	2¹⁄₁₆ x 4⅜
P7520	75	75-84	220	2¹⁄₁₆ x 4⅜
P8620	86	86-96	220	2¹⁄₁₆ x 4⅜

MALLORY PAPER CAPACITORS



Continuous Duty—Oil Impregnated—AC Capacitors

APPLICATION—Designed primarily for heavy duty AC applications. May be used as motor running capacitors, fluorescent light ballast, etc. where continuous duty and dependability are required.

DESCRIPTION—Supplied in metal cases, these units may be safely operated at voltages up to 10% above the rated values and at temperatures as high as 75°C. The impregnating oil is non-inflammable and non-oxidizable, which accounts for the high safety factor and long life of these capacitors.

TERMINALS—Two solder lug terminals at one end. Terminals feature a new all welded construction.

MOUNTING—Mounting may be accomplished by using the original housing or by means of type VR brackets. Complete description of available hardware is on page 17. Order separately as required.

PACKAGING—Individual display carton.

Mallory Cat. No.	Cap. Mfd.	Volts AC	Size Dia. Length
RP-3301	1	330	1⅜ x 1⅞
RP-3302	2	330	1⅜ x 3⅛
RP-3303	3	330	2 x 2 5/16
RP-3304	4	330	2 x 2⅞
RP-3305	5	330	2 x 3 5/16
RP-3306	6	330	2 x 3 13/16
RP-3307	7	330	2 x 4 5/16
RP-3308	8	330	2 x 4 13/16
RP-3310	10	330	2½ x 4⅛
RP-3312	12	330	2½ x 4¾
RP-3315	15	330	2½ x 5 11/16

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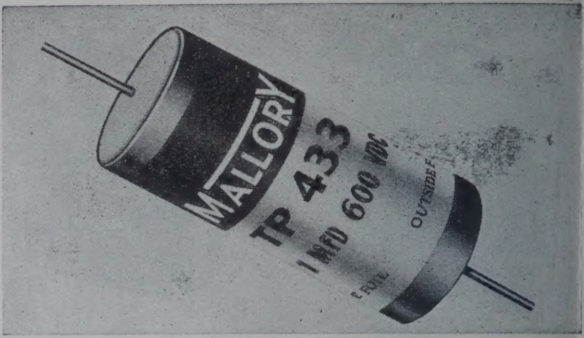


Tubular Paper Capacitors

APPLICATION—For use in radio and electronic circuits, especially RF bypassing, where low cost and small size are paramount. Well protected from moisture but not hermetically sealed.

DESCRIPTION—Both TP and OW are compact paper tubular construction. Type TP is wax impregnated and filled. Type OW is oil impregnated and wax filled.

TERMINALS—Two bare tinned copper leads, one at each end.

MOUNTING—By means of their lead wires or TH clips of applicable size. See page 17 for mounting hardware.

PACKAGING—25, 50 or 100 capacitors per display carton.

Wax impregnated tubular paper capacitors

Cap. Mfd.	400 Volts DC		600 Volts DC		1000 Volts DC	
	Mallory Cat. No.	S	Mallory Cat. No.	S	Mallory Cat. No.	S
.0001			**TP401**	1		
.00025			**TP402**	1		
.0005			**TP403**	1		
.001			**TP404**	19	**TP455**	19
.002			**TP405**	2	**TP456**	19
.003			**TP406**	19	**TP457**	20
.004			**TP407**	19	**TP458**	20
.005			**TP408**	19	**TP459**	3
.006			**TP409**	19	**TP460**	3
.007			**TP445**	2	**TP461**	5
.008			**TP450**	2	**TP462**	5
.01	**TP421**	19	**TP410**	2	**TP434**	3
.015	**TP400**	4	**TP411**	3	**TP463**	7
.02	**TP423**	3	**TP412**	5	**TP435**	8
.025			**TP451**	5		
.03	**TP424**	5	**TP413**	8	**TP464**	9
.04	**TP425**	5	**TP414**	8	**TP465**	9
.05	**TP426**	7	**TP415**	8	**TP437**	10
.06	**TP427**	7	**TP416**	6	**TP466**	10
.075			**TP452**	9	**TP467**	11
.1	**TP428**	8	**TP418**	9	**TP439**	12
.15			**TP417**	11		
.2	**TP429**	10	**TP419**	12		
.25	**TP430**	11	**TP420**	13		
.3	**TP444**	11	**TP453**	14		
.4	**TP442**	12	**TP454**	15		
.5	**TP431**	14	**TP432**	16		
1.0	**TP422**	17	**TP433**	18		

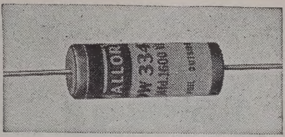
Type TP Size Chart

To save space in the main chart, the various sizes have been listed below. Column "S" refers to these sizes.

S	Size Dia. Length	S	Size Dia. Length
1	11/32 x 1	11	11/16 x 1⅞
2	7/16 x 1	12	¾ x 1⅞
3	7/16 x 1¼	13	13/16 x 1⅞
4	½ x 1 1/16	14	⅞ x 1⅞
5	½ x 1¼	15	⅞ x 2
6	9/16 x 1¼	16	1 x 2¼
7	½ x 1½	17	1 x 2½
8	17/32 x 1½	18	1¼ x 2½
9	⅝ x 1 9/16	19	.390 x 1
10	⅝ x 1⅞	20	.390 x 1¼

MALLORY OIL IMPREGNATED CAPACITORS

Oil Impregnated Tubular Paper Capacitors



Mallory Cat. No.	Cap. Mfd.	Working Volts DC	Size Dia. Length
OW340	.0005	1600	½ x 1⅛
OW341	.001	1600	½ x 1⅛
OW331	.002	1600	9/16 x 1⅛
OW342	.003	1600	⅝ x 1⅛
OW343	.004	1600	9/16 x 1 5/16
OW332	.005	1600	9/16 x 1 5/16
OW344	.006	1600	9/16 x 1 9/16
OW345	.007	1600	9/16 x 1 9/16
OW346	.0075	1600	9/16 x 1 9/16
OW333	.008	1600	9/16 x 1 9/16
OW334	.01	1600	⅝ x 1 9/16
OW335	.015	1600	11/16 x 1 9/16
OW336	.02	1600	¾ x 1 9/16
OW337	.03	1600	¾ x 2
OW338	.04	1600	13/16 x 2
OW339	.05	1600	⅞ x 2
OWD335	.015 .015	1600	¾ x 2
OW635	.0005	6000	9/16 x 1¾
OW621	.001	6000	11/16 x 1¾
OW622	.002	6000	27/32 x 1¾
OW623	.003	6000	1 x 1¾
OW625	.005	6000	27/32 x 2½
OW6275	.0075	6000	15/16 x 2½
OW611	.01	6000	1 1/32 x 2½
OW612	.02	6000	1 7/32 x 3
OW613	.03	6000	1¼ x 3¾

Metal Cased Oil Impregnated Paper Capacitors

APPLICATION—For vibrator buffer, coupling, and other circuits where highest quality tubular type capacitors are required.

DESCRIPTION—Mineral oil impregnated hermetically sealed aluminum tubulars with external insulating sleeves.

TERMINALS—Two bare tinned copper leads, one at each end.

MOUNTING—Designed for mounting by its own leads, may also be mounted by use of the TH clip furnished with each capacitor. See page 17 for description of the TH clip and other hardware.

PACKAGING—10 capacitors per display carton.

Mallory Cat. No.	Cap. Mfd.	Working Volts DC	Size Dia. Length
OT101	.01	600	⅝ x 1 3/16
OT103	.02	600	⅝ x 1 3/16
OT106	.05	600	11/16 x 1⅜
OT110	.1	600	11/16 x 1 11/16
OT113	.25	600	13/16 x 2⅛
OT116	.5	600	1 1/16 x 2¼
OT301	.01	1000	⅝ x 1 3/16
OT303	.02	1000	11/16 x 1⅜
OT306	.05	1000	11/16 x 2 3/16
OT310	.1	1000	13/16 x 2 3/16
OT370	.002	1600	⅝ x 1⅜
OT377	.003	1600	⅝ x 1⅜
OT371	.005	1600	⅝ x 1⅜
OT372	.008	1600	⅝ x 1⅜
OT373	.01	1600	11/16 x 1⅜
OT375	.015	1600	11/16 x 1 11/16
OT376	.02	1600	11/16 x 1 11/16
OT378	.03	1600	11/16 x 2 3/16
OT379	.04	1600	11/16 x 2 3/16
OT380	.05	1600	11/16 x 2 7/16
OT458	.0025	2000	11/16 x 1⅜
OT459	.005	2000	11/16 x 1 11/16
OT460	.0075	2000	11/16 x 1 11/16
OT461	.01	2000	11/16 x 1 11/16
OT462	.0125	2000	11/16 x 1 15/16
OT463	.015	2000	11/16 x 1 15/16
OT464	.02	2000	13/16 x 2⅛
OT465	.03	2000	13/16 x 2⅛
OT466	.04	2000	13/16 x 2⅝
OT467	.05	2000	13/16 x 2⅝

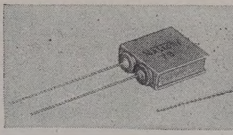


Fig. 1

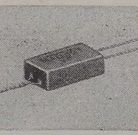


Fig. 2

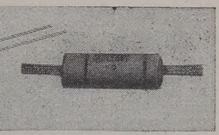


Fig. 3

Vibrator Buffer Capacitors

APPLICATION—Intended for replacement of original vibrator buffer and hash suppressor capacitors of similar design.

DESCRIPTION—Type VB is oil impregnated and housed in small rectangular metal case. Section is insulated from case. Type VD is dual wax impregnated unit in small rectangular waxed cardboard case. Type VO is wax impregnated and filled in oval waxed tube.

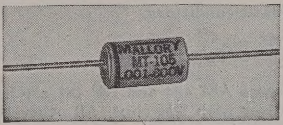
TERMINALS—VB has two bare tinned copper leads out one end. VD has two bare tinned copper leads out one end and one similar common lead out the other end. VO has heavy copper braid at each end.

MOUNTING—In recess or clamp used in the original equipment.

PACKAGING—Individual display carton.

Mallory Cat. No.	Cap. Mfd.	Working Volts DC	Size* W L H	Fig. No.
VB470	.0075	1600	5/16 x ⅝ x ⅞	1
VB471	.01	1600	5/16 x ⅝ x ⅞	1
VD491	.0008 .0008	1600	5/16 x ⅝ x 1 1/16	2
VO480	.5	120	7/16 x ¾ x 2⅛	3

*H—Height; W—Width; L—Length.



Miniature Metal Tubular Capacitors

APPLICATION—For hearing aid, personal radio, and other uses where very small size tubulars are desirable.

DESCRIPTION—Oil impregnated tubular capacitor in minute hermetically sealed metal tubes with insulating sleeve.

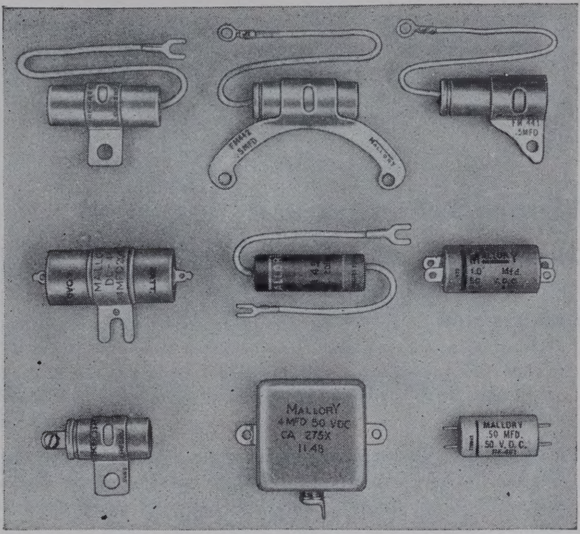
TERMINALS—Two bare tinned copper leads, one at each end.

MOUNTING—By means of its own leads.

PACKAGING—Ten to a display carton.

Mallory Cat. No.	Cap. Mfd.	Working Volts DC	Size Dia. Length
MT105	.001	100	9/32 x ½
MT107	.002	100	9/32 x ½
MT115	.005	100	9/32 x ½
MT125	.01	100	21/64 x ½
MT127	.02	100	21/64 x 11/16
MT135	.05	100	21/64 x 1 1/16
MT145	.1	100	21/64 x 1¾
MT605	.001	600	9/32 x 13/16
MT607	.002	600	9/32 x 15/16
MT615	.005	600	9/32 x 15/16
MT625	.01	600	21/64 x 1 9/16

MALLORY AUTOMOTIVE NOISE SUPPRESSION CAPACITORS


FM 441 .5MFD
FM442 .5MFD
MALLORY
1.0 MFD. 50
MALLORY 4 MFD 50 VDC CA 275X 11-48
MALLORY .50 MFD. 50 V.D.C.

Automotive Noise Suppression Capacitors

APPLICATION—For suppressing radio interference emanating from auto generators, oil gauges, ammeters, and other automotive, aircraft, or marine equipment.

AM—For ammeter and gauge suppression.

FM—For Ford generator suppression.

DL—For domelight suppression.

RF—For vibrator hash suppression.

CA—For general suppression in aircraft and marine application.

DESCRIPTION—Wax impregnated cartridges assembled in various style housings, as pictured. Type AG is round type with flexible lead, well protected from moisture, but not hermetically sealed. Type AS is hermetically sealed, provides low impedance, and is ideal for extreme climatic conditions.

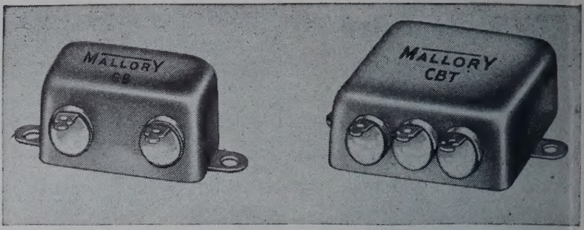
TERMINALS—Various, as pictured.

MOUNTING—Types AM 454 and RF 481 are held in place by the connecting wires or with TH clips. All others have own self-contained mounting features.

PACKAGING—Individual display cartons.

Mallory Cat. No.	Cap. Mfd.	Working Volts DC	Size Dia. Length
AG442*	.05	100	⅜ x 1¼
AG443	.05	100	7/16 x 1 3/16
AG444	.25	200	⅝ x 1¾
AG450	.5-.5	100	⅞ x 2
AG451	.5	200	¾ x 2
AG452	1.0	200	1 x 2 3/16
AG453†	.5	200	¾ x 2
AS125	.01	100	.675 x 15/16
AS145	.1	100	.675 x 1⅜
AS165	.25	100	¾ x 1½
AS185	.5	100	1 x 1⅝
AS525	.01	500 AC-DC	.675 x 1
AS545	.1	500 AC-DC	1 x 1½
AS565	.25	500 AC-DC	1 x 2½
AM454	.5	200	11/16 x 2
FM441	.5	100	.675 x 1⅞
FM442	.5	160	.675 x 1⅞
DL445	.4	200	1 x 2⅜
RF480	.5	100	13/16 x 1 5/16
RF481	.5	50	¾ x 1⅜
RF482	1.0	50	15/16 x 1⅝
CA275X	4.0	50	2 x 2 x 1

*For Midget Aircraft Motors
†Has shielded lead



Steel Cased Oil Filled Capacitors

APPLICATION—For general use in aircraft, marine, geophysical and industrial electronic equipment where extreme dependability under severe conditions is desired.

DESCRIPTION—Oil impregnated single, dual, and triple section units housed in rugged, hermetically sealed, hot-tinned steel cases.

TERMINALS—Single section has two terminals. Dual section units have three terminals with left terminal common, and both are internally insulated from case. Triple units have three terminals with common grounded to case. All terminals protrude in a row on one long side of case.

MOUNTING—By means of flanges at each end.

PACKAGING—Individual display carton.

Mallory Cat. No.	Cap. Mfd.	Working Volts DC	Size* W L H X
CB403	.25	400	⅞ x 1¾ x ¾ x 2⅛
CB404	.5	400	1 x 1¾ x ⅞ x 2⅛
CB405	1.0	400	1¾ x 2 x ¾ x 2⅜
CB406	2.0	400	2 x 2 x 1⅛ x 2⅜
CB602	.1	600	⅞ x 1¾ x ¾ x 2⅛
CB603	.25	600	1 x 1¾ x ¾ x 2⅛
CB604	.5	600	1¼ x 1¾ x ⅞ x 2⅛
CB605	1.0	600	1¾ x 2 x ⅞ x 2⅜
CB1002	.1	1000	⅞ x 1¾ x ¾ x 2⅛
CB1003	.25	1000	1¼ x 1¾ x ¾ x 2⅛
CB1004	.5	1000	1¾ x 2 x ⅞ x 2⅜
CBD403	.25-.25	400	1¼ x 1¾ x ¾ x 2⅛
CBD404	.5-.5	400	1¾ x 2 x ¾ x 2⅜
CBD602	.1-.1	600	⅞ x 1¾ x ¾ x 2⅛
CBT403	3X .25	400	1¾ x 2 x ¾ x 2⅜
CBT404	3X .5	400	1¾ x 2 x 1 x 2⅜
CBT602	3X .1	600	1 x 1¾ x ⅞ x 2⅛

*W—Width; L—Length; H—Height; X—Mounting Centers.

Uncased Wax Capacitors

APPLICATION—Designed for replacement of defective sections in large paper capacitor blocks or other applications where sealing pitch is applied for final seal.

DESCRIPTION—Wax impregnated section wrapped in varnish paper for moisture protection until finally potted when installed.

TERMINALS—Two flexible insulated leads out one end.

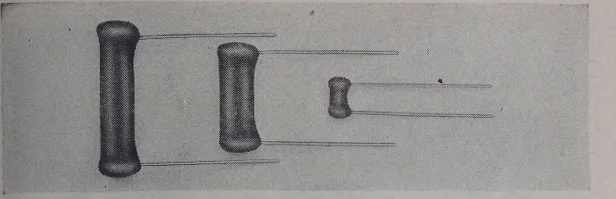
MOUNTING—Held in place by pouring with hot pitch.

PACKAGING—Individual display carton.

Mallory Cat. No.	Cap. Mfd.	Working Volts DC	Size* W L H
UB351	1	200	½ x 1⅜ x 2⅛
UB352	2	200	¾ x 1 9/16 x 2⅛
UB353	4	200	1 1/16 x 2 1/16 x 2⅛
UB354	1	400	9/16 x 1 9/16 x 2⅛
UB355	2	400	1 x 1¾ x 2⅛
UB356	4	400	15/16 x 1⅝ x 4⅜
UB357	.5	600	½ x 1⅜ x 2⅛
UB358	1	600	⅞ x 1 9/16 x 2⅛
UB359	2	600	1⅛ x 2 1/16 x 2⅛
UB364	4	600	1 1/16 x 1⅞ x 4¼
UB362	1	1000	⅝ x 1 9/16 x 4⅜
UB363	2	1000	1⅛ x 1⅞ x 4⅜

*W—Width; L—Length; H—Height.

MALLORY CERAMIC CAPACITORS



Ceramic Capacitors

APPLICATION—The small size and rugged construction of these capacitors make them ideal for by-passing, coupling, and other AM and FM-TV applications. The general purpose types "UC" may be used in all receiver applications except frequency determining circuits. They are particularly suitable for general replacement of molded mica and paper tubular capacitors. The zero temperature coefficient types "ZT" are ideally suited for use in precision radio and electronic circuits where a truly stable capacitor unaffected by temperature change is required. Negative temperature coefficient types "NT" are designed for use in precision radio and electronic circuits requiring a negative temperature coefficient of capacity.

DESCRIPTION—All Mallory ceramic capacitors are of low-loss ceramic construction, having a dipped phenolic coating for maximum protection from moisture. Their small physical size makes them ideal for replacement purposes when space is at a premium. Type "ZT," while similar in construction to the general purpose types "UC" have the important additional characteristic that their nominal capacity rating is substantially unaffected by a change in temperature of from —55°C through 85°C.

Type "NT" have a negative temperature coefficient of capacity of 750 parts/million/°C. temperature change. As a matter of convenience, they are rated in micro-microfarads at a temperature of 25°C. A rise in ambient temperature above 25°C will result in a proportional decrease of rated capacity. With lowering of temperature an automatic increase of capacity will be observed. In practical applications these capacitors should be mounted adjacent to the circuit components which require capacity compensation.

TERMINALS—One radial bare tinned copper lead 1¼″ long at each end.

MOUNTING—By means of their wire leads.

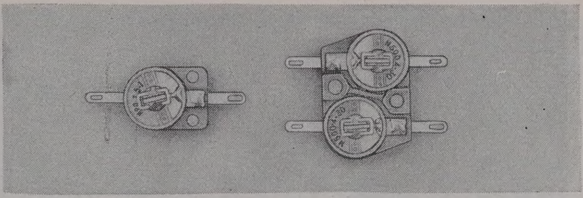
PACKAGING—Five capacitors per display carton.

Voltage Rating—500 V DC

Capacity (mmfd)	General Purpose ±20% Tolerance		Zero Temperature Coefficient ±10% Tolerance		Negative Temperature Coefficient 750 Parts/Million/°C ±10% Tolerance	
	Cat. No.	Size*	Cat. No.	Size*	Cat. No.	Size*
3			ZT-553	1		
5			ZT-555	1	NT-555	1
10	UC-541	1	ZT-541	1	NT-541	1
15	UC-5415	1				
20			ZT-542	1		
25	UC-5425	1	ZT-5425	2		
33			ZT-5433	2		
47					NT-5447	2
50	UC-545	1	ZT-545	3		
75	UC-5475	1	ZT-5475	3	NT-5475	2
100	UC-531	1	ZT-531	3	NT-531	2
150	UC-5315	1				
200	UC-532	1				
250	UC-5325	1				
300	UC-533	1				
500	UC-535	1				
750	UC-5375	1				
1000	UC-521	2				
1500	UC-5215	2				
2000	UC-522	3				
2500	UC-5225	3				
3000	UC-523	3				
5000	UC-525	3				

***SIZE CHART**

Sizes	Diameter	Length
1	.240″	.460″
2	.240″	.710″
3	.315″	1.250″



Ceramic Trimmer Capacitors

APPLICATION—Their small size and stable electrical characteristics make these capacitors ideal for use in high frequency FM-TV circuits.

DESCRIPTION—Each capacitor consists of fired silver electrodes on a ceramic rotor and base. They have a 360° rotor with a substantially constant capacity change and are completely sealed from dust and dirt. Single or dual units are available.

TERMINALS—Solder lug type at each end of capacitor.

MOUNTING—Two clearance holes are provided in each capacitor for screw mounting.

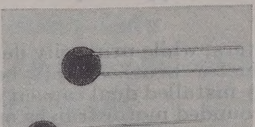
PACKAGING—One capacitor per display carton.

Single Units—Overall size 21/32″ x 27/32″ x ⅜″ thick.
Voltage Rating—500 VDC

Catalog No.	Capacity Range (mmfd)	Temperature Coefficient
ST-5515-Z	1.5 to 7	Zero
ST-553-Z	3 to 12	Zero
ST-554-N	4 to 30	Neg. 500 Parts/Million/°C.
ST-557-N	7 to 45	Neg. 500 Parts/Million/°C.

Dual Units—Overall size 1 19/64″ x ⅞″ x ⅜″ thick.
Voltage Rating—500 VDC

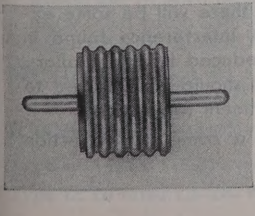
Catalog No.	Capacity Range Each Section (mmfd)	Temperature Coefficient
DT-5515-Z	1.5 to 7	Zero
DT-553-Z	3 to 12	Zero
DT-554-N	4 to 30	Neg. 500 Parts/Million/°C.
DT-557-N	7 to 45	Neg. 500 Parts/Million/°C.



Disk Ceramic Capacitors

Because of their small physical size, rugged construction, and excellent electrical characteristics these unique capacitors are particularly suitable for replacement of molded mica and paper tubular units. They have a dipped phenolic coating for maximum protection from moisture. Equipped with radial bare tinned copper wire leads they are easily and quickly mounted. Ten capacitors are packaged in each display carton.

Catalog Number	Capacity (mfd)	DC Working Volts	Size Dia. x Thickness	Length of Leads
DC-525	.005	500	19/32 x ⅛	1¾″
DC-511	.01	500	¾ x ⅛	2″



High Voltage Ceramic Capacitors

With a rating of 500 micro-microfarads at 15,000 volts, this capacitor may be used as an exact replacement in the high voltage power circuit in many TV sets. A rigid case and built-in corona shield give an added safety factor. The capacitor is supplied with No. 6 copper terminals ½″ long. Interconnecting leads may be soldered or clipped to these terminals without damage to the capacitor. Overall dimensions are 1⅛″ diameter by ⅞″ long excluding terminals. Each capacitor is packaged in an individual display carton.

Catalog number HV-15035.

(See Pages P-25 and P-26 for Mallory List Prices)

MALLORY CHOKE COILS AND NOISE FILTERS

MALLORY
RF-583
RF-CHOKE

Radio Frequency Choke Coils

APPLICATION—General purpose radio frequency choke coils for all circuits.

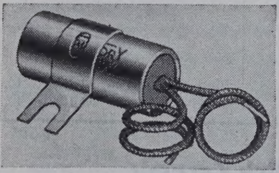
DESCRIPTION—Hour-glass wound for low distributed capacity and housed in compact insulating tubes.

TERMINALS—Two bare tinned copper wire leads, one at each end.

MOUNTING—By means of its leads or with TH clips, as described on hardware page. Also may be mounted by means of a stud through a hole provided through the core of the choke coil.

PACKAGING—Individual display carton.

Mallory Cat. No.	Turns	Wire	Inductance Microhenries	Size Dia. Length
RF581	90	16	430	1 x 1½
RF582	55	16	260	1 x 1$\frac{3}{16}$
RF583	55	12	25-30	1$\frac{5}{16}$ x 1⅝



Motor Brush Noise Filters (Type W)

APPLICATION—Type W filters, while primarily designed for installation on motor brushes, may be used wherever a permanently installed dual capacity filter is desired. Where un-grounded motor frames or appliance cases are involved, type WSP is recommended for elimination of possible shock hazard.

DESCRIPTION—Dual wax impregnated capacitors housed in sealed metal tubes and specially designed to have low RF impedance. Case is grounded to common terminal of the included sections except in SP type where a shock limiting capacitor is employed between the common lead and case.

TERMINALS—Two flexible covered leads, case common ground.

MOUNTING—By means of attached tangential strap.

PACKAGING—Individual display cartons.

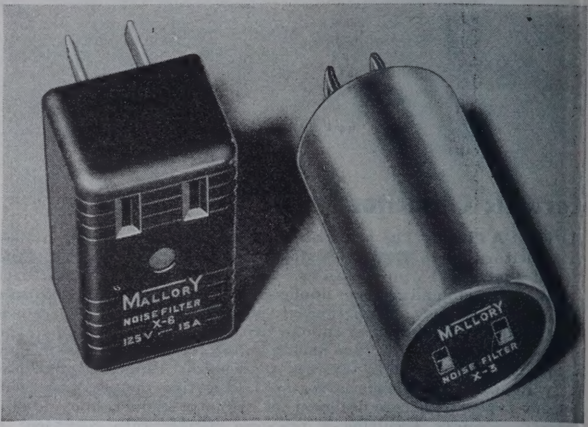
Type W7—115-220 Volts AC-DC for Light Interference Size ⅞" x 2"

Type W9—115-220 Volts AC-DC for Medium Interference Size 1" x 3"

Type W11—115-220 Volts AC-DC for Severe Interference Size 1⅜" x 3"

Type W7SP—115-220 Volts AC-DC for Light Interference Size ⅞" x 2"

Type W9SP—115-220 Volts AC-DC for Medium Interference Size 1" x 3"



Appliance Noise Filters (Type X)

APPLICATION—For use with plug-in type appliances where straight capacity type filters are sufficient to produce desired noise suppression.

DESCRIPTION—Single and dual type capacitor filters in round metal housings designed for insertion between appliance cord and wall outlet. X-6 is furnished in attractive compact brown plastic case.

TERMINALS—Male prongs for insertion into wall outlet and slots for appliance plug.

MOUNTING—Self-supporting by its prongs.

PACKAGING—Individual display carton.

Type X1 is for relatively slight interference. Size 1⅜" x 1¾", rated 110 volts, 5 amperes.

Type X3 is a capacitor type filter having greater efficiency than Type X1. Size 1⅜" x 2¼", rated 110-220 volts, 5 amperes.

Type X5 is a triple capacity filter with provision for return lead to appliance. Special safety feature prevents possibility of shock and makes this unit ideal for use with vacuum cleaners, food mixers, etc. Size 1⅜" x 2⅛", rated 110-220 volts, 5 amperes, and equipped with binding post for connection to appliance or motor frame.

Type X6 for medium interference. Furnished in an attractive, compact, rectangular brown plastic case. Size 1¼" x 2$\frac{1}{16}$" x 1". Rated at 110 volts AC-DC, 5 amperes.

Type X6D same as X6 except packaged on an attractive counter display card, six to a card.

IMPORTANT

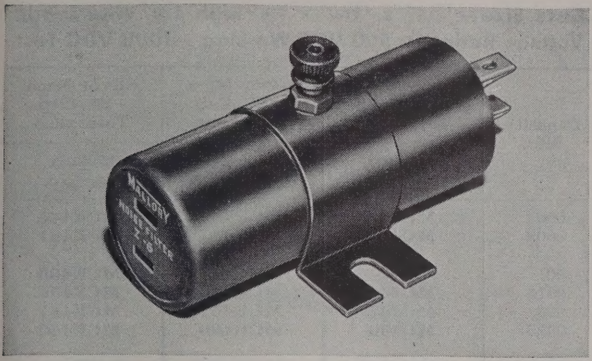
General Noise Elimination Information

- All radio noise suppression devices should be applied at the source of the noise. Filters inserted in radio receiver cords are usually ineffective.

The filters described herein are, therefore, designed for insertion at the offending device. They incorporate many improvements accomplished through the extensive research and war production experience of the P. R. Mallory Company. While there will be some exceptions, most of the types of interference found in the home can be effectively reduced by the Mallory filters described. Unusual cases should be referred to the Mallory Engineering Department for advice.

Each filter is supplied with a complete instruction sheet for proper installation.

MALLORY NOISE SUPPRESSION FILTERS



Appliance Noise Filters (Type Z)

APPLICATION—For use with plug-in type appliances where inductance-capacity continuation filters are necessary to accomplish desired noise suppression.

DESCRIPTION—Single and dual inductance-capacity filters housed in round metal containers designed for insertion between appliance cord and wall outlet.

TERMINALS—Male prongs and female receptacles. Types Z4, 6 and 8 have extra provision for return lead to ground or appliance frame.

MOUNTING—Self-supported by its prongs.

PACKAGING—Individual display carton.

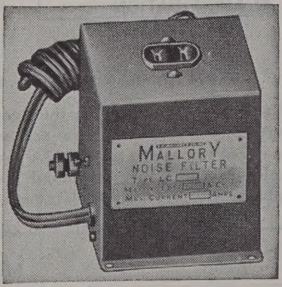
Type Z2 is a capacitor-inductance filter for medium interference. Use with electric razor or small appliances. Most effective on grounded line systems where reversal of plugs will affect operation. Size 1⅜″ x 2¾″, rated 110-220 volts, 3 amperes.

Type Z4 is a dual inductance-capacity filter for severe interference on appliances where a return lead from the filter is inconvenient. Ideal for electric razor, vibrators and household appliances. Size 1⅜″ x 3″, rated 110-220 volts, 3 amperes.

Type Z6 is a dual inductance-capacity filter with provision for return lead to ground. Recommended for suppressing severe interference. Size 1⅛″ x 3⅜″. Rated 110-220 volts, 3 amperes.

Type Z8 is same as Z6 but with provision for return wire connection to motor or appliance frame rather than ground. An efficient filter equivalent to box type within 3 ampere rating.

Heavy-Duty Appliance Noise Filters (Type LC)



APPLICATION—For portable plug-in applications where severe interference is involved and ampere rating exceeds that of type Z.

DESCRIPTION—Combination inductance-capacity filter housed in rectangular metal case.

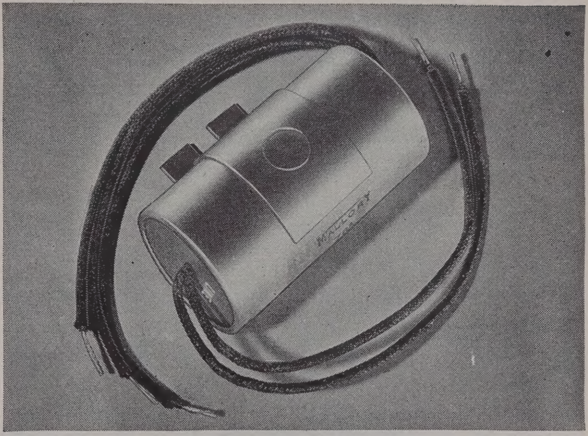
TERMINALS—Ample line cord with male plug for insertion in wall outlet. Female receptacle for appliance cord plug. Binding post for return wire lead to appliance or motor frame.

MOUNTING—Two metal flanges (when permanent mounting is desired).

PACKAGING—Individual carton.

Type LC5 rated 115-220 volts AC-DC, 5 amperes.

Type LC10 rated 115-220 volts AC-DC, 10 amperes.



Fluorescent Lighting Noise Filter

APPLICATION—Specially designed for fluorescent lights where permanent installation on or in the light fixture is desired.

DESCRIPTION—Dual inductance-capacity filter housed in round metal tubes. Contains shock limiting capacitor.

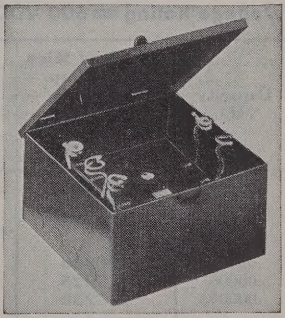
TERMINALS—Flexible covered wire leads, two at one end for input—three at other end for output of which the red lead is for grounding to light frame.

MOUNTING—By means of attached tangential strap.

PACKAGING—Individual display carton.

Type Z8A, 115-220 volts, AC-DC, 3 amperes. For fluorescent lights

Heavy-Duty Appliance Noise Filters (Type LB)



APPLICATION—For permanent installation wherever heavy-duty filters are required, such as outdoor signs, large motors, or at meter board.

DESCRIPTION—Heavy-duty choke-capacity combination filters sealed in rectangular case and housed in standard heavy gauge metal cut-out boxes.

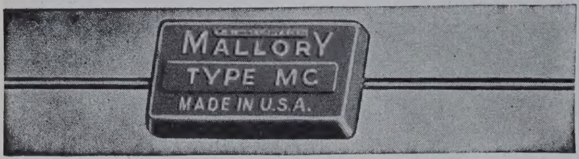
TERMINALS—Heavy, flexible insulated wire leads for splicing with house or motor wiring.

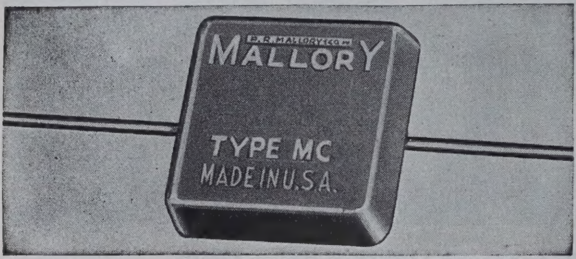
MOUNTING—Mounts by means of screws through bottom of cut-out box.

PACKAGING—Individual carton.

Type	Rating	Size
LB-10	220V-10 Amp.	6″ x 6″ x 4″
LB-20	220V-20 Amp.	10″ x 10″ x 6″
LB-40	220V-40 Amp.	12″ x 10″ x 6″

MALLORY MICA CAPACITORS





Mica Receiver Capacitors

APPLICATION—Designed primarily for radio receiving applications, they may be used in television and other electronic circuits within their voltage range.

DESCRIPTION—Made with carefully selected mica and foil and housed in high quality compact rectangular bakelite case with standard RMA color coding for identification.

TERMINALS—Bare tinned copper leads.

MOUNTING—By means of its leads.

PACKAGING—5 or 10 capacitors per display carton only.

Case Size—7/16″ x 25/32″ x 7/32″ with 1⅛″ Wire Leads
Voltage Rating = 500 VDC Working—1000 VDC Test

Capacity Mfd.	Standard Mica ±20% Cap. Tolerance	Silver Mica ±10% Cap. Tolerance	Silver Mica ±2% Cap. Tolerance
	Mallory Cat. No.	Mallory Cat. No.	Mallory Cat. No.
.000005	MC205	MCB205	
.00001	MC215	MCB215	MCE215
.000025	MC220	MCB220	MCE220
.00004	MC223	MCB223	MCE223
.00005	MC225	MCB225	MCE225
.000075	MC230	MCB230	MCE230
.0001	MC235	MCB235	MCE235
.00015	MC236	MCB236	MCE236
.0002	MC237	MCB237	MCE237
.00025	MC240	MCB240	MCE240
.0003	MC241	MCB241	MCE241
.0004	MC243	MCB243	MCE243
.0005	MC245	MCB245	MCE245
.0008	MC251	MCB251	MCE251
.001	MC255	MCB255	MCE255
.0015	MC256		

DON'T MISS THE MALLORY CONTROL DEALS
Turn to Page 3, Mallory Controls, for full information.

Case Size—13/16″ x 13/16″ x 5/16″ with 1⅛″ Wire Leads
Voltage Rating = 500 VDC Working—1000 VDC Test

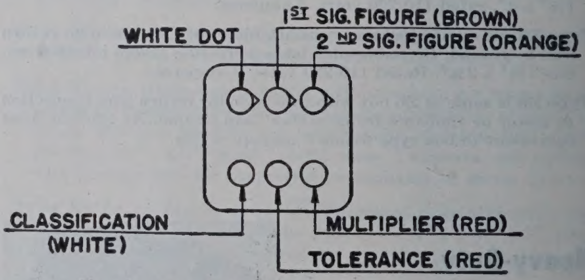
Capacity Mfd.	Standard Mica ±20% Cap. Tolerance	Silver Mica ±10% Cap. Tolerance	Silver Mica ±2% Cap. Tolerance
	Mallory Cat. No.	Mallory Cat. No.	Mallory Cat. No.
.0005	MC445	MCB445	MCE445
.0008	MC451	MCB451	MCE451
.001		MCB455	MCE455
.0015	MC456	MCB456	MCE456
.002	MC457	MCB457	MCE457
.0025	MC460	MCB460	MCE460
.003	MC461	MCB461	MCE461
.004	MC463	MCB463	MCE463
.005	MC465	MCB465	MCE465
.006	MC467	MCB467	MCE467
.007	MC469	MCB469	MCE469
.008	MC471	MCB471	MCE471
.01	MC475	MCB475	MCE475

New RMA Color Code

● The new RMA color code, shown below, permits positive identification of the mica capacitors listed.

Reading across the top from left to right with the arrow pointing to the right, the first dot shall always be white to indicate standard RMA molded mica capacitor. The second and third dots become the first two significant figures in the capacitance. The second row is read from right to left. The lower right dot should be the multiplier. The lower second dot indicates the tolerance and the lower left dot indicates the class.

The key to color significance is as follows:



Example shown above = 1300 mmfd. ±2%, 500 V.W.

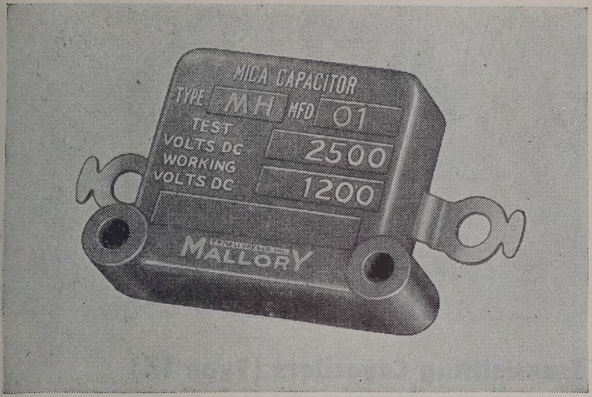
Note: When any Mallory mica capacitor has a white dot in the upper left hand corner (when the arrows point to the right) that capacitor is coded under the **new** RMA color code, as shown above. Any other color in the upper left hand corner indicates the **old** color code, which may be found in Catalogue No. 467-A.

Color	Sig. Fig.	Mult.	Tol.	Class.*
Black	0	1	±20%	A
Brown	1	10		B
Red	2	100	± 2%	C
Orange	3	1000	± 3%	D
Yellow	4	10000		
Green	5		± 5%	
Blue	6			
Violet	7			
Gray	8			I
White	9			J
Gold		0.1		
Silver		0.01	± 10%	

*Denotes various electrical characteristics.

Voltage ratings vary with capacitance as shown in RMA Specification—April, 1946.

MALLORY MICA CAPACITORS



Mica Transmitting Capacitors (Type MH)

APPLICATION—For use in transmitting and power amplifier circuits where voltage exceeds the 500-volt rating of type MC.

DESCRIPTION—Made with accurately gauged high-quality India mica in bakelite molded case providing insulated mounting. Capacity tolerance ±20%. Only size variation for various ratings is the thickness as shown in the chart.

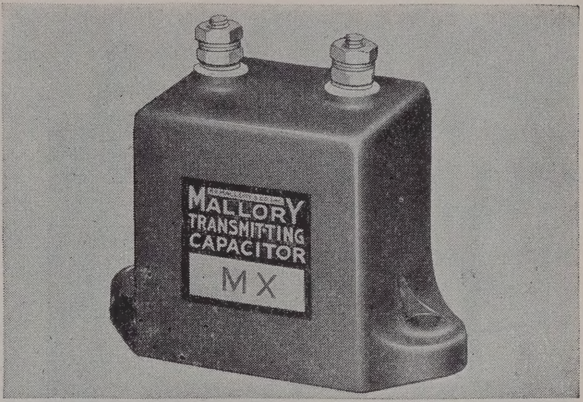
TERMINALS—Short, heavy tinned copper solder lugs for minimum RF and contact resistance.

MOUNTING—Insulated mounting by means of screws through holes molded in case.

PACKAGING—Individual display carton.

Mallory Cat. No.	Cap. Mfd.	Working Volts DC	Test Volts DC	Thickness
MH535	.0001	600	1000	23/64
MH635	.0001	1200	2500	23/64
MH735	.0001	2500	5000	23/64
MH545	.0005	600	1000	23/64
MH645	.0005	1200	2500	23/64
MH745	.0005	2500	5000	23/64
MH555	.001	600	1000	23/64
MH655	.001	1200	2500	23/64
MH755	.001	2500	5000	23/64
MH557	.002	600	1000	23/64
MH657	.002	1200	2500	23/64
MH757	.002	2500	5000	23/64
MH565	.005	600	1000	23/64
MH665	.005	1200	2500	29/64
MH765	.005	2500	5000	29/64
MH575	.01	600	1000	23/64
MH675	.01	1200	2500	29/64
MH577	.02	600	1000	29/64

MALLORY
RADIO SERVICE ENCYCLOPEDIA
552 pages of replacement information
for all pre-war and post-war receivers



Mica Transmitting Capacitors (Type MX)

APPLICATION—Ideal for amateur transmitting equipment. They may also be used in coupling, tank, and bypass circuits at radio frequencies within their rating. (Note that the maximum amperes for several radio frequencies are given in the chart. The operating current should be kept within these limits.)

DESCRIPTION—Heavy-duty mica construction, supplied in attractive rectangular porcelain cases.

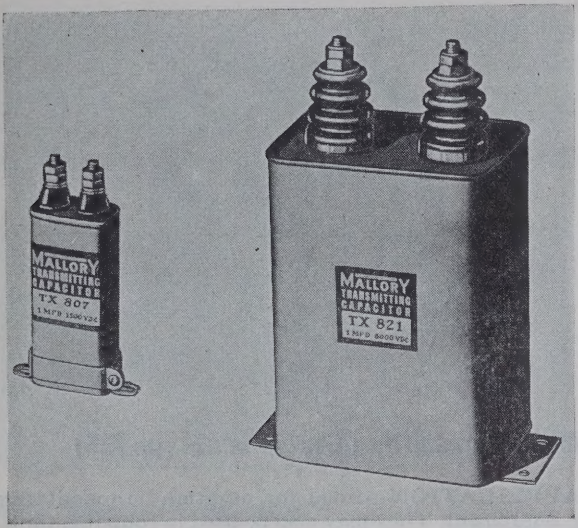
TERMINALS—Two screw type with complete washer and nut assembly.

MOUNTING—Two flanges with ample holes for machine screw mounting.

PACKAGING—Individual display carton.

Mallory Cat. No.	Cap. Mfd.	Test Volts DC	Max. Amps.	Freq. KC.
MX855	.001	12,500	9.0 10.0 11.0 12.0	15000 7500 3750 1875
MX857	.002	12,500	9.0 12.0 13.0 15.0	15000 7500 3750 1875
MX865	.005	10,000	10.0 13.0 14.0 15.0	15000 7500 3750 1875
MX875	.01	7,000	10.0 13.0 15.0 15.0	15000 7500 3750 1875
MX877	.02	3,500	10.0 13.0 17.0 17.0	15000 7500 3750 1875
MX885	.05	3,500	11.0 14.0 16.0 18.0	15000 7500 3750 1875
MX895	.1	2,000	11.0 14.0 16.0 18.0	15000 7500 3750 1875

MALLORY OIL FILLED AND IMPREGNATED CAPACITORS



Transmitting Capacitors (Type TX)

APPLICATION—For radio, television, transmitting, and all circuits requiring high voltage capacitors.

DESCRIPTION—Compact rectangular oil filled capacitors of sturdy construction.

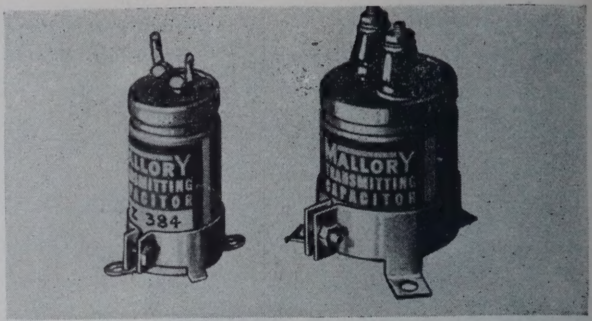
TERMINALS—Suitable standoff insulated terminals at one end to safely cover maximum voltage rating of each unit.

MOUNTING—Base dimensions less than 3½ x 5⅛, by rectangular clamp providing either upright or inverted position. Base sizes of 3½ x 5⅛ and above, by permanent flanges at the unit base.

PACKAGING—Individual carton.

Mallory Cat. No.	Cap. Mfd.	Working Volts DC	Size* W L H
TX801	1	600	1 x 1¾ x 2⅛
TX802	2	600	1 x 1¾ x 2⅝
TX803	4	600	1 x 1¾ x 4¼
TX816	6	600	1 3/16 x 2½ x 4⅝
TX817	10	600	1¼ x 3¾ x 4⅝
TX822	.5	1000	1 x 1¾ x 2⅛
TX804	1	1000	1 x 1¾ x 2⅝
TX805	2	1000	1 x 1¾ x 3⅞
TX806	4	1000	1 3/16 x 2½ x 4⅝
TX824	6	1000	1¼ x 3¾ x 4⅝
TX825	10	1000	1¾ x 3¾ x 4⅝
TX807	1	1500	1 x 1¾ x 4¼
TX808	2	1500	1 3/16 x 2½ x 4⅝
TX809	4	1500	1½ x 3¾ x 4⅝
TX829	6	1500	1¾ x 3¾ x 4⅝
TX830	10	1500	3 3/16 x 3¾ x 4⅝
TX831	.25	2000	1 x 1¾ x 2⅛
TX832	.5	2000	1 x 1¾ x 2⅞
TX810	1	2000	1 3/16 x 2½ x 3⅜
TX811	2	2000	1¼ x 3¾ x 4¼
TX823	4	2000	2¼ x 3¾ x 4¾
TX833	6	2000	3 3/16 x 3¾ x 4⅝
TX834	10	2000	4 9/16 x 3¾ x 4⅝
TX812	1	2500	1¾ x 3¾ x 3¼
TX813	2	2500	1¾ x 3¾ x 4¾
TX835	.1	3000	1 3/16 x 2½ x 2⅜
TX836	.25	3000	1 3/16 x 2½ x 3⅜
TX837	.5	3000	1 13/16 x 2½ x 4⅝
TX814	1	3000	1¾ x 3¾ x 4⅝
TX815	2	3000	3 3/16 x 3¾ x 4⅝
TX838	4	3000	4 9/16 x 3¾ x 5½
TX839	1	4000	2¼ x 3¾ x 4¾
TX827	2	4000	4 9/16 x 3¾ x 4¾
TX828	4	4000	8⅛ x 5⅛ x 3½
TX818	1	5000	5⅛ x 3½ x 5⅝
TX819	2	5000	5⅛ x 3½ x 9
TX820	.5	6000	4⅜ x 5⅛ x 3½
TX821	1	6000	4 9/16 x 3⅜ x 8

*W—Width; L—Length; H—Height.



Transmitting Capacitors (Type TZ)

APPLICATION—For filter and bypass circuits in power amplifiers, television and transmitting equipment where compact round can units are desired.

DESCRIPTION—Oil impregnated type capacitor furnished in round containers for upright or inverted mounting. All units internally insulated from case.

TERMINALS—The 1⅜″ diameter units have two solder lug terminals with ample insulation for the voltage ratings involved. The 2″ diameter units have special standoff insulated terminals.

MOUNTING—Supplied with type VR bracket for inverted or upright mounting.

PACKAGING—Individual carton.

Mallory Cat. No.	Cap. Mfd.	Working Volts DC	Size Dia. Height
TZ382	2.0	600	**1⅜ x 3⅛**
TZ383	4.0	600	**1⅜ x 4⅛**
TZ384	1.0	1000	**1⅜ x 2⅝**
TZ385	2.0	1000	**1⅜ x 4⅛**
TZ389	4.0	1000	**2 x 4**
TZ386	.5	1500	**1⅜ x 3⅛**
TZ387	1.0	1500	**1⅜ x 4⅝**
TZ388	2.0	1500	**2 x 4**
TZ390	1.0	2000	**2 x 3¼**
TZ391	2.0	2000	**2 x 4½**

MALLORY

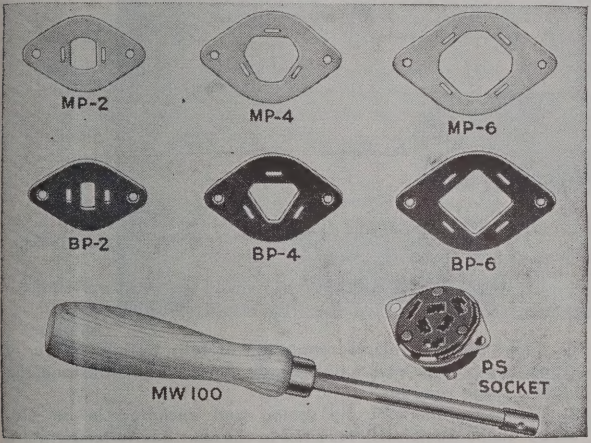
TECHNICAL MANUAL

● This simply written, practical book bridges the gap between radio theory and practice. Designed for the radio serviceman, engineer, amateur or experimenter who wants the latest technical information . . . presented so that he can easily apply it to everyday problems. Contains page after page of information profusely illustrated. It's worth far more than its price.

MALLORY CAPACITOR HARDWARE

Type "MSU" Hardware

Mallory Cat. No.	Description	Size
115-1	Top Cap........................	1⅜
116-1	Top Cap........................	2
118-1	Bottom Cap....................	1⅜
119-1	Bottom Cap....................	2
121-1	Bracket........................	1⅜ x 3¼
122-1	Bracket........................	1⅜ x 4¼
123-1	Bracket........................	2 x 3⅛
124-1	Bracket........................	2 x 4⅛



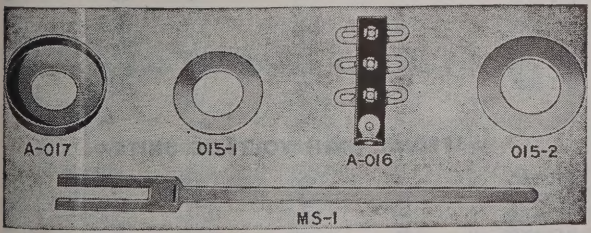
Type MP—Metal plates for grounded mounting of FP and WP capacitors.

Type BP—Bakelite plates for insulated mounting of FP and WP capacitors.

Type PS—Molded plastic sockets for plug-in mounting FP or WP capacitors. (Blank ear on capacitor should be removed to permit polarization with respect to socket.)

Type MW-100—Special wrench for twisting mounting ears on FP or WP capacitors.

Cat. No.	Description	Size
MP-2	Metal mounting wafer for FP......	¾
MP-4	Metal mounting wafer for FP......	1
MP-6	Metal mounting wafer for FP......	1⅜
BP-2	Bakelite mounting wafer for FP....	¾
BP-4	Bakelite mounting wafer for FP....	1
BP-4A	Bakelite mounting wafer for FP.... (To mount 1″ FP in chassis punched for 1⅜″ wafer)	1
BP-6	Bakelite mounting wafer for FP....	1⅜
PS-4	Plug-in socket for FP............	1
PS-6	Plug-in socket for FP............	1⅜
PSC-4	Retainer clamp for PS-4 socket....	
MW-100	Mounting wrench for FP..........	



Type MS-1—Adjustable metal strap for horizontal mounting tubular types up to 1⅜″ diameter.

Type A-016—Terminal connector or anchor strap for general use where required.

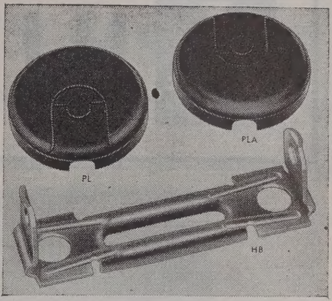
Type 015-1—Washer for RS type ⅝″ neck when used in over-size chassis hole.

Type 015-2—Washer for use with RS, RM or HS units where chassis hole is too large for regular mounting. Use two washers, one above and one below chassis.

Type A-017—Special washer with turned-over edge for ring clamp mounting 1″ RS type in 1⅜″ ring clamp.

Cat. No.	Description	Size
015-1	Washer for ⅝″ neck in ⅞″ hole.....	Var.
015-2	Washer for ¾″ neck in 1″ hole......	Var.
MS-1	Adjustable mounting strap	Var.
A-016	Terminal connector...............	Var.
A-017	Washer for clamp mounting neck cans	Var.

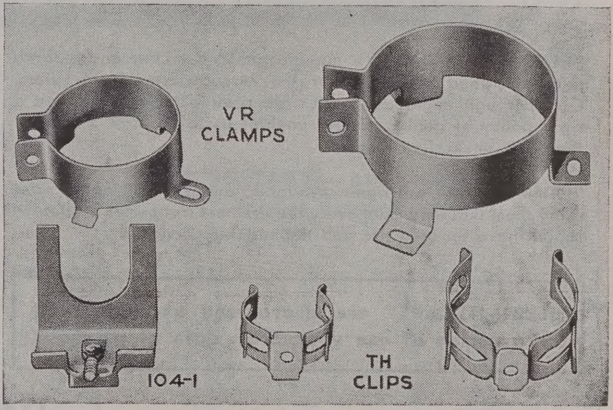
Type "P" Hardware



Types PL and PLA—Plastic end cap to protect terminals on HC or NP units when desired.

Type HB—Horizontal bracket for mounting HC and NP units. Using end cap type PL or PLA.

Cat. No.	Description		Size
PL-3	Plastic end cap	For "On Motor" mounting	1⁷⁄₁₆
PL-6	Plastic end cap		1¹³⁄₁₆
PL-8	Plastic end cap		2¹⁄₁₆
PLA-3	Plastic end cap	For "Off Motor" mounting	1⁷⁄₁₆
PLA-6	Plastic end cap		1¹³⁄₁₆
PLA-8	Plastic end cap		2¹⁄₁₆
HB-4	Horizontal bracket (plastic cases)...		3⅜
HB-8	Horizontal bracket (plastic cases)...		4⅜



Type TH—Special clips for horizontal mounting of any tubular or FP unit within the diameter range shown. Designed primarily to mount without tools under special chassis lances in original equipment, they may also be attached to chassis with 5-32 screw and nut in any ⅛″ hole.

Type VR—Brackets for vertical mounting round units.

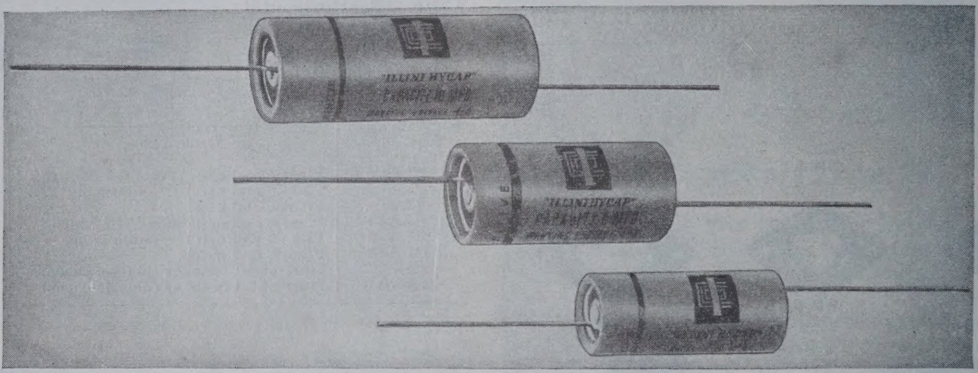
Type 104-1—Special bracket with spade bolt for mounting RS and RM units where spade bolt mounting was used.

Cat. No.	Description	Size
TH-13	Spring clip for TC................	⅜
TH-15	Spring clip for TC................	½ to ⁹⁄₁₆
TH-17	Spring clip for TC................	⅝ to ¹¹⁄₁₆
TH-19	Spring clip for TC and FP.........	¾ to ¹³⁄₁₆
TH-21	Spring clip for TC................	⅞ to ¹⁵⁄₁₆
TH-23	Spring clip for TC and FP.........	1 to 1¹⁄₁₆
TH-25	Spring clip for TC and FP.........	1⅜ to 1⁷⁄₁₆
VR-1	Clamp for vertical mounting.......	1 to 1¹⁄₁₆
VR-3	Clamp for vertical mounting.......	1⅜ to 1⁷⁄₁₆
VR-4	Clamp for vertical mounting.......	1½ to 1⁹⁄₁₆
VR-6	Clamp for vertical mounting.......	1¾ to 1¹³⁄₁₆
VR-8	Clamp for vertical mounting.......	2 to 2¹⁄₁₆
VR-10	Clamp for vertical mounting.......	2½
104-1	Spade bolt mounting for neck type cans..........................	Variable

OE and CE Insulating Sleeve

Cat. No.	Description	Size
OE-1	Open end FP insulating sleeve......	¾ x 2
OE-3	Open end FP insulating sleeve......	1 x 2
OE-4	Open end FP insulating sleeve......	1 x 3
OE-5	Open end FP insulating sleeve......	1⅜ x 2
OE-6	Open end FP insulating sleeve......	1⅜ x 3
CE-1	Closed end FP insulating sleeve.....	¾ x 2
CE-3	Closed end FP insulating sleeve.....	1 x 2
CE-4	Closed end FP insulating sleeve.....	1 x 3
CE-5	Closed end FP insulating sleeve.....	1⅜ x 2
CE-6	Closed end FP insulating sleeve.....	1⅜ x 3

ILLINOIS CONDENSERS
TIME TESTED QUALITY



"ILLINI-HYCAPS" are now manufactured in a new and modern plant designed especially for the manufacture of capacitors. Our thorough engineering, plus old manufacturing skills and a rigid policy of quality control enables us to produce a product that is of unexcelled quality.

"ILLINI-HYCAPS" are again available, and you will agree after using them that they meet every requirement a superior condenser should have for long life and dependable service.

"ILLINI-HYCAPS" are guaranteed unconditionally for a period of one year, from date of purchase.

1. Short proof — ample separation of foils by highest purity cellulose separator plus tough anodic film — will withstand the highest surge voltages.
2. Condenser hermetically sealed and anchored in an aluminum shell. Completely resistant to changes due to temperature and humidity. Built to withstand all kinds of vibrations and shocks.
3. Attractive kraft tube spun over condenser ends . . . prevents shorting of pig tail leads to condenser or other components. Aluminum lock-washers hold leads securely in place, will not loosen or break off.
4. Low power factor, low leakage, excellent shelf life.
5. Extremely longer life — due to our use of C. P. chemicals and highest purity foils and insulation materials available. A balanced non-corrosive electrolyte contributes to quiet, stable operation.

TYPE IHT
TUBULAR ELECTROLYTIC CAPACITORS

HI-CAPACITY — LOW VOLTAGE UNITS

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
IHT 10010	100	10	11/16''	1¾''	$1.45
IHT 20010	200	10	13/16''	1¾''	1.65
IHT 40010	400	10	13/16''	2 3/16''	1.90
IHT 10006	1000	6	1 1/16''	2¼''	2.25
IHT 20006	2000	6	1 1/16''	2⅞''	3.25
IHT 10012	1000	12	1 1/16''	2⅞''	2.75

LOW VOLTAGE

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
IHT 550	5	50	11/16''	1⅛''	.75
IHT 1025	10	25	11/16''	1¼''	.75
IHT 1050	10	50	11/16''	1¼''	.80
IHT 2525	25	25	11/16''	1¼''	.85
IHT 2590	25	90	11/16''	1¼''	.95
IHT 5050	50	50	11/16''	1¾''	1.05
IHT 10025	100	25	11/16''	1¾''	1.20
IHT 8100	8	100	½''	1¼''	1.00
IHT 16100	16	100	½''	1¾''	1.00
IHT 8150	8	150	11/16''	1¼''	.80
IHT 10150	10	150	11/16''	1¼''	.80
IHT 12150	12	150	11/16''	1¾''	.85
IHT 16150	16	150	11/16''	1¾''	.90
IHT 2015	20	150	11/16''	1¾''	.95
IHT 2415	24	150	11/16''	1¾''	.95
IHT 3015	30	150	13/16''	1¾''	1.00
IHT 4015	40	150	13/16''	1¾''	1.10
IHT 5015	50	150	13/16''	1¾''	1.20
IHT 7515	75	150	15/16''	2''	1.40
IHT 10015	100	150	15/16''	2¼''	1.70

INTERMEDIATE VOLTAGE UNITS
Designed for Long Life Service in Selenium Rectifier
And Voltage-Doubling Circuits

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
IHT 40175	40	175	11/16''	1¾''	1.25
IHT 50175	50	175	11/16''	1¾''	1.55
IHT 60175	60	175	13/16''	2 3/16''	1.75
IHT 8250	8	250	11/16''	1¾''	.80
IHT 16250	16	250	13/16''	1¾''	1.10
IHT 30250	30	250	15/16''	2''	1.25
IHT 40250	40	250	13/16''	2¼''	1.45
IHT 80250	80	250	1⅛''	2¼''	2.00

HIGH VOLTAGE

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
IHT 4450	4	450	11/16''	1¾''	$ .90
IHT 6450	6	450	13/16''	1¾''	.90
IHT 8450	8	450	13/16''	1¾''	.95
IHT 10450	10	450	13/16''	1¾''	1.05
IHT 1245	12	450	¾''	2¼''	1.15
IHT 1645	16	450	¾''	2¼'	1.35
IHT 2045	20	450	1 1/16''	2¼''	1.50
IHT 3045	30	450	1 1/16''	2¼''	1.65
IHT 4045	40	450	1 1/16''	2¾''	2.00
IHT 5045	50	450	1 1/16''	2¾''	2.35

SPECIAL HIGH VOLTAGE UNITS

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
IHT 8500	8	500	15/16''	1⅞''	1.30
IHT 16500	16	500	1 1/16''	2¼''	2.00
IHT 20500	20	500	1 1/16''	2¼''	2.25
IHT 30500	30	500	1 1/16''	2⅞''	2.50
IHT 40500	40	500	1 1/16''	2⅞''	2.80

DUAL UNITS — ALUMINUM CANS — LOW VOLTAGE

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
IHT 2215M	20-20	150	15/16''	1⅞''	1.30
IHT 3315M	30-30	150	15/16''	2¼''	1.50
IHT 4415M	40-40	150	15/16''	2¼''	1.70
IHT 5315M	50-30	150	15/16''	2¼''	1.75

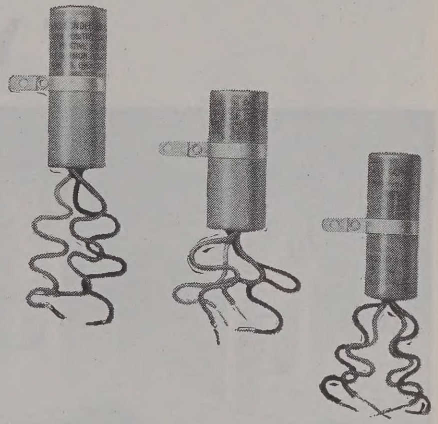
DUAL UNITS — ALUMINUM CAN

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
IHT 8845M	8-8	450	1 1/16''	2¼''	1.75
IHT 121245M	12-12	450	1 1/16''	2¼''	1.90
IHT 16845M	16-8	450	1 1/16''	2¼''	2.10
IHT 161645M	16-16	450	1 1/16''	2⅞''	2.25
IHT 2245M	20-20	450	1 1/16''	2⅞''	2.40

ILLINOIS CONDENSERS

TIME TESTED QUALITY

Clamp Mounting Tubulars
"ILLINI-HYCAPS"



Through careful selection of high temperature sealing compounds and superior engineering design, these completely hermetically sealed, compact tubular electrolytic condensers are the acme of dependabilty. They operate efficiently under high temperatures and wil give long life under all climatic conditions.

The small size and convenient mounting features of our Type IHC "ILLINI-HYCAPS" make them popular in both manufacturing and replacement work.

Leads are color-coded and securely anchored in the hard wax seal. Dual units have four leads for universal replacement work and are completely insulated.

Clamp may be moved to any position on tube for rapid mounting.

TYPE IHC

HIGH VOLTAGE — SINGLE UNITS

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
IHC 1245	12	450	⅞''	2¾''	$1.15
IHC 1645	16	450	15/16''	2¾''	1.35
IHC 2045	20	450	1''	2¾''	1.50
IHC 3045	30	450	1⅛''	2¾''	1.65
IHC 4045	40	450	1⅛''	2¾''	2.00
IHC 5045	50	450	1⅛''	3¼''	2.30
IHC 6045	60	450	1⅛''	3¼''	2.60
IHC 8045	80	450	1 3/16''	3¼''	2.95

HIGH SURGE — SINGLE UNITS

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
IHC 12500	12	500	15/16''	2¾''	1.95
IHC 16500	16	500	15/16''	2¾''	2.00
IHC 20500	20	500	1''	2¾''	2.25
IHC 30500	30	500	1''	3¼''	2.40
IHC 40500	40	500	1⅛''	3¼''	2.65

HIGH VOLTAGE — MULTIPLE UNITS

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
IHC 8845	8-8	450 CN	1⅛''	2¾''	1.70
IHC-D 8845	8-8	450 DN	1⅛''	2¾''	2.10
IHC 101045	10-10	450 CN	1⅛''	2¾''	1.85
IHC-D 101045	10-10	450 DN	1⅛''	2¾''	2.20
IHC 16845	16-8	450 CN	1⅛''	3''	2.00
IHC 161645	16-16	450 CN	1 3/16''	3''	2.30
IHC-D 161645	16-16	450 DN	1 3/16''	3¼''	3.15
IHC-D 22450	20-20	450 CN	1 3/16''	3¼''	3.70
IHC 33450	30-30	450 CN	1¼''	3¼''	3.95
IHC 44450	40-40	450 CN	1⅜''	3¼''	4.10
IHC 801045	80-10	450	1⅜''	3¼''	4.25
IHC 88845	8-8-8	450	1 3/16''	3''	2.75
IHC 11145	10-10-10	450	1 3/16''	3''	3.00
IHC 66645	16-16-16	450	1¼''	3¼''	3.40
IHC 22245	20-20-20	450	1¼''	3¼''	3.95
IHC 222245	20-20-20-20	450	1⅜''	3⅜''	4.50

LUG MOUNTING SEPARATE SECTIONS — DUAL NEGATIVES

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
ULM 2847	8-8	475 DN	1⅜''	3⅜''	3.30
ULM 21647	16-16	475 DN	1⅜''	3⅜''	4.05

LOW VOLTAGE — DUAL UNITS

Common Negative

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
IHC 1125	10-10	25	¾''	1¾''	$1.05
IHC 1150	10-10	50	1''	1¾''	1.15
IHC 16815	16-8	150	1''	2''	1.20
IHC 161615	16-16	150	¾''	2⅜''	1.25
IHC 2215	20-20	150	¾''	2⅜''	1.30
IHC 2215-D	20-20*	150	15/16''	2¾''	1.70
IHC 3215	30-20	150	15/16''	2¾''	1.40
IHC 3315	30-30	150	15/16''	2¾''	1.50
IHC 4215	40-20	150	15/16''	2¾''	1.50
IHC 4415	40-40	150	15/16''	2¾''	1.70
IHC 5315	50-30	150	15/16''	2¾''	1.70
IHC 5515	50-50	150	1''	2⅞''	1.85
IHC 6215	60-20	150	15/16''	2¾''	1.75
IHC 8415	80-40	150	1''	2¾''	2.00
IHC 8815	80-80	150	1⅛''	2¾''	2.35
IHC 125100	125-100	150	1¼''	3⅛''	2.55

* Separate Negative, 4 Leads.

TYPE IHC — MULTIPLE UNITS

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
IHC 2225	20-20/25	150/25	⅞''	2⅜''	1.95
IHC 22215	20-20-20	150	1''	2⅜''	2.10
IHC 44425	40-40/25	150/25	1''	2⅞''	2.20
IHC 5525	50-50/25	150/25	1''	3''	2.25
IHC 53100	50-30/100	150/25	1''	3''	2.40
IHC 43215	40-30-20	150	1''	2⅞''	2.05
IHC 84215	80-40-20	150	1⅛''	2⅞''	2.50
IHC 8225	80-20/25	150/25	1''	2⅞''	2.45
IHC 12510025	125-100/25	150/25	1¼''	3''	2.75

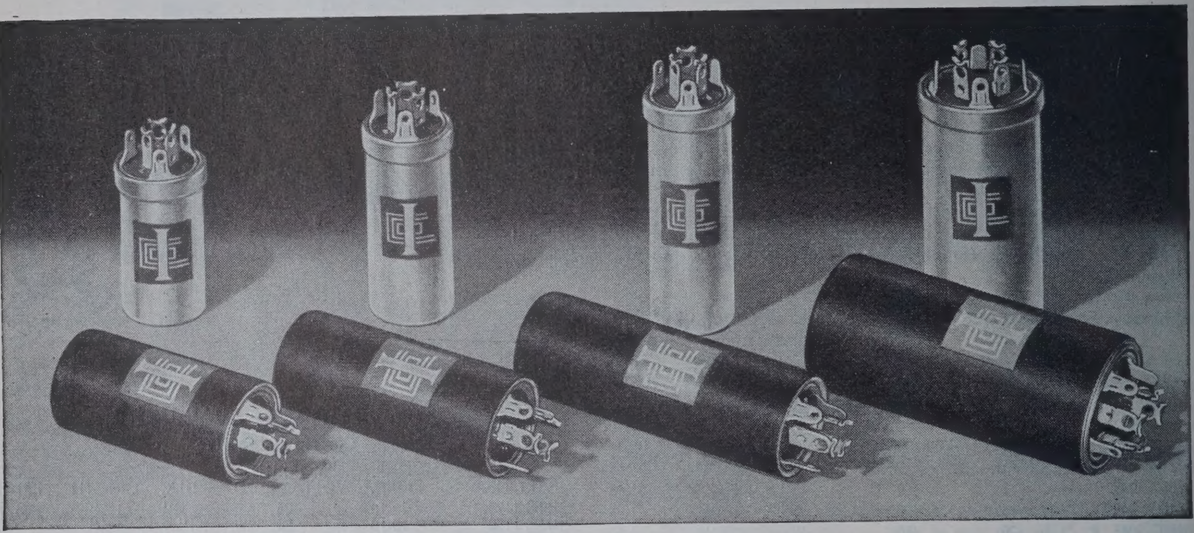
TYPE PE
PLUG-IN ELECTROLYTIC CAPACITORS

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
PE 4415	40-40	150	1 5/32''	2½''	$3.90
PE 5315	50-30	150	1 5/32''	2½''	3.90
PE 5520	50-50 20	150 25	1 5/32''	2½''	4.45
PE 53100	50-30 100	150 25	1 5/32''	2½''	4.50
PE 2045	20	450	1 5/32''	2½''	3.50
PE 3045	30	450	1 5/32''	2½''	
PE 4045	40	450	1 5/32''	3''	4.50
PE 8045	80	450	1 5/32''	3''	7.70
PE 1145	10-10	450	1 5/32''	3''	4.20
PE-D-1145	10-10*	450	1 5/32''	3''	4.50
PE 31045	10-10-10	450	1 5/32''	3''	5.00
PE 2245	20-20	450	1 5/32''	3''	5.30
PE 222452	20-20 25	450 25	1 5/32''	3''	5.90

* Dual Negative.

ILLINOIS CONDENSERS
TIME TESTED QUALITY

TYPE UMP



Illinois standard, twist prong mounting condensers offer a wider range of voltage and capacity types than have heretofore been possible in units of comparable size. They are designed to give maximum efficiency, both in operating characteristics and ease of mounting and wiring.

The electrical characteristics of our type UMP are superb. Capacities are always plus. This, coupled with low power factor and low leakage, makes them ideal for use in all electronic circuits.

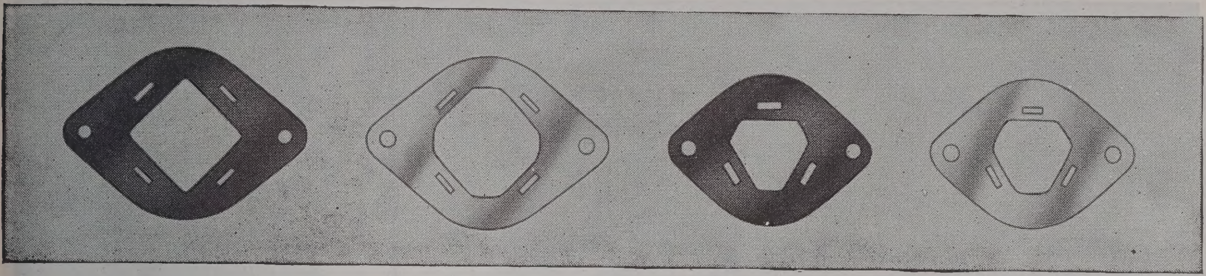
Units are hermetically sealed in seamless drawn aluminum cans. Mounting and soldering lugs are sturdy and heavily tinned. Cathode tabs are electrically welded to mounting ring. Each unit is vibration proof—and they will stand up in any climate.

Arranged in a variety of can sizes and capacity combinations, the attached listing represents the majority of condenser types in use today.

SINGLE UNITS

Part Number	Capacity MFD	Working Voltage DC	Size		List Price
			Diameter	Length	
UMP-13	3000	10	1⅜"	3"	$ 4.50
UMP-15	1000	15	1"	3"	3.25
UMP-12	2000	15	1⅜"	3"	4.70
UMP-21	100	25	1"	2"	1.45
UMP-25	500	25	1"	3"	2.45
UMP-205	1000	25	1⅜"	3"	3.55
UMP-505	500	50	1⅜"	3"	3.55
UMP-150	50	150	1"	2"	1.45
UMP-165	100	150	1"	3"	1.85
UMP-400	10	450	1"	2"	1.30
UMP-415	15	450	1"	2"	1.55
UMP-420	20	450	1"	2"	1.75
UMP-430	30	450	1"	2½"	1.90
UMP-440	40	450	1"	3"	2.25
UMP-480	80	450	1⅜"	3"	3.85

ILLINOIS CONDENSERS
TIME TESTED QUALITY



1-⅜" Diameter BAKELITE Mounting Plate Part No. MPB-1

1-⅜" Diameter STEEL Mounting Plate Part No. MPS-2

1" Diameter BAKELITE Mounting Plate Part No. MPB-3

1" Diameter STEEL Mounting Plate Part No. MPS-4

DUAL UNITS

Part Number	Capacity MFD	Working Voltage DC	Size Diameter	Size Length	List Price
UMP-144	40-40	150	1"	2½"	$ 1.95
UMP-155	50-50	150	1"	2½"	2.10
UMP-411	10-10	450	1"	2"	2.10
UMP-422	20-20	450	1"	3"	2.65
UMP-444	40-40	450	1⅜"	3"	4.00
UMP-481	80-10	450	1⅜"	3"	4.20

TRIPLE UNITS

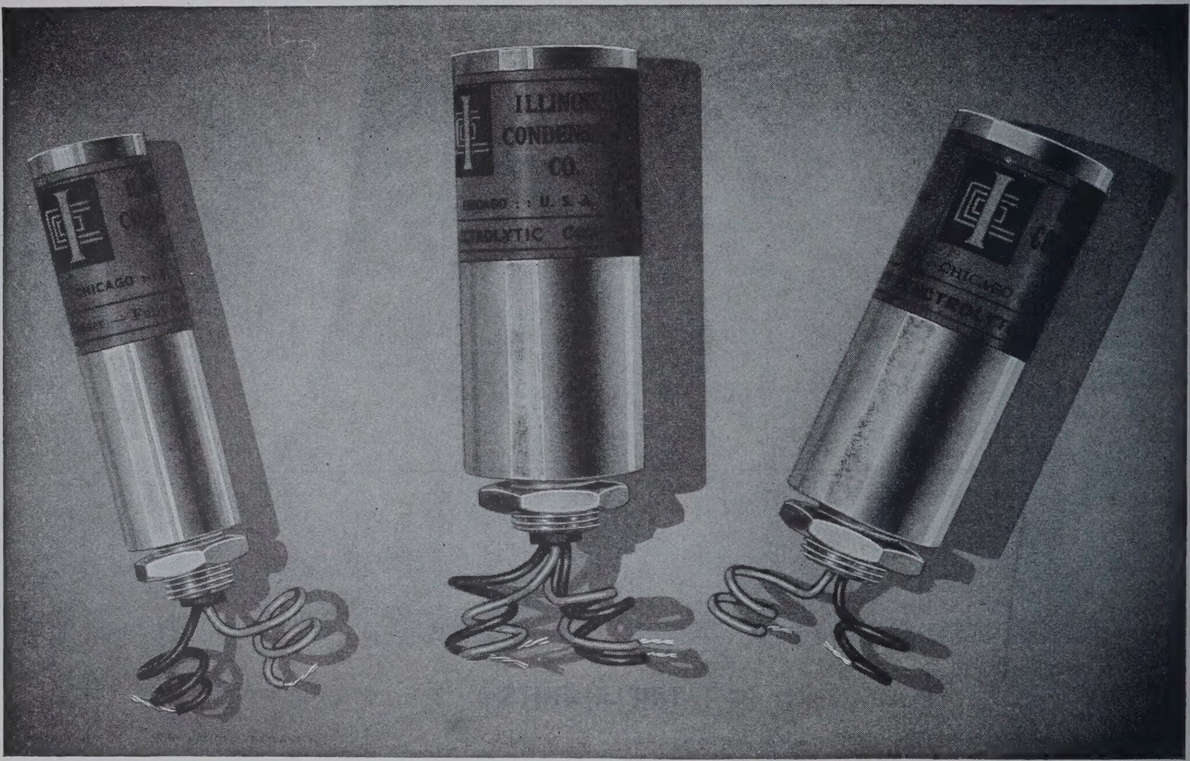
Part Number	Capacity MFD	Working Voltage DC	Size Diameter	Size Length	List Price
UMP-1332	30-30 20	150 25	1"	2"	2.25
UMP-1425	40-20 25	150 25	1"	2"	2.35
UMP-1531	50-30 100	150 25	1"	2½"	3.10
UMP-3151	15-10 20	350 25	1"	2"	2.55
UMP-3312	30-10 20	350 25	1"	2½"	2.75
UMP-4112	10-10 20	450 25	1"	2"	2.35
UMP-4222	20-20 20	450 25	1"	3"	2.95
UMP-4442	40-40 20	450 25	1⅜"	3"	4.25
UMP-1222	20-20-20	150	1"	2"	2.30
UMP-1444	40-40-40	150	1"	3"	2.60
UMP-3111	10-10-10	350	1"	2"	2.25
UMP-4111	10-10-10	450	1"	2½"	2.50

QUADRUPLE UNITS

Part Number	Capacity MFD	Working Voltage DC	Size Diameter	Size Length	List Price
UMP-14432	40-40-30 20	150 25	1⅜"	2"	3.10
UMP-44312	40-30-10 20	450 25	1⅜"	3"	4.15
UMP-41111	10-10-10-10	450	1⅜"	2"	3.25
UMP-42222	20-20-20-20	450	1⅜"	3"	4.50

NOTE: Outer Insulating sleeves are available upon special order for all of the above can sizes. A metal and bakelite mounting washer is supplied with each unit. Individually packaged in a sturdy, attractive varnished box.

ILLINOIS CONDENSERS
TIME TESTED QUALITY



TYPE LN
Inverted Screw Mounting
ALUMINUM CAN CONDENSERS

Type LN aluminum can condensers are manufactured to operate satisfactorily under the severest conditions. Units are completely sealed in an inner impregnated tube then resealed. Correct design has allowed for maximum heat dissipation with resultant ability of the condensers to operate at higher temperatures and higher voltage surges.

Separate negative and positive leads for each section for universal replacement work. Palnut furnished with each condenser, individually packaged in attractive, varnished outer box. These units are ideal for long life and continuous service.

LOCKNUT METAL CANS—STUD SCREW BASE MOUNTING

HIGH VOLTAGE

TYPE LN

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
LN 80	8	450	1⅜"	3⅜"	$1.75
LN 120	12	450	1⅜"	3⅜"	2.15
LN 16	16	450	1⅜"	3⅜"	2.40
LN 20	20	450	1⅜"	3⅜"	2.65
LN 25	25	450	1⅜"	3⅜"	2.85
LN 30	30	450	1⅜"	3⅜"	3.00
LN 40	40	450	1½"	3½"	3.40
LN 50	50	450	1½"	3½"	3.75
LN 60	60	450	1½"	3½"	3.95
LN 8045	80	450	1½"	3½"	4.35
LN 88	8-8	450	1⅜"	3⅜"	2.75
LN-D 88	8-8*	450	1⅜"	3⅜"	2.95
LN 1010	10-10	450	1⅜"	3⅜"	3.00
LN 168	16-8	450	1⅜"	3⅜"	3.25
LN 1212	12-12	450	1⅜"	3⅜"	3.25
LN 1212-D	12-12**	450			
LN 216	16-16	450	1⅜"	3⅜"	3.50
LN-D 216	16-16*	450	1½"	3½"	4.20
LN 22	20-20	450	1½"	3½"	4.00
LN 33	30-30	450	1½"	3½"	4.50
LN 44	40-40	450	1½"	3½"	4.95

* Dual Negative, 4 Leads. ** Dual Negative.

TRIPLE NEGATIVE SECTION — COMMON NEGATIVE

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
LN 388	8-8-8	450	1½"	3½"	$4.25
LN 311	10-10-10	450	1½"	3½"	4.50
LN 316	16-16-16		1½"	3½"	4.95
LN 320	20-20-20		1½"	3½"	5.30

QUAD SECTIONS

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
LN 48	8-8-8-8	450	1½"	3½"	4.85
LN 410	10-10-10-10	450	1½"	3½"	5.20

SINGLE & DUAL UNITS — 500 VDC

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
LN 850	8	500	1⅜"	3⅜"	2.25
LN 1650	16	500	1⅜"	3⅜"	3.15
LN 8850	8-8	500	1½"	3⅜"	3.25
LN 16850	16-8	500	1½"	3⅜"	3.65

SINGLE & DUAL UNITS — 600 VDC

PART No.	CAP. MFD.	WORKING VOLTAGE DC	SIZE DIA.	SIZE LENGTH	LIST PRICE
LN 600	4	600	1⅜"	3⅜"	3.00
LN 8600	8	600	1⅜"	3⅜"	4.00
LN 12600	12	600	1⅜"	3⅜"	4.65
LN 16600	16	600	1½"	3½"	5.00
LN 20600	20	600	1½"	3½"	5.75

SPRAGUE CAPACITORS

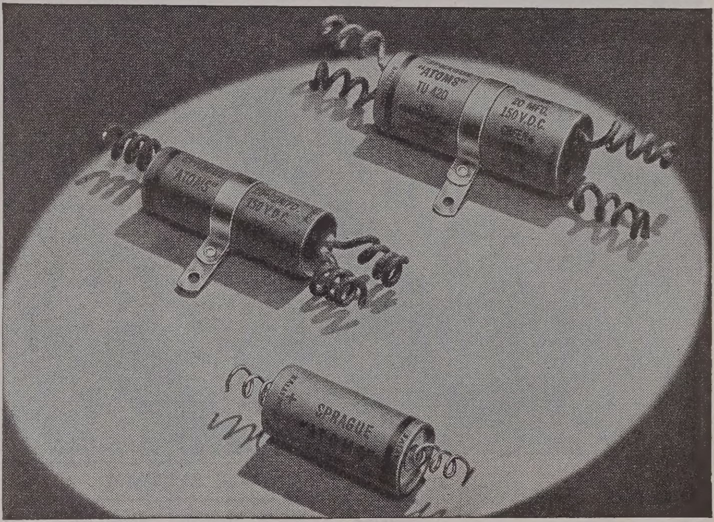
SPRAGUE ATOMS

THE UNIVERSAL MIDGET DRY ELECTROLYTICS

Sprague Atom Capacitors—"Mightiest Midgets of All"—are the answer to 90% or more of all radio service requirements for replacement dry elctrolytic units. A small stock of different capacities and voltages equips you for quick, dependable service on practically every job.

Sprague atoms will fit anywhere. The smaller units can be mounted by means of their sturdy, tinned-copper leads. Metal mounting straps are provided with all dual units and are available for the larger single units. (See Hardware page P-62.) Or if desired, you can mount them by any other suitable means. Despite their extremely small size, Atoms will last longer and stand far more punishment than much larger, old-style dry electrolytics.

Atoms are guaranteed to have low leakage, to withstand high surge voltages, and to have exceptionally long shelf life. They are fully sealed against moisture and blow-ups by an exclusive Sprague process.



SINGLE

Cat. No.	Mfd.	V DC working	Dimen. D	Dimen. L	List Price
TA-5	5	25	11/16	1 5/16	$0.70
TA-10	10	25	11/16	1 5/16	.75
TA-25	25	25	11/16	1 5/16	.85
TA-50	50	25	11/16	1 5/16	1.00
TA-55	5	50	11/16	1 9/16	.75
TA-510	10	50	11/16	1 9/16	.80
TA-525	25	50	11/16	1 9/16	.90
TA-550	50	50	11/16	1 13/16	1.05
UT-41	4	150	11/16	1 13/16	.75
UT-81	8	150	11/16	1 13/16	.80
UT-121	12	150	11/16	1 13/16	.85
UT-161	16	150	11/16	1 13/16	.90
UT-201	20	150	11/16	1 13/16	.95
UT-301	30	150	13/16	1 13/16	1.00
UT-401	40	150	⅞	1 13/16	1.10
UT-501	50	150	15/16	1 13/16	1.20
UT-42	4	250	11/16	1 13/16	.80
UT-82	8	250	11/16	1 13/16	.80
UT-122	12	250	13/16	1 13/16	1.00
UT-162	16	250	13/16	1 13/16	1.10
UT-202	20	250	13/16	1 13/16	1.20
UT-402	40	250	15/16	2 5/16	1.45
UT-43	4	350	11/16	1 13/16	.85
UT-83	8	350	13/16	1 13/16	.90
UT-123	12	350	13/16	1 13/16	$1.10
UT-163	16	350	15/16	1 13/16	1.25
UT-203	20	350	1 1/16	1 13/16	1.30
UT-4	4	450	11/16	1 13/16	.90
UT-8	8	450	13/16	1 13/16	.95
UT-10	10	450	15/16	1 13/16	1.05
UT-12	12	450	15/16	1 13/16	1.15
UT-16	16	450	15/16	2 5/16	1.35
UT-20	20	450	15/16	2 5/16	1.50
UT-30	30	450	1 1/16	2 5/16	1.65
UT-40	40	450	1 1/16	2 13/32	2.00
UT-85	8	500	15/16	1 13/16	1.30
UT-165	16	500	1 1/16	2 5/16	2.00
UT-205	20	500	1 1/16	2 5/16	2.40

COMMON NEGATIVE—3 LEADS

Cat. No.	Mfd.	V DC working	Dimen. D	Dimen. L	List Price
TA-110	10-10	25	9/16	2 ⅜	$1.05
TA-100	10-10	50	9/16	2 ⅜	1.15
TA-88	8-8	150	11/16	2 ⅜	1.15
TA-122	12-20	150	¾	2 ⅜	1.25
TA-116	16-16	150	¾	2 ⅜	1.25
TA-220	20-20	150	13/16	2 ⅜	1.30
TA-230	20-30	150	⅞	2 ⅜	1.40
TA-240	20-40	150	15/16	2 ⅜	1.50
TA-330	30-30	150	15/16	2 ⅜	1.50
TA-430	40-30	150	1	2 ⅜	1.60
TA-440	40-40	150	1	2 ⅜	1.70
TA-530	50-30	150	1	2 ⅜	$1.70
TA-505	50-50	150	15/16	2 ⅞	1.85
TA-816	8-16	200	¾	2 ⅜	1.30
TA-212	12-12	200	13/16	2 ⅜	1.30
TA-216	16-16	200	13/16	2 ⅜	1.50
AT-261	16-16	250	15/16	2 ⅜	1.70
UT-88	8-8	450	1	2 ⅜	1.70
UT-816	8-16	450	1	2 ⅞	2.00
UT-220	20-20	450	1	3 ⅞	2.40
TA-301	20-20/20	150/25	⅞	2 ⅜	$1.90
TA-303	30-30-30	150	1	2 ⅞	2.20
TA-305	40-30/20	150/25	⅞	2 ⅞	2.05
TA-307	50-30/20	150/25	15/16	2 ⅞	2.10
TA-309	50-50/20	150/25	1	2 ⅞	2.25
TA-311	30-30/100	150/12	⅞	2 ⅞	2.50
TA-313	12-12/20	450/25	1	2 ⅞	2.20

SEPARATE SECTIONS—4 LEADS

Cat. No.	Mfd.	V DC working	Dimen. D	Dimen. L	List Price
TU-220	20-20	150	1	2 ⅜	$2.00
TU-420	40-20	150	1 1/16	2 ⅝	2.35
TU-816	8-16	250	1	2 ⅜	2.25
TU-216	16-16	250	1	2 ⅞	2.55
TU-88	8-8	450	1 1/16	3 ⅜	2.10
TU-1616	16-16	450	1 ⅜	3 ⅛	3.15

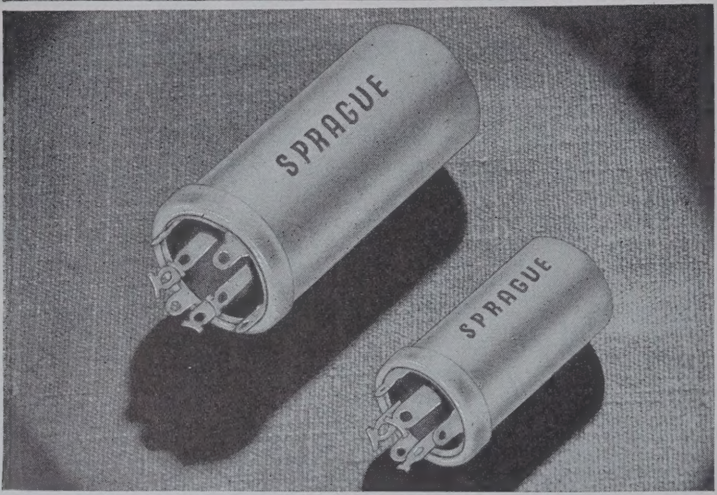
SPRAGUE UHC HIGH-CAPACITY, LOW-VOLTAGE TUBULARS

These miniature high-capacity, low-voltage tubular dry electrolytics are specifically constructed for use as cathode by-pass capacitors and as smoothing filters for low-voltage, high-current power supplies. Whereas ordinary high-capacity, dry electrolytics have high leakage current and relatively high power factor, Type UHC provides exceptionally low leakage current and low power factor. In by-pass applications, this means unusually high filtering action, without the introduction of shunt resistance across low-resistance bias units, and it is particularly important in controlled feedback amplifiers.

SPRAGUE
TYPE UHC 1000
1000 mfd. 6V.
+

Catalog No.	Mfd.	Voltage DC working	Voltage Surge	Dimensions D	Dimensions L	List Price
UHC-106	100	6	10	11/16	1 5/16	$1.40
UHC-206	250	6	10	11/16	1 9/16	1.55
UHC-506	500	6	10	11/16	2 5/16	1.70
UHC-1000	1000	6	10	15/16	2 5/16	2.25
UHC-1500	1500	6	10	15/16	2 13/16	3.00
UHC-112	100	12	15	11/16	1 5/16	1.55
UHC-212	250	12	15	11/16	1 13/16	1.75
UHC-512	500	12	15	⅞	1 13/16	1.90
UHC-1012	1000	12	15	15/16	2 5/16	2.75
UHC-115	100	15	20	11/16	1 5/16	1.70
UHC-215	250	15	20	15/16	1 13/16	1.90
UHC-515	500	15	20	15/16	2 5/16	2.10
UHC-1015	1000	15	20	1 1/16	2 5/16	3.00
UHC-102	100	25	40	11/16	1 13/16	1.20
UHC-202	250	25	40	⅞	1 13/16	2.00
UHC-502	500	25	40	1 1/16	2 5/16	2.25
UHC-105	100	50	75	13/16	1 13/16	1.50

SPRAGUE CAPACITORS



SPRAGUE EL "TWIST-LOK" SELF - MOUNTING MIDGET CAN TYPE

The popularity of EL units is proved by their widespread use by leading manufacturers. They are easy to mount, and no other dry type gives so much dependability in such compact size. EL Capacitors are of highest quality etched-foil construction, hermetically sealed in aluminum cans and have twist-prong tabs for washer or direct to chassis mounting. Tabs have holes and are tinned for easy soldering. **Each unit is supplied to you with Bakelite and metal washers, making them ideal for above-chassis mounting.** The mounting tab ring, formed by the end of the metal container and serving as the negative terminal, is electrically welded to the capacitor cathode. Multi-Section EL Capacitors are concentrically wound and have common cathode construction.

SINGLE SECTION

Catalog No.	Mfd.	Voltage DC working	Dimensions D	Dimensions L	List Price
EL-13	3000	10	1⅜	3	$4.50
EL-111	1000	15	1	3	3.25
EL-121	2000	15	1⅜	3	4.70
EL-142	40	25	¾	2	1.10
EL-112	100	25	¾	2	1.45
EL-152	500	25	1	2	2.45
EL-122	1000	25	1⅜	2	3.55
EL-50	150	50	¾	2½	2.45
EL-55	500	50	1⅜	2½	3.55
EL-31	30	150	¾	2	1.25
EL-51	50	150	¾	2½	1.45
EL-14	40	200	1	2	1.50
EL-12	20	250	¾	2	1.45
EL-30	30	250	¾	2½	1.55
EL-42	40	250	1	2	1.70
EL-6	60	250	1	2½	2.05
EL-203	15	300	¾	2	1.40
EL-33	30	300	1	2	1.65
EL-53	50	300	1	2½	1.95
EL-123	125	300	1⅜	3	3.20
EL-5	50	350	1	3	2.05
EL-125	125	350	1⅜	3	3.55
EL-10	10	400	¾	2	1.25
EL-20	20	400	1	2	1.65
EL-80	80	400	1⅜	2½	2.95
EL-1	10	450	¾	2	1.30
EL-15	15	450	1	2	1.55
EL-2	20	450	1	2	1.75
EL-3	30	450	1	2½	1.90
EL-4	40	450	1	3	2.25
EL-115	10	525	1	2	1.75

DUAL SECTION

Catalog No.	Mfd.	Voltage DC working	Dimensions D	Dimensions L	List Price
EL-242	40-40	25	1	2	1.50
EL-250	50-50	50	1	2	1.70
EL-221	20-20	150	1	2	1.55
EL-231	30-15	150	1	2	1.60
EL-230	30-30	150	1	2	1.75
EL-24	40-20	150	1	2	1.75
EL-35	50-30	150	1	2	1.95
EL-25	50-50	150	1	2	2.10
EL-26	60-60	150	1	3	2.25
EL-101	10-10	250	1	2	1.75
EL-120	20-20	250	1	2	2.05
EL-245	40-40	250	1	3	2.30
EL-21	10-10	300	1	2	1.80
EL-253	15-15	300	1	2	1.95
EL-22	20-20	300-25	1	2	1.85
EL-23	30-30	300-350	1	3	2.60
EL-32	30-20	350	1	3	2.50
EL-254	15-15	400	1	2½	2.30
EL-214	80-10	400	1⅜	3	4.00
EL-210	10-10	450	1	2	2.10
EL-151	15-10	450	1	3	2.35
EL-220	20-20	450	1	3	2.65
EL-240	40-40	450	1⅜	3	4.00

TRIPLE SECTION

Catalog No.	Mfd.	Voltage DC working	Dimensions D	Dimensions L	List Price
EL-325	20-20-20	25	1	2	$2.00
EL-335	30-30-30	50	1	2	2.30
EL-313	10-30-30	150	1	2	2.30
EL-320	20-20-20	150	1	2	2.30
EL-224	40-20-20	150	1	2	2.40
EL-340	40-40-40	150	1	3	2.60
EL-321	30-20-100	150-150-6	1	2	2.65
EL-222	20-20-20	150-150-25	1	2	2.20
EL-324	30-20-20	150-150-25	1	2	2.20
EL-332	30-30-20	150-150-25	1	2	2.25
EL-43	30-40-25	150-150-25	1	2	2.35
EL-343	40-30-20	150-150-25	1	2	2.35
EL-351	50-30-100	150-150-25	1	2½	3.10
EL-352	50-50-20	150-150-25	1	2½	2.55
EL-355	10-15-15	250	1	2	2.50
EL-315	10-15-30	250	1	2	2.65
EL-354	40-20-20	250	1	3	3.00
EL-331	15-15-20	250-250-25	1	2	2.45
EL-334	30-30-20	250-250-25	1	2½	2.70
EL-314	10-20-30	250-250-350	1	3	2.80
EL-316	10-10-10	300	1	2	2.40
EL-333	20-20-20	300-300-25	1	2	2.60
EL-341	40-15-20	300-300-25	1	2½	2.80
EL-102	10-10-20	350-350-25	1	2	2.30
EL-153	15-10-20	350-350-25	1	2	2.40
EL-326	15-15-20	350-350-25	1	2½	2.55
EL-212	20-10-20	350-350-25	1	2½	2.45
EL-323	30-20-20	350-350-25	1	3	2.80
EL-311	10-10-10	400	1	2½	2.50
EL-342	15-15-40	400-400-25	1	2½	2.70
EL-322	20-20-20	400-400-25	1	3	2.80
EL-310	10-10-10	450	1	2½	2.50
EL-344	15-15-10	450	1	3	2.85
EL-300	20-20-20	450	1⅜	2½	3.45
EL-362	20-15-10	450-300-300	1	3	2.85
EL-363	10-10-20	450-350-25	1	2	2.30
EL-364	15-20-20	450-350-250	1⅜	2	2.95
EL-345	10-10-10	450-450-25	1	2½	2.30
EL-202	10-10-20	450-450-25	1	2½	2.35
EL-312	10-20-20	450-450-25	1	3	2.55
EL-353	15-15-20	450-450-25	1	3	2.70
EL-205	20-15-20	450-450-25	1	2½	2.80
EL-350	20-20-20	450-450-25	1	3	2.95
EL-330	30-30-20	450-450-25	1⅜	2½	3.15
EL-360	15-15-10	450-450-300	1	3	2.80
EL-215	15- 5-15	450-450-350	1	3	2.50

QUADRUPLE SECTION

Catalog No.	Mfd.	Voltage DC working	Dimensions D	Dimensions L	List Price
EL-434	30-30-30-40	150-150-150-25	1⅜	2	3.05
EL-443	40-40-30-20	150-150-150-25	1⅜	2	3.10
EL-452	50-50-50-20	150-150-150-25	1⅜	2	3.40
EL-422	40-20-10-20	200-200-200-25	1⅜	2	3.15
EL-412	10-10-10-20	300-300-300-25	1⅜	2	2.95
EL-432	40-40-20-20	350-300-300-25	1⅜	3	3.95
EL-415	20-10- 5-10	350-350-350-25	1⅜	2	3.05
EL-442	20-20-20-20	400-400-400-25	1⅜	2½	3.80
EL-410	10-10-10-10	450	1⅜	2	3.25
EL-420	20-20-20-20	450	1⅜	3	4.50
EL-421	20-15-15-20	450-350-350-25	1⅜	2	3.60
EL-423	20-15-20-20	450-450- 25-25	1⅜	2	3.40
EL-425	20-20-30-30	450-450-300-300	1⅜	3	4.35
EL-431	10-10-10-20	450-450-450-25	1⅜	2	3.05
EL-424	40-30-10-20	450-450-450-25	1⅜	3	4.15

SPRAGUE CAPACITORS

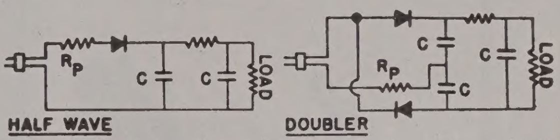
SPRAGUE ELS SELENIUM RECTIFIER ELECTROLYTICS IN "TWIST-LOCK" CANS

Elctrolytic Capacitors used in filter circuits for selenium rectifiers should be specifically designed for the job. As normally used in radio receivers, the use of selenium rectifiers results in the full 115 volts AC being applied to the filter for some 5 to 15 seconds each time the set is switched on. Even in normal operation, ripple currents as high as 400 milliamperes are not uncommon.

Conventional filter capacitors are not designed to handle these situations. High ripple current is detrimental to electrolytic capacitors because of heating due to power losses in the unit, and the tendency toward film formation on the cathode. Sprague Type ELS capacitors have been specifically designed to withstand the high ripple currents and reverse currents encountered in selenium rectifier circuits.

Catalog No.	Mfd.	DC Working Voltage	—Can Size— D	L	List Price
ELS-1	40	150	¾	2	$1.35
ELS-2	80	150	1	2	1.75
ELS-3	150	150	1⅜	2½	2.75
ELS-4	60	300	1⅜	2	2.15
ELS-5	80	300	1⅜	2½	2.50

TWO TYPICAL SELENIUM RECTIFIER CIRCUITS



The two circuits shown above are typical of the type often used with selenium rectifiers. To protect both the filter capacitors as well as the rectifier, a protective resistor, Rp, should be used as shown in the diagram. This is particularly necessary in replacement work where the original circuit used a tube as a rectifier. A normal value of Rp is 50 ohms, and with normal ratings of selenium rectifiers available should not be less than 10 ohms.

Even though the protective resistor is used, the filter capacitors are subjected to severe ripple currents. For safe performance of the circuit, it is essential that these capacitors be specifically designed and produced to withstand these extreme conditions.

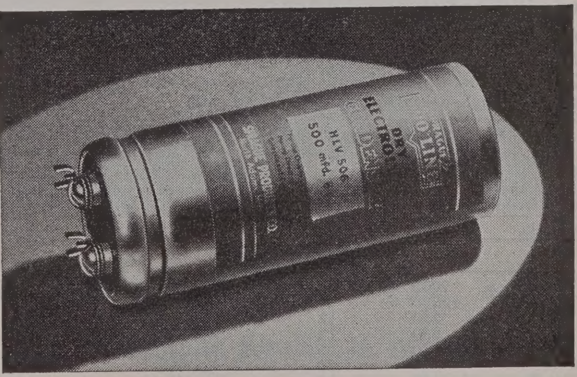
ELS SELENIUM RECTIFIER ELECTROLYTICS — Continued

Catalog No.	Mfd.	DC Working Voltage	—Can Size— D	L	List Price
ELS-6	20-20	150	1	2	$1.55
ELS-7	40-40	150	1	2	1.95
ELS-8	80-40	150	1⅜	2	2.25
ELS-9	40-40	200	1	3	2.20
ELS-10	40-40	300	1⅜	2½	3.00
ELS-11	60-60	300	1⅜	3	3.25
ELS-12	80-40	300	1⅜	3	3.65
ELS-13	20-20-20	150	1	2	2.30
ELS-14	20-20/20	150/25	1	2	2.20
ELS-15	40-20/20	150/25	1	2	2.30
ELS-16	40-20/20	300/25	1⅜	2	3.00

SPRAGUE HLV HIGH-CAPACITY, LOW-VOLTAGE ALUMINUM CAN TYPES

These aluminum can low-capacity, how-voltage capacitors are specifically designed for tough filter applications, in "A" eliminators, talking movie equipment, plant telephone systems and similar low-voltage, high capacity filter circuits where it is essential to have absolute reliability, and to eliminate all hum. All units have outer insulating tube.

Catalog No.	Mfd.	——Voltage—— DC working	Surge	—Dimensions— D	L	List Price
HLV-506	500	6	10	1	2⅛	$2.70
HLV-106	1000	6	10	1⅜	2¼	3.25
HLV-156	1500	6	10	1⅜	2¾	4.00
HLV-206	2000	6	10	1⅜	3¼	4.80
HLV-5012	500	12	15	1⅜	2¼	2.75
HLV-1012	1000	12	15	1⅜	2¼	2.90
HLV-1512	1500	12	15	1⅜	2¾	4.50
HLV-2012	2000	12	15	1⅜	3¼	4.80
HLV-5015	500	15	20	1⅜	2¼	3.10
HLV-1015	1000	15	20	1⅜	2¼	3.70
HLV-1515	1500	15	20	1⅜	3¼	4.75
HLV-2015	2000	15	20	1½	3¾	5.80
HLV-525	500	25	40	1⅜	2¼	4.00
HLV-1025	1000	25	40	1⅜	3¼	4.85
HLV-2025	2000	25	40	1¾	4¼	7.20



SPRAGUE WR

WET ELECTROLYTIC REPLACEMENTS

Sprague Type WR Capacitors are NOT SUBSTITUTES. They are dry electrolytics of very high voltage formation specifically designed for use wherever wet electrolytic capacitors may have been used. They will stand high peak voltages and they'll handle a-c ripples that might cause ordinary 450-volt drys to break down.

Cat. No.	Mfd.	Work. V DC	Surge	Diam.	Lgth.	List Price
WR-8	8	500	600	1⅜	3 15/16	$1.55
WR-16	16	500	600	1⅜	4 7/16	2.35
WR-25	25	500	600	1½	5 7/16	2.75

It's SPRAGUE for the full picture on TV DRYS

SPRAGUE "ATOMS" TYPE TVA
SPRAGUE TYPE TVL

TOPS FOR TELEVISION!

- Sprague serves the service industry first again with the most complete line of television electrolytics. Engineered especially for tough TV replacement applications, Sprague's new Type TVA Atom® and Type TVL Twist-Lok★ electrolytics stand up under the extremely high temperatures, high ripple currents and high surge voltages encountered in TV receivers.
- Like all Sprague Capacitors, Types TVA and TVL Television Electrolytics have the *extra* dependability that has helped make Sprague the largest capacitor supplier to the television and electronic industry.
- The most popular replacement units for RCA, Philco, Dumont, Admiral, General Electric, Motorola, Emerson, Zenith, Westinghouse and other leading set brands are in the comprehensive listings on this page.

TYPE TVA ATOMS®

Small sized, metal-encased dry electrolytic tubulars. . . . All are suitable for 85°C operation . . . . TVA-11 through TVA-14 are specially designed miniatures for TV and FM detector circuits. . . .

Cat. No.	Mfd.	WVDC	Size*	List Price
SINGLE UNITS				
TVA-1	1000	6	13/16x2 5/16	$2.25
TVA-2	2000	6	1 1/16x2 5/16	3.90
TVA-3	250	12	11/16x1 13/16	1.75
TVA-4	500	12	13/16x1 13/16	1.90
TVA-5	10	25	7/16x1¼	.75
TVA-6	25	25	7/16x1¼	.85
TVA-7	50	25	11/16x1 5/16	1.00
TVA-8	100	25	11/16x1 13/16	1.20
TVA-9	250	25	13/16x1 13/16	2.00
TVA-10	500	25	15/16x2 5/16	2.25
TVA-11	1	50	7/16x1¼	.75
TVA-12	2	50	7/16x1¼	.75
TVA-13	5	50	7/16x1¼	.75
TVA-14	10	50	7/16x1¼	.80
TVA-15	25	50	9/16x1 5/16	.90
TVA-16	50	50	9/16x1 13/16	1.05
TVA-17	100	50	11/16x1 13/16	1.50
TVA-18	30	150	13/16x1 13/16	1.00
TVA-19	80	150	15/16x2 5/16	1.50
TVA-21	10	450	13/16x2 5/16	1.05
TVA-22	20	450	1 1/16x2 5/16	1.50
TVA-23	30	450	1 1/16x2 13/16	1.65
TVA-24	40	450	1 1/16x3 5/16	2.00
DUAL UNITS				
TVA-20	20+20	150	15/16x1 9/16	1.30
TVA-25	10+10	450	15/16x2 9/16	1.85

TYPE TVL TWIST-LOK★ DRY ELECTROLYTICS

A twist of the mounting tabs locks units in place. . . . Hermetically sealed for long life. . . . Designed for 85° C operation up to 450 WVDC.

Cat. No.	Mfd.	WVDC	Size*	List Price
SINGLE UNITS				
TVL-41	.5 ohm @ 15.75 kc	3, non-pol.	1 x2	$2.90
TVL-42	1 ohm @ 60 cps	3, non-pol.	1⅜x2½	4.50
TVL-43	2000	6	1⅜x2	4.20
TVL-1	80	150	1 x2½	1.75
TVL-61	80	150	1⅜x2	1.75
TVL-70	15	250	1 x2	1.40
TVL-63	30	250	1 x2½	1.55
TVL-3	50	250	1 x2	1.90
TVL-62	80	250	1 x3½	2.40
TVL-44	150	250	1⅜x3	3.20
TVL-4	100	300	1 x4	3.15
TVL-5	80	350	1⅜x2½	2.80
TVL-45	40	450	1 x3	2.25
TVL-6	125	450	1⅜x4	5.75
TVL-7	30	475	1 x3	2.60
TVL-8	40	475	1⅜x2	3.00
TVL-9	90	475	1⅜x3½	6.50
DUAL UNITS				
TVL-10	1000+500	6, non-pol.	1⅜x2	2.95
TVL-66	250/1000	10/6	1⅜x2	4.25
TVL-13	1000+1000	15	1 x3½	4.90
TVL-14	80+80	300	1⅜x3½	3.85
TVL-46	120+20	300	1⅜x3½	3.60
TVL-15	30+10	400	1 x3	2.50
TVL-16	20/80	450/350	1⅜x3½	3.80
TVL-69	40/10	450/350	1⅜x2	2.75
TVL-64	40+40	450	1⅜x3	4.00
TVL-17	80/10	450/25	1⅜x3	3.70
TVL-18	80/50	450/50	1⅜x3	4.00
TVL-47	80+10	450	1⅜x3	4.25
TVL-19	20/100	475/300	1⅜x3½	4.10
TVL-20	40+40	475	1⅜x3	4.65
TRIPLE UNITS				
TVL-49	20/250+100	150/15	1⅜x2½	2.80
TVL-48	100/50/25	150/50/25	1 x3	2.80
TVL-50	70+70/20	200/50	1⅜x3	4.00
TVL-21	100+10/40	200/50	1⅜x2	3.85
TVL-22	80+80/60	250/200	1⅜x3½	4.25
TVL-51	100/60/20	300/150/25	1⅜x4	3.85
TVL-23	40/20/10	350/300/200	1⅜x2	2.90
TVL-24	80+40/150	400/50	1⅜x4	4.65
TVL-30	40+40+10	450	1⅜x3½	4.65
TVL-26	30/100+25	450/25	1⅜x2	2.75
TVL-52	10+10/40	450/50	1 x2½	2.85
TVL-67	20+10/50	450/50	1 x3	3.10
TVL-29	40+10/40	450/50	1⅜x2½	3.25
TVL-27	40/90+50	450/150	1⅜x3	3.50
TVL-54	40+40/40	450/150	1⅜x3½	4.65
TVL-57	40/40/130	450/150/50	1⅜x3	4.15
TVL-25	40+10/80	450/200	1⅜x3	3.65
TVL-65	20+20/60	450/350	1⅜x3½	3.85
TVL-53	40+10/10	450/350	1⅜x3	3.50
TVL-28	10/10/50	450/350/25	1 x3	2.65
TVL-56	10/30/30	450/400/300	1⅜x2½	3.10
TVL-31	20/20/40	475/300/25	1⅜x2	3.35
TVL-32	40/40/25	475/400/50	1⅜x3	4.65
TVL-33	10+10+10	475	1 x3	3.00
TVL-55	30+30+20	475	1⅜x3	5.20
QUADRUPLE UNITS				
TVL-60	60+40+20/50	300/25	1⅜x3½	$4.00
TVL-34	10+10/10+10	350/300	1⅜x2	3.10
TVL-35	40/10/80+10	400/350/250	1⅜x3½	4.45
TVL-36	10+10+10/10	450/150	1⅜x2	3.05
TVL-68	60+10+10/20	450/150	1⅜x3	4.35
TVL-59	40+10/35+10	450/350	1⅜x3½	5.10
TVL-58	30+30+15+10	450	1⅜x3½	4.25
TVL-37	10/10/80/50	475/450/200/50	1⅜x3	4.60
TVL-38	40+20+10/10	475/25	1⅜x3	5.10
TVL-39	10+10+10+10	475	1⅜x2	3.95
TVL-40	40+20+10+10	475	1⅜x3	5.50

*Diameter x Length in Inches.

INSULATING TUBES

These closed-top black insulating sleeves are made of tightly fitting Kraftboard. Order with capacitors as required.

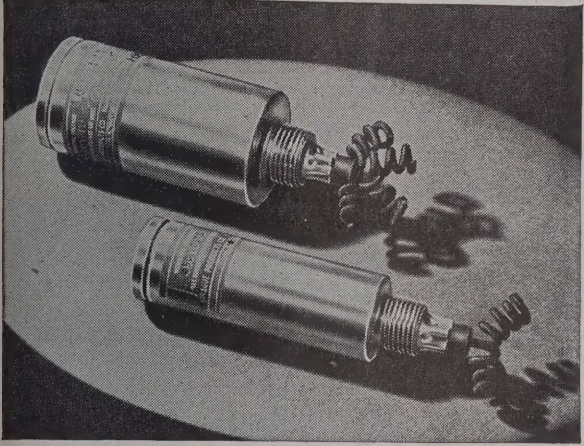
Cat. No.	Description	Cat. No.	Description
HKT-1	For 1" x2" can	HKT-5	For 1⅜"x2" can
HKT-2	For 1" x2½" can	HKT-6	For 1⅜"x2½" can
HKT-3	For 1" x3" can	HKT-7	For 1⅜"x3" can
HKT-4	For 1" x4" can	HKT-8	For 1⅜"x3½" can
		HKT-9	For 1⅜"x4" can

*Overall Diameter x Length in Inches.

★ Trademark ® T. M. Reg. U.S. Pat. Off.

SPRAGUE CAPACITORS

SPRAGUE PLS "TINY MIKE" 450V



Type PLS Capacitors can be used with complete dependability on applications where much larger, old-style can-type dry electrolytics were previously necessary. Their exceptional quality and dependability in minimum size are made possible by the exclusive Sprague etched foil process which permits high capacity with very small leakage currents and low power factor. Aluminum cans have threaded bushing and locknut at one end for mounting. Separate positive leads and common negative leads are provided for capacitor sections.

Special ring clamps are available for upright mounting. (See Hardware, page P-62.)

CONTINUOUS WORKING VOLTAGE 450 VOLTS
MAXIMUM SURGE VOLTAGE 525 VOLTS

Catalog No.	Mfd.	Voltage DC working	Voltage Surge	Dimensions D	Dimensions L	List Price
PLS-4	4	450	525	1⅜	2 7/16	$1.70
PLS-8	8	450	525	1⅜	2 7/16	1.75
PLS-12	12	450	525	1⅜	2 7/16	2.15
PLS-16	16	450	525	1⅜	2 7/16	2.40
PLS-20	20	450	525	1⅜	2 7/16	2.65
PLS-25	25	450	525	1⅜	3 7/16	2.85
PLS-30	30	450	525	1⅜	3 7/16	3.00
PLS-40	40	450	525	1⅜	3 15/16	3.40
PLS-48	4-8	450	525	1⅜	2 15/16	2.50
PLS-88	8-8	450	525	1½	2 15/16	2.75
PLS-816	8-16	450	525	1½	2 15/16	3.25
PLS-216	16-16	450	525	1½	3 15/16	3.50
PLS-888	8-8-8	450	525	1½	2 15/16	4.25

SPRAGUE LS

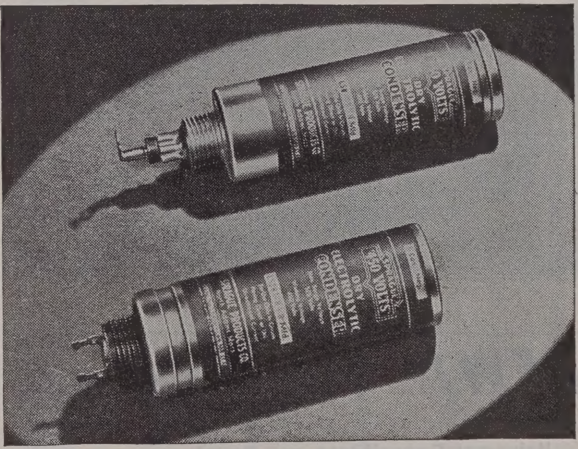
ALUMINUM CAN TYPES, 450V

Popular units for replacing older can type capacitors. May be mounted in any position. Standard mounting through chassis by threaded bushing on can. Packed with mounting hardware and insulating washers for use where can must be insulated from chassis. Special ring mounting clamps are available for upright mounting with can partly extending through panels or chassis. (See Hardware, page P-62.)

TYPE LS UNITS have the can as negative terminal, and lug terminals for anode connections.

CONTINUOUS WORKING VOLTAGE 450 VOLTS
MAXIMUM SURGE VOLTAGE 525 VOLTS

Catalog No.	Mfd.	Voltage DC working	Voltage Surge	Dimensions D	Dimensions L	List Price
LS-8	8	450	525	1⅜	2 15/16	$1.75
LS-12	12	450	525	1⅜	2 15/16	2.15
LS-16	16	450	525	1⅜	2 15/16	2.40
LS-20	20	450	525	1⅜	2 15/16	2.65
LS-25	25	450	525	1⅜	3 7/16	2.85
LS-30	30	450	525	1⅜	3 7/16	3.00
LS-40	40	450	525	1⅜	3 15/16	3.40
LS-88	8-8	450	525	1⅜	2¼	2.75



SPRAGUE SC INVERTED SCREW CAN MOUNTING TYPE, 475V

(WITH CAN AS NEGATIVE TERMINAL)

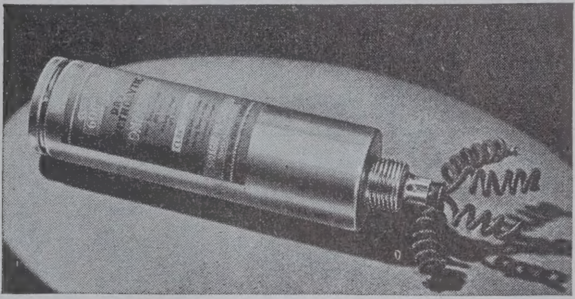
Can type dry electrolytics especially designed for the exacting continuous duty requirements of public address and power amplifier work. High surge voltage rating provides extra safety in high-current power supplies where high peaks often occur. Unexcelled for "extra tough" service replacement uses. Provided with threaded bushing for standard mounting in any position. Can is the negative terminal in all units. Positive terminal is lug connection. Supplied with mounting nut, and insulating washer to insulate can from chassis. Special ring clamps are available for upright mounting. (See Hardware, page P-62.)

CONTINUOUS WORKING VOLTAGE 475 VOLTS
MAXIMUM SURGE VOLTAGE 600 VOLTS

Catalog No.	Mfd.	Voltage DC working	Voltage Surge	Dimensions D	Dimensions L	List Price
SC-4	4	475	600	1	3 7/16	$1.90
SC-8	8	475	600	1⅜	4 7/16	2.25
SC-12	12	475	600	1⅜	4 7/16	3.15
SC-16	16	475	600	1½	4 7/16	3.50
SC-88	8-8	475	600	1⅜	4¼	3.65

SPRAGUE CAPACITORS

SPRAGUE CL INVERTED SCREW CAN MOUNTING TYPE, 475V (WITH CAN INSULATED FROM SECTIONS)

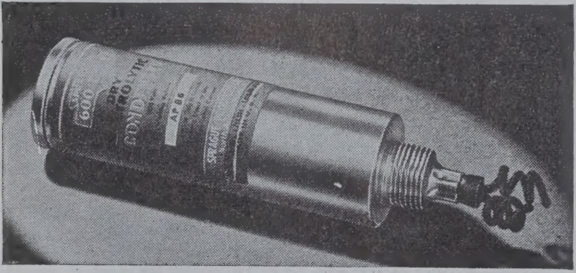


These can-type dry electrolytics are similar to Type SC Capacitors except that the can is insulated from the filter sections. Separate positive and negative terminal leads for each section. Especially recommended for high gain, high power amplifiers where minimum inter-stage coupling through power supply is desired. Special ring clamps are available for upright mounting. (See Hardware, p. P-62.)

CONTINUOUS WORKING VOLTAGE 475 VOLTS
MAXIMUM SURGE VOLTAGE 600 VOLTS

Catalog No.	Mfd.	Voltage		Dimensions		List Price
		DC working	Surge	D	L	
CL-8	8	475	600	1⅜	4$\frac{7}{16}$	$2.25
CL-16	16	475	600	1½	4$\frac{7}{16}$	3.50
CL-88	8.8	475	600	1½	4$\frac{15}{16}$	3.65

SPRAGUE AP HIGH-VOLTAGE CAN TYPES, 600V



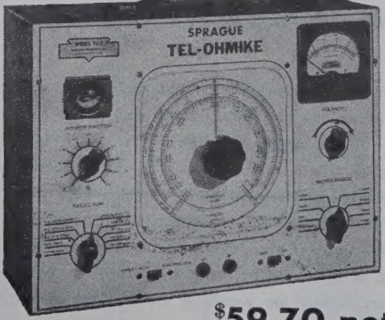
These sturdy can-type units are outstandingly popular for all public address and theater applications where the working voltage is high and surges run well over 600 volts. These high capacities and high voltage ratings are obtained by use of balanced dry electrolytic sections connected in series, assuring long, trouble-free performance. Full capacity, full working voltage and low power factor are GUARANTEED.

CONTINUOUS WORKING VOLTAGE 600 VOLTS
MAXIMUM SURGE VOLTAGE 800 VOLTS

Catalog No.	Mfd.	Voltage		Dimensions		List Price
		DC working	Surge	D	L	
AP-46	4	600	800	1	4$\frac{7}{16}$	$3.00
AP-86	8	600	800	1⅜	4$\frac{7}{16}$	4.00
AP-16	16	600	800	1½	4$\frac{7}{16}$	5.00

NEW! SPRAGUE TO-3 DELUXE TEL-OHMIKE

Universal Capacitance and Resistor Analyzer with Built-in DC Volt-milliammeter



$59.70 net

This fast, simplified operation is the keynote of the new TO-3 De Luxe Tel-ohmike. "Speedy check" locates open, intermittent, or shorted condensers WITHOUT REMOVING THEM FROM THE CIRCUIT. One pair of plainly marked binding posts and a total of only five controls assure quick, effective operation on all tests. Dial is of direct-reading, calibrated type, color coded to correspond to selector switch. It is easy to see, easy to read. In addition to all of its uses in radio work, Tel-ohmike checks motor-starting condensers, and measures insulation resistance of motors, transformers, etc.

SPECIFICATIONS

Capacity: .00001-2,000 MFD. in 4 ranges.

Power Factor: 0-50% at 60 cycles.

Insulation Resistance: 0-2500 Megohms (Direct reading on the meter).

Electrolytic Leakage: Measured in MA. at rated D.C. voltage. Capacity and power factor of electrolytic condensers measured with rated polarizing voltage applied.

Resistance: 2.5 Ohms-25 Megs. in 3 ranges.

D.C. Meter Range: 0-15, 150, 750 volts — 0-1.5, 15, 75 MA.

Size: 13¼" wide, 10⅛" high, — 5" deep.

Power: 35 watts at 115 volts — 60 cycle.

Shipping Weight: 15 lbs.

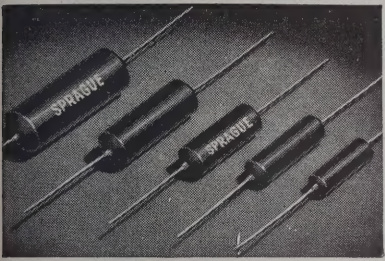
SPRAGUE PRODUCTS COMPANY, NORTH ADAMS, MASS.

SPRAGUE CAPACITORS

SPRAGUE MOLDED TELECAPS

Greatest Paper Tubular Advance in 20 Years!

Highly Heat Resistant | **Conservatively Rated**
Moisture Resistant | **Small in Size**
Non-Inflammable | **Mechanically Rugged**
Completely Insulated



The new Sprague Molded Tubulars listed here are the result of more than four years' intensive research — and one of the largest retooling programs in Sprague history! The unique high - temperature molded construction of these units assures maximum dependability, even under extremes of heat, humidity, and physical stress. They're especially recommended for use in auto radios, in small ac-dc sets that get hot, or for any application which is "tough" on normal, waxed paper units.

TYPE TM — 600 VOLTS

Catalog No.	Mfd.	Voltage DC Working	Dimensions D	L	List Price
* TC-31	.0001	600	⅜	1⅛	$0.25
* TC-325	.00025	600	⅜	1⅛	.25
* TC-34	.0004	600	⅜	1⅛	.25
* TC-35	.0005	600	⅜	1⅛	.25
TM-21	.001	600	5/16	1	.25
TM-22	.002	600	5/16	1	.25
TM-23	.003	600	5/16	1	.25
TM-24	.004	600	5/16	1	.25
TM-25	.005	600	⅜	1¼	.25
TM-26	.006	600	⅜	1¼	.25

TYPE TM — (Continued)

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
TM-11	.01	600	⅜	1¼	$0.30
TM-12	.02	600	7/16	1¼	.30
TM-13	.03	600	7/16	1¼	.35
TM-14	.04	600	½	1½	.35
TM-15	.05	600	½	1½	.40
TM-16	.06	600	⅝	1⅞	.40
TM-1	.1	600	⅝	1⅞	.45
* TC-2	.25	600	⅝	2⅛	.55
* TC-5	.5	600	13/16	2⅛	.80
* TC-10	1.0	600	1	2⅝	1.25

* Supplied in waxed cardboard units pending completion of molds.

TYPE MB — 1600 VOLTS

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
* TR-35	.0005	1600	⅜	1¼	$0.55
* TR-21	.001	1600	⅜	1⅜	.55
MB-22	.002	1600	⅜	1¼	.55
MB-23	.003	1600	⅜	1¼	.55
MB-24	.004	1600	⅜	1¼	.55
MB-25	.005	1600	7/16	1¼	.55
MB-26	.006	1600	7/16	1¼	.55
MB-27	.007	1600	7/16	1¼	.55
MB-275	.0075	1600	7/16	1¼	.55
MB-28	.008	1600	½	1½	.60
MB-11	.01	1600	½	1½	.60
MB-115	.015	1600	7/16	1½	.60
MB-12	.02	1600	⅝	1⅞	.60
MB-13	.03	1600	⅝	1⅞	.60
*TR-14	.04	1600	11/16	2⅛	.70
*TR-15	.05	1600	¾	2⅛	.70
*TR-215	2 x .015	1600	¾	2	.80

* Supplied in waxed cardboard units pending completion of molds.

TYPE TVM — 6 AND 10 KV

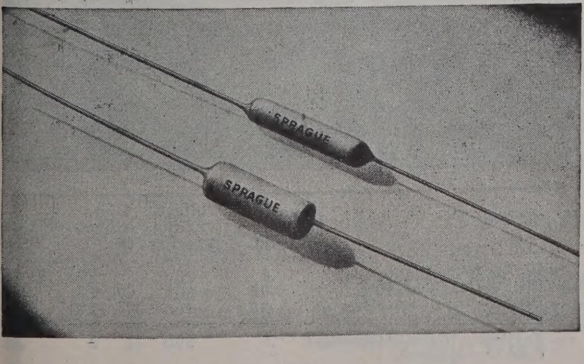
Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
TVM-356	.0005	6000	½	1½	$1.35
TVM-216	.001	6000	½	1½	1.35
TVM-256	.005	6000	⅝	1⅞	1.35
TVM-351	.0005	10000	⅝	1⅞	1.50

SPRAGUE 68P MIDGET* TUBULARS

WHERE SPACE IS AT A PREMIUM

Sprague 68P type capacitors are the ultimate in extra small paper tubular capacitors. These midget capacitors are especially designed for miniature radio applications where space saving is a prime factor. These units are of fundamentally new engineering design and construction. The outstanding humidity performance which these capacitors exhibit is a result of this new construction.

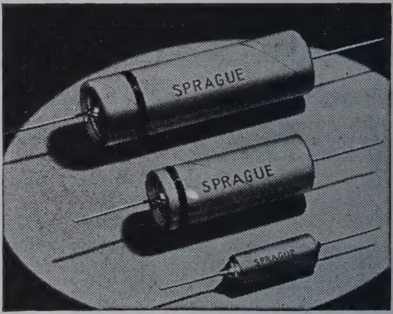
* Trade Mark



Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
68P26	.001	600	¼	11/16	$0.35
68P27	.002	600	¼	11/16	.35
68P28	.003	600	9/32	11/16	.35
68P29	.004	600	9/32	13/16	.35
68P30	.005	600	9/32	13/16	.40
68P31	.006	600	5/16	13/16	.40
68P32	.008	600	5/16	1	.40
68P33	.01	600	5/16	1	.45
68P34	.02	600	11/32	1	.50
68P35	.05	600	15/32	1⅛	.55
68P36	.1	600	⅝	1⅛	.70
68P40	.2	600	⅝	1 11/16	.80
68P37	.25	600	⅝	2	.80
68P1	.001	400	¼	11/16	.35
68P3	.003	400	¼	11/16	.35
68P4	.004	400	¼	11/16	.35
68P5	.005	400	¼	13/16	.35
68P6	.005	400	¼	13/16	.35
68P8	.01	400	5/16	13/16	.40
68P9	.02	400	5/16	1	.45
68P10	.05	400	13/32	1	.50
68P21	.1	400	15/32	1⅛	.65
68P38	.2	400	⅝	1⅛	.70
68P22	.25	400	⅝	1⅜	.75
68P23	.5	400	⅝	2 5/16	.85
68P11	.005	200	¼	11/16	.35
68P12	.006	200	¼	11/16	.35
68P14	.01	200	9/32	11/16	.40
68P15	.02	200	9/32	13/16	.45
68P16	.05	200	5/16	1	.50
68P17	.1	200	13/32	1	.60
68P18	.2	200	15/32	1⅛	.65
68P24	.25	200	17/32	1⅛	.70
68P25	.5	200	⅝	1⅜	.80
68P19	.25	100	15/32	1⅛	.70
68P20	.5	100	⅝	1⅛	.80

SPRAGUE CAPACITORS

SPRAGUE PX
HERMETICALLY-SEALED OIL-IMPREGNATED METAL TUBULARS, 600V AND 1000V DC



Here is your answer to every need calling for higher-voltage tubular capacitors in the smallest possible size for real dependability under difficult operating conditions. Sprague Type PX Capacitors consist of specially wound sections, impregnated with an exclusive Sprague oil and hermetically sealed in metal containers for long trouble-free service. **Each unit is supplied with an external sleeve to insulate it from the chassis and other metal parts.** Mounting may be made by means of the tinned copper leads 2½" long, or by standard Sprague Mounting straps (see Hardware page P-62).

Catalog No.	Mfd.	Voltage DC working	Dimensions D	Dimensions L	List Price
PX-316	.0001	600	½	1¼	$0.95
PX-3256	.00025	600	½	1¼	.95
PX-356	.0005	600	½	1¼	.95
PX-216	.001	600	½	1¼	.95
PX-226	.002	600	½	1¼	.95
PX-236	.003	600	½	1¼	.95
PX-246	.004	600	½	1¼	.95
PX-256	.005	600	½	1¼	.95
PX-266	.006	600	½	1¼	.95
PX-276	.007	600	½	1¼	.95
PX-286	.008	600	½	1¼	.95
PX-296	.009	600	½	1¼	.95
PX-116	.01	600	½	1¼	.95
PX-126	.02	600	½	1¾	1.05
PX-136	.03	600	⅝	1⅝	1.10
PX-146	.04	600	⅝	1⅝	1.10
PX-156	.05	600	⅝	1⅝	1.10
PX-166	.06	600	11/16	1⅝	1.20
PX-186	.08	600	11/16	1⅞	1.20
PX-16	.1	600	11/16	1⅞	1.25
PX-26	.25	600	13/16	2 13/16	1.70
PX-56	.5	600	1 1/16	2 13/16	2.20
PX-106	1.0	600	1 1/16	3 11/16	3.00
PX-311	.0001	1000	11/16	1¼	1.10
PX-3251	.00025	1000	11/16	1¼	1.10
PX-351	.0005	1000	11/16	1¼	1.10
PX-211	.001	1000	11/16	1¼	1.10
PX-221	.002	1000	11/16	1¼	1.10
PX-231	.003	1000	11/16	1¼	1.10
PX-241	.004	1000	11/16	1¼	1.10
PX-251	.005	1000	11/16	1¼	1.10
PX-261	.006	1000	11/16	1¼	1.10
PX-271	.007	1000	11/16	1¼	1.10
PX-281	.008	1000	11/16	1¼	1.10
PX-291	.009	1000	11/16	1¼	1.10
PX-111	.01	1000	11/16	1¼	1.10
PX-121	.02	1000	⅝	1⅝	1.20
PX-131	.03	1000	11/16	1¾	1.20
PX-141	.04	1000	11/16	1¾	1.20
PX-151	.05	1000	11/16	1¾	1.30
PX-161	.06	1000	1 1/16	2	1.35
PX-181	.08	1000	1 1/16	2	1.40
PX-11	.1	1000	1 1/16	2	1.50
PX-21	.25	1000	1 1/16	2 13/16	2.00
PX-51	.5	1000	1 1/16	3 11/16	2.85
PX-2215	.002	1500	⅝	1¼	1.20
PX-2515	.005	1500	⅝	1¼	1.20
PX-1115	.01	1500	11/16	1⅝	1.20
PX-1215	.02	1500	11/16	1⅝	1.30
PX-352	.0005	2000	13/16	1⅜	1.25
PX-212	.001	2000	13/16	1⅜	1.25
PX-252	.005	2000	13/16	1¾	1.25
PX-262	.006	2000	13/16	1¾	1.25
PX-2752	.0075	2000	13/16	1¾	1.25
PX-112	.01	2000	13/16	1¾	1.25
PX-122	.02	2000	13/16	2⅛	1.35
PX-132	.03	2000	13/16	2⅛	1.40
PX-142	.04	2000	13/16	2½	1.40
PX-152	.05	2000	13/16	2½	1.45

SPRAGUE AR & LR AUTO GENERATOR AND VIBRATOR TYPES

Exceptionally sturdy design to withstand the bouncing and vibration of automobile use is a feature of these Automobile Generator and Vibrator types. They are oil-impregnated and metal-encased for long service under difficult conditions of heat and humidity.

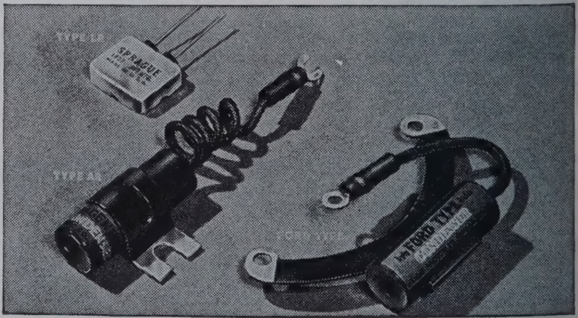
AR (GENERATOR TYPES)

Catalog No.	Mfd.	Voltage DC working	Dimensions D	Dimensions L	List Price
AR-1	1.0	400	1	2 3/16	$0.90
AR-2	.5	400	11/16	1⅛	.65
AR-25	.5—.5	400	1	2 3/16	1.00
AR-Ford	.5	400	11/16	1⅞	.85

LR (VIBRATOR TYPES)

Catalog No.	Mfd.	Voltage DC working	Dimensions D	Dimensions L	Dimensions R	List Price
LR-11	.01	1600	¼	⅞	1 1/16	$0.80
LR-12	.02	1600	¼	⅞	1 1/16	.80
LR-27	.007	1600	¼	⅞	1 1/16	.80

The Ford Type has a special mounting bracket to accommodate cars of this make. All units are conservatively rated, and designed to withstand high surge voltages. Full capacity-true voltage ratings.



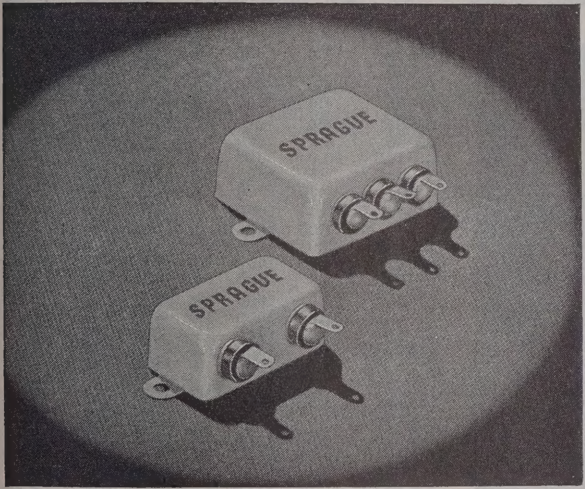
SPRAGUE SPECIAL AUTOMOBILE TYPES

Designed for special automobile services as indicated in the table, the Sprague capacitors listed at the right are equipped with suitable mounting features.

Catalog No.	Mfd.	Voltage DC working	Dimensions D	Dimensions L	List Price
DL-1—Dome Light Filter	.2	200	1	2 3/16	$1.10
GG-5—Gas Gauge Filter	.05	200	7/16	1 7/32	.50
OG-50—Oil Gauge Filter	.25	200	11/16	1⅞	.60
P-2077—Ford Replacement	.5	200	11/16	1⅞	.65
P-3402—Ammeter Capacitor	.5	200	11/16	2	.65
P-2153—Motorola Replacement	.0008-.0008	1000	¾	1⅜	.65

SPRAGUE CAPACITORS

SPRAGUE BP METAL-ENCASED BATHTUB UNITS (WITH SIDE TERMINALS)



These popular units are styled for use where the most severe conditions of heat and moisture must be met. They are oil impregnated and filled with KVO*. Mounting flanges or ears are integral parts of the containers.

* Trademark applied for.

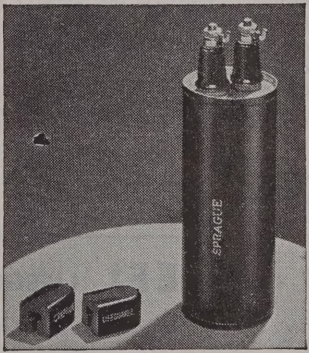
Catalog No.	Mfd.	Voltage DC working	Dimensions L	W	H	List Price
BP-1	.1	400	1 13/16	1	¾	$1.75
BP-25	.25	400	1 13/16	1	¾	2.00
BP-50	.5	400	1 13/16	1	⅞	2.15
BP-10	1.0	400	2	1¾	⅞	2.60
BP-21	.1-.1	400	1 13/16	1	¾	2.75
BP-225	.25-.25	400	1 13/16	1	⅞	3.00
BP-250	.5-.5	400	2	1¾	⅞	3.50
BP-31	.1-.1-.1	400	1 13/16	1	¾	3.40
BP-56	.05	600	1 13/16	1	¾	2.60
BP-16	.1	600	1 13/16	1	¾	2.65
BP-256	.25	600	1 13/16	1	¾	2.80
BP-506	.5	600	1 13/16	1	⅞	3.00
BP-106	1.0	600	2	1¾	⅞	3.40
BP-206	2.0	600	2	2	1⅛	4.55
BP-2056	.05-.05	600	1 13/16	1	¾	3.30
BP-216	.1-.1	600	1 13/16	1	¾	3.35
BP-2256	.25-.25	600	1 13/16	1	⅞	3.40
BP-2506	.5-.5	600	2	1¾	⅞	3.90
BP-116	1.0-1.0	600	2	2	1⅛	4.80
BP-316	.1-.1-.1	600	1 13/16	1	¾	3.80
BP-3256	.25-.25-.25	600	2	1¾	⅞	4.30
BP-356	.5-.5-.5	600	2	2	1⅛	5.20
BP-51	.05	1000	1 13/16	1	¾	2.75
BP-11	.1	1000	1 13/16	1	¾	2.85
BP-251	.25	1000	1 13/16	1	¾	2.95
BP-501	.5	1000	2	1¾	⅞	3.20
BP-101	1.0	1000	2	2	1⅛	4.00
BP-2051	.05-.05	1000	1 13/16	1	¾	3.50
BP-211	.1-.1	1000	1 13/16	1	¾	3.60
BP-2251	.25-.25	1000	2	1¾	⅞	3.80
BP-2501	.5-.5	1000	2	2	1⅛	4.95
BP-311	.1-.1-.1	1000	1 13/16	1	⅞	4.15
BP-3251	.25-.25-.25	1000	2	2	1⅛	5.00

SPRAGUE OT POPULAR, INEXPENSIVE ROUND CAN TRANSMITTING TYPES, 600V TO 3000V

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	R	List Price
OT-26	2	600	2	2 15/32	1¼	$4.95
OT-11	1	1000	2	2 15/32	1¼	4.20
OT-21	2	1000	2	3 3/32	1¼	5.70
OT-41	4	1000	2	5 3/32	1¼	7.25
OT-515	0.5	1500	2	2 15/32	1¼	4.55
OT-115	1	1500	2	2 21/32	1¼	5.30
OT-215	2	1500	2	4 15/32	1¼	7.25
OT-12	1	2000	2	4 3/32	1¼	6.85
OT-22	2	2000	2½	4 15/32	1½	7.60
OT-13	1	3000	2½	4 23/32	1½	13.75

Long a favorite with amateurs, broadcasters, etc., throughout the world. Impregnated and filled with KVO*. Rated to conform with tube and circuit design requirements. As with other Sprague high-voltage transmitting types, each unit is equipped with ceramic terminals and LIFEGUARD Safety Caps. Mounting clamp is provided. Unconditionally guaranteed when used as specified.

*Trademark applied for.



OTHER SPRAGUE TYPES

SPRAGUE, largest supplier of capacitors to the television and electronic industry, manufactures many other designs of capacitors in addition to those shown here.

The most popular types for industrial and laboratory applications are shown in Sprague Products' 40-page Industrial Catalog No. C-551, available through Sprague Distributors Everywhere, or directly from Sprague upon letterhead request. In this catalog are listed such Sprague developments as PROKAR* high-temperature capacitors, carrier-current coupling capacitors, Vitamin Q* fluorescent lamp capacitors, high-voltage Vitamin Q* capacitors, resonant paper capacitors, etc.

* Trade Mark Reg. U. S. Patent Office.

SPRAGUE PRODUCTS COMPANY
North Adams, Mass.
(Distributors' Division of the Sprague Electric Company)

SPRAGUE CAPACITORS

OIL-FILLED TRANSMITTING CAPACITORS

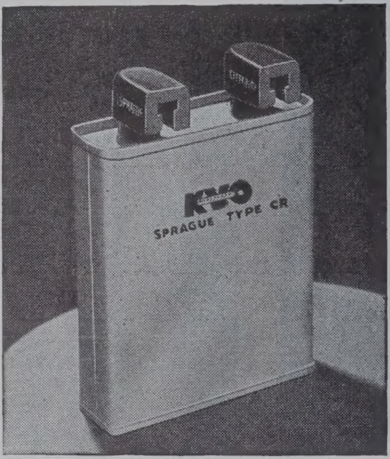
Filled with

KVO

(KILO-VOLT-OIL — The Sprague wartime research oil development)

SPRAGUE CR

(With Universal Mounting Feature)



An oil-filled transmitting capacitor is no better than the oil with which it is filled—and Sprague brings you the best! KVO*—Kilo Volt Oil—is the result of extensive laboratory research and engineering tests and has proved its excellence throughout the world during the war in capacitors used on practically every type of equipment. KVO retains its dielectric efficiency at low temperatures to a greater extent than any other type of oil in common use. High insulation resistance and low power factor are maintained over a very broad range of operating temperatures. **Oil-filled** capacitors are essential for high-voltage use, and you can rely upon Sprague KVO units under all conditions. Terminals are insulated from the cans for AT LEAST TWICE the working voltage. Capacitor sections are hermetically sealed in sturdy rectangular metal cans which can be automatically grounded through the mounting clamps.

For special **industrial** applications, where extremely high insulation resistance requirements must be met, Sprague can supply special dielectric materials.

CR Capacitors are of convenient rectangular shape and have handy adjustable universal flanges for mounting in any position. Each unit is labelled with operating information based on industry standards and, in accordance with Sprague custom, ALL RATINGS ARE CONSERVATIVE. No need to "play safe" by buying most costly, higher-voltage transmitting capacitors than you actually need.

Unconditionally guaranteed against breakdown when used as specified.

*Trademark applied for.

Catalog No.	Mfd.	Voltage DC working	Dimensions T	W	L	List Price
CR-056	.5	600	1 1/16	1 13/16	2¼	$4.15
CR-16	1.0	600	1 1/16	1 13/16	2¼	5.30
CR-26	2.0	600	1 1/16	1 13/16	2⅞	6.45
CR-36	3.0	600	1 1/16	1 13/16	3¼	7.60
CR-46	4.0	600	1 3/16	2½	3½	8.35
CR-66	6.0	600	1 3/16	2½	4¾	10.25
CR-86	8.0	600	1¼	3¾	3⅞	12.15
CR-106	10.0	600	1¼	3¾	4¾	13.65
CR-011	.1	1000	1 1/16	1 13/16	1⅝	3.80
CR-0251	.25	1000	1 1/16	1 13/16	2¼	4.15
CR-051	.5	1000	1 1/16	1 13/16	2¼	4.55
CR-11	1.0	1000	1 1/16	1 13/16	2¼	5.70
CR-21	2.0	1000	1 1/16	1 13/16	3⅞	7.60
CR-41	4.0	1000	1 3/16	2½	4¾	9.50
CR-81	8.0	1000	1¼	3¾	4¾	13.65
CR-101	10.0	1000	1¾	3¾	4¾	15.20
CR-121	12.0	1000	2¼	3¾	4½	16.45
CR-151	15.0	1000	2½	3¾	4¾	18.25
CR-0515	.5	1500	1 1/16	1 13/16	2⅞	5.70
CR-115	1.0	1500	1 1/16	1 13/16	3⅞	6.85
CR-215	2.0	1500	1 3/16	2½	4¼	9.50
CR-415	4.0	1500	1¼	3¾	4¾	12.65
CR-515	5.0	1500	1¼	3¾	4¾	13.65
CR-815	8.0	1500	2½	3¾	4¾	19.00
CR-1015	10.0	1500	3 3/16	3¾	4¾	22.80
CR-012	.1	2000	1 3/16	2½	2½	6.05
CR-0252	.25	2000	1 3/16	2½	2½	6.45
CR-052	.5	2000	1 3/16	2½	2⅞	6.85
CR-12	1.0	2000	1 3/16	2½	3½	8.35
CR-22	2.0	2000	1¼	3¾	4¼	9.85
CR-32	3.0	2000	1¼	3¾	4¾	12.15
CR-42	4.0	2000	2¼	3¾	3⅞	13.65
CR-62	6.0	2000	3 3/16	3¾	4½	17.85
CR-102	10.0	2000	4 9/16	3¾	4¾	27.85
CR-0125	.1	2500	1 3/16	2½	2½	9.35
CR-0525	.5	2500	1¼	3¾	3¼	10.65
CR-125	1.0	2500	1¾	3¾	3¼	12.15
CR-225	2.0	2500	1¾	3¾	4¾	19.60
CR-425	4.0	2500	4 9/16	3¾	4⅜	27.20
CR-013	.1	3000	1 3/16	2½	2½	12.65
CR-0253	.25	3000	1 3/16	2½	2⅞	13.65
CR-053	.5	3000	1 3/16	2½	4¼	15.20
CR-13	1.0	3000	2¼	3¾	3⅞	18.25
CR-23	2.0	3000	3 3/16	3¾	4½	22.80
CR-43	4.0	3000	4 9/16	3¾	4¾	33.40
CR-014	.1	4000	2¼	3¾	2¾	22.80
CR-0254	.25	4000	2¼	3¾	2¾	24.05
CR-054	.5	4000	2¼	3¾	3⅞	27.20
CR-14	1.0	4000	2¼	3¾	5⅛	33.40
CR-24	2.0	4000	4 9/16	3¾	5⅛	42.40
CR-025	.2	5000	1¾	3¾	3⅞	27.20
CR-055	.5	5000	2¼	3¾	4½	30.40
CR-15	1.0	5000	4 9/16	3¾	4⅜	38.00
CR-25	2.0	5000	4 9/16	3¾	6	48.60
CR-0160	.1	6000	2¼	3¾	3⅜	30.40
CR-0260	.2	6000	1¾	3¾	4¼	38.00
CR-160	1.0	6000	4 9/16	3¾	7½	75.95
CR-0175	.1	7500	2¼	3¾	3⅞	43.05
CR-0275	.2	7500	1¾	3¾	4¾	45.60

FREE! LIFEGUARD PROTECTIVE CAPS

Don't run any chance of getting hold of a "hot one!" Each Sprague Type KVO Capacitor comes to you equipped with the famous Sprague 'Lifeguard' Protective Insulating Caps at no extra charge. They afford maximum protection at all times.

BUY LIFEGUARDS FOR YOUR OLD CAPACITORS
LG-1—List price per pair, **30¢**

SPRAGUE PC INVERTED ROUND SCREW CAN TRANSMITTING TYPES, 600V TO 1500V

These popular Sprague TYPE PC inverted round screw can capacitors are filled (NOT just impregnated) with KVO*, the famous Sprague 500°F. flash protection oil that has the added advantage of retaining its dielectric efficiency at low temperatures. The PC Capacitors find a wide field of usefulness in such applications as public address systems, medium-voltage transmitters, television and high-gain amplifiers. THEY ARE RATED CONSERVATIVELY and labelled according to industry standards. Ample safety factor is assured. Units include spade washer and insulating lug to insulate the round metal can containers from the chassis. Ring clamp is available for upright mounting. (See page P-62.)

*Trademark applied for.

Catalog No.	Mfd.	Voltage DC working	Dimensions D	L	List Price
PC-26	2.0	600	1½	2⅞	$4.15
PC-36	3.0	600	1½	3½	4.95
PC-46	4.0	600	1½	4½	5.70
PC-11	1.0	1000	1½	2⅞	3.80
PC-21	2.0	1000	1½	4½	4.95
PC-515	0.5	1500	1½	2⅜	4.55
PC-115	1.0	1500	1½	3⅞	4.95

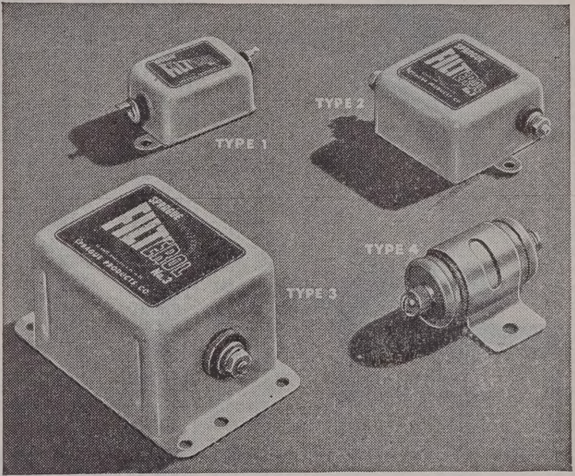
SPRAGUE CAPACITORS

INTERFERENCE FILTERS

Sprague †FILTEROL Radio Interference Filters are a direct outgrowth of highly successful Sprague wartime engineering research, and offer for civilian use a war-tested, practical filter that suppresses man-made radio noises and television "scrambles" on practically any application. They are small, completely self-contained, and easily installed. Applicable to any electrical device within their current and voltage ratings, they provide maximum noise suppression on radio broadcast bands. A study of the Attenuation Curve (available on request) illustrating typical FILTEROL noise suppression performance will show that this surpasses anything normally available in the past.

SPRAGUE FILTEROL TYPES 1, 2 and 3 are designed for connection in series with power supply lines to interference-producing devices. Their basic circuit is a special three-terminal network of which the can is one terminal. The filter selected should have a rating higher than the continuous running current of the device. A single FILTEROL connected in one side of the line is usually sufficient. However, in severe interference cases a FILTEROL in each power line may be necessary. For three-or-four wire systems, a FILTEROL in each wire is necessary.

FILTEROL TYPE 4 is a new, exclusive Sprague invention incorporating a Sprague *HYPASS capacitor and provides exceptionally high attenuation at frequencies above 5MC. It is effective up to 150 MC or more. Intended for all small devices with continuous current ratings up to 20 amperes. Applied by mounting directly on the frame of the device to be filtered, and connecting the power supply line in series through the filter. In severe cases, a FILTEROL may be necessary in each line wire.



SPRAGUE IF TYPES

IF-15—A TRIPLE-SECTION FILTER for all small motor-operated devices. Especially designed to prevent accidental shocks from discharge of filter capacitors.

IF-21—COMPACT DUAL METAL-ENCASED TUBULAR FILTER for use across brushes of fractional horsepower motors with can grounded to motor frame. Also across line terminals of motors.

IF-11—A DUAL HIGH-CAPACITY FILTER with completely enclosed safety construction. Designed for motors over 1 horsepower and up to 220 volts AC or DC. Also used on high-current arcing or sparking devices.

IF-S1—SINGLE 2-LEAD FILTER SECTION with can completely insulated. For use across make-and-break contacts.

IF-37—3-SECTION DELTA-CONNECTED FILTER. Only one IF-37 required for each fluorescent lamp fixture.
Also effective on make-and-break governor-type motors.

*Trademark Reg. U.S. Pat. Off.
†Trademark applied for.

RATINGS

SPRAGUE FILTEROL TYPES

			List Price
FILTEROL 1	1 AMP.	115V AC or DC	$4.75
FILTEROL 2	10 AMP.	115V AC or DC	9.75
FILTEROL 3	35 AMP.	115V AC or DC	12.50
FILTEROL 4	20 AMP.	220V AC or DC	2.75

SPRAGUE IF TYPES

		List Price
IF-15	220V AC or DC	$1.90
IF-11	220V AC or DC	4.40
IF-21	220V AC or DC	1.55
IF-S1	220V AC or DC	1.15
IF-37	220V AC or DC	1.50

SPRAGUE MICA CAPACITORS

Twice Tested for R-F Characteristics

Sprague Mica Capacitors provide maximum quality for R-F applications where exacting requirements involving low-power factor and high-insulation resistance at high frequencies must be met. The line includes types for every requirement ranging from the tiny "toothpick" 1FM types to the giant ceramic-jacketed types 4CC. Each type incorporates outstanding developments based on far-reaching Sprague wartime engineering.

Mica units are perhaps the most critical of all capacitor types to produce properly—and it is in the handling of these essential details that Sprague engineering and production excels. Beginning with selection and handling of the mica itself, extreme care is taken in every operation to assure completed units which, although they look like conventional units on the surface, will far surpass ordinary mica capacitors in actual service.

Stocks of raw mica are carefully selected. So critical are Sprague requirements that far more mica is rejected than is actually selected for use. The selected mica is then hand split and each piece electrically graded by exclusive Sprague methods.

Particular care is exercised in the interleaving of section foils and in connecting them to terminals through specially designed low-resistance R-F bonds. Perhaps most important of all is the fact that each and every Sprague Mica Capacitor section receives a painstaking radio frequency test before being encased in its mold. After this test, each section is carefully impregnated and moisture-proofed prior to the molding operation.

Upon completion, all Sprague Mica Capacitors required to carry large R-F currents are actually R-F current tested for their peak ratings. This test combined with thorough testing before molding assures the serviceman, amateur, experimenter or industrial user of units of utmost dependability for any application or any condition of use.

SPRAGUE MS
SILVER MICA CAPACITORS

Catalog Nos.	Dimensions L	W	T
MS-55 through MS-35	$\frac{21}{32}$	$\frac{13}{32}$	$\frac{7}{32}$
MS-36 through MS-23	$\frac{25}{32}$	$\frac{25}{32}$	$\frac{9}{32}$
MS-24 through MS-28	$\frac{25}{32}$	$\frac{25}{32}$	$\frac{11}{32}$
MS-29 through MS-11	1	$\frac{5}{8}$	$\frac{5}{16}$

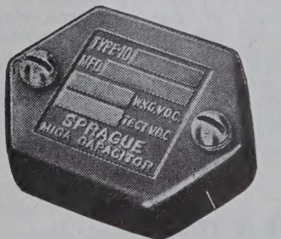
Standard Capacity Tolerance ±5%

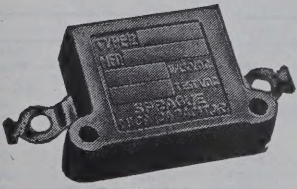
Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
MS-55	.000005	500	1000	$0.45
MS-41	.00001	500	1000	.40
MS-415	.000015	500	1000	.40
MS-42	.00002	500	1000	.40
MS-425	.000025	500	1000	.40
MS-43	.00003	500	1000	.40
MS-44	.00004	500	1000	.40
MS-45	.00005	500	1000	.40
MS-46	.00006	500	1000	.40
MS-47	.00007	500	1000	.40
MS-31	.0001	500	1000	.40
MS-32	.0002	500	1000	.45
MS-33	.0003	500	1000	.55
MS-34	.0004	500	1000	.65
MS-35	.0005	500	1000	.70
MS-36	.0006	500	1000	.80
MS-37	.0007	500	1000	.85
MS-38	0008	500	1000	.95
MS-39	.0009	500	1000	1.00
MS-21	.001	500	1000	1.10
MS-22	.002	500	1000	1.35
MS-23	.003	500	1000	2.05
MS-24	.004	500	1000	2.15
MS-25	.005	500	1000	2.25
MS-26	.006	500	1000	2.40
MS-27	.007	300	600	2.60
MS-28	.008	300	600	2.80
MS-29	.009	300	600	3.10
MS-11	.01	300	600	3.40

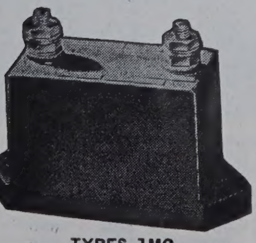
MICA TYPES
(continued)

TYPES MS and 1FM

TYPES 3AFM 3BFM and 3CFM


TYPES 7FM 8FM and 9FM


TYPES XFM YFM and ZFM


TYPES 1MC and 2MC

SPRAGUE 1FM

STANDARD CAPACITY TOLERANCE ±20%

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
1FM-44	.00004	500	1000	$0.20
1FM-45	.00005	500	1000	.20
1FM-475	.000075	500	1000	.20
1FM-31	.0001	500	1000	.20
1FM-315	.00015	500	1000	.20
1FM-32	.0002	500	1000	.20
1FM-325	.00025	500	1000	.25
1FM-335	.00035	500	1000	.25
1FM-34	.0004	500	1000	.25
1FM-35	.0005	500	1000	.25
1FM-37	.0007	500	1000	.25
1FM-21	.001	500	1000	.30
1FM-215	.0015	500	1000	.30
1FM-22	.002	500	1000	.40
1FM-23	.003	500	1000	.50
1FM-24	.004	500	1000	.55
1FM-25	.005	500	1000	.60
1FM-26	.006	500	1000	.75
1FM-27	.007	300	600	.90
1FM-28	.008	300	600	1.00
1FM-29	.009	300	600	1.00
1FM-11	.01	300	600	1.20

Catalog Nos.	Dimensions L	W	T
1FM-44 through 1FM-35	51/64	15/32	7/32
1FM-37 through 1FM-23	53/64	53/64	9/32
1FM-24 through 1FM-28	53/64	53/64	11/32
1FM-29 through 1FM-11	1	⅝	5/16

SPRAGUE 3AFM 3BFM & 3CFM

STANDARD CAPACITY TOLERANCE ±10%

3AFM

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
3AFM-25	.005	300	600	$0.60
3AFM-26	.006	300	600	.75
3AFM-27	.007	300	600	.90
3AFM-28	.008	300	600	1.00
3AFM-11	.01	300	600	1.20
3AFM-115	.015	300	600	1.00

3BFM

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
3BFM-31	.0001	500	1000	.20
3BFM-32	.0002	500	1000	.20
3BFM-325	.00025	500	1000	.25
3BFM-33	.0003	500	1000	.25
3BFM-34	.0004	500	1000	.25
3BFM-35	.0005..	500	1000	.25
3BFM-21	.001	500	1000	.30
3BFM-215	.0015	500	1000	.30
3BFM-22	.002	500	1000	.40
3BFM-225	.0025	500	1000	.45
3BFM-23	.003	500	1000	.50
3BFM-24	.004	500	1000	.55
3BFM-25	.005	500	1000	.60
3BFM-26	.006	500	1000	.75
3BFM-27	.007	500	1000	.90
3BFM-28	.008	500	1000	1.00

3CFM

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
3CFM-45	.00005	1000	2000	.60
3CFM-31	.0001	1000	2000	.60
3CFM-32	.0002	1000	2000	.60
3CFM-325	.00025	1000	2000	.60
3CFM-33	.0003	1000	2000	.70
3CFM-34	.0004	1000	2000	.70
3CFM-35	.0005	1000	2000	.70
3CFM-21	.001	1000	2000	.75
3CFM-215	.0015	1000	2000	.80
3CFM-22	.002	1000	2000	.80
3CFM-225	.0025	1000	2000	.80

Catalog Nos.	Dimensions L	W	T
3AFM Types	1	⅝	5/16
3BFM Types	1	⅝	5/16
3CFM Types	1	⅝	5/16

SPRAGUE 7FM 8FM & 9FM

STANDARD CAPACITY TOLERANCE ±10%

7FM

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
7FM-45	.00005	600	1200	$0.85
7FM-31	.0001	600	1200	.85
7FM-315	.00015	600	1200	.85
7FM-32	.0002	600	1200	.85
7FM-325	.00025	600	1200	.85
7FM-35	.0005	600	1200	.85
7FM-21	.001	600	1200	.85
7FM-22	.002	600	1200	.90
7FM-225	.0025	600	1200	1.00
7FM-23	.003	600	1200	1.20
7FM-24	.004	600	1200	1.20
7FM-25	.005	600	1200	1.20
7FM-26	.006	600	1200	1.40
7FM-28	.008	600	1200	1.65
7FM-11	.01	600	1200	1.95
7FM-115	.015	600	1200	2.25
7FM-12	.02	600	1200	2.60
7FM-13	.03	600	1200	3.45
7FM-14	.04	600	1200	4.50
7FM-15	.05	600	1200	5.35
7FM-16	.06	600	1200	6.20

Catalog Nos.	Dimensions L	W	T
7FM-45 through 7FM-13	1¾	1 5/16	7/16
7FM-14 through 7FM-16	1¾	1 5/16	¾

8FM

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
8FM-45	.00005	1200	2500	$1.00
8FM-31	.0001	1200	2500	1.00
8FM-315	.00015	1200	2500	1.00
8FM-32	.0002	1200	2500	1.00
8FM-325	.00025	1200	2500	1.00
8FM-35	.0005	1200	2500	1.00
8FM-21	.001	1200	2500	1.25
8FM-22	.002	1200	2500	1.90
8FM-225	.0025	1200	2500	2.00
8FM-23	.003	1200	2500	2.20
8FM-24	.004	1200	2500	2.20
8FM-25	.005	1200	2500	2.40
8FM-26	.006	1200	2500	2.40
8FM-28	.008	1200	2500	3.10
8FM-11	.01	1200	2500	3.90
8FM-115	.015	1200	2500	4.65
8FM-12	.02	1200	2500	5.45
8FM-125	.025	1200	2500	6.10
8FM-13	.03	1200	2500	6.40

Catalog Nos.	Dimensions L	W	T
8FM-45 through 8FM-115	1¾	1 5/16	7/16
8FM-12 through 8FM-13	1¾	1 5/16	¾

9FM

Catalog No.	Mfd.	—DC Voltage— Working	Test	List Price
9FM-45	.00005	2500	5000	$1.25
9FM-31	.0001	2500	5000	1.25
9FM-325	.00025	2500	5000	1.50
9FM-35	.0005	2500	5000	1.70
9FM-21	.001	2500	5000	2.05
9FM-22	.002	2500	5000	3.10
9FM-225	.0025	2500	5000	3.45
9FM-23	.003	2500	5000	3.80
9FM-24	.004	2500	5000	4.35
9FM-25	.005	2500	5000	4.70
9FM-26	.006	2500	5000	4.85
9FM-28	.008	2500	5000	5.30
9FM-11	.01	2500	5000	5.70
9FM-115	.015	2500	5000	6.20

Catalog Nos.	Dimensions L	W	T
9FM-45 through 9FM-26	1¾	1 5/16	7/16
9FM-28 through 9FM-115	1¾	1 5/16	¾

SPRAGUE CAPACITORS

SPRAGUE XFM YFM & ZFM

STANDARD CAPACITY TOLERANCE ±10%
(See Photos. Page P-59.)

XFM

Catalog No.	Mfd.	DC Voltage Working	DC Voltage Test	List Price
XFM-45	.00005	600	1200	$0.70
XFM-31	.0001	600	1200	.70
XFM-32	.0002	600	1200	.70
XFM-325	.00025	600	1200	.70
XFM-33	.0003	600	1200	.70
XFM-34	.0004	600	1200	.70
XFM-35	.0005	600	1200	.70
XFM-21	.001	600	1200	.70
XFM-215	.0015	600	1200	.70
XFM-22	.002	600	1200	.80
XFM-225	.0025	600	1200	.90
XFM-23	.003	600	1200	1.00
XFM-24	.004	600	1200	1.00
XFM-25	.005	600	1200	1.00
XFM-26	.006	600	1200	1.20
XFM-27	.007	600	1200	1.30
XFM-28	.008	600	1200	1.40
XFM-11	.01	600	1200	1.60
XFM-12	.02	600	1200	2.20
XFM-13	.03	600	1200	2.95

Catalog Nos.	Dimensions L	Dimensions W	Dimensions T
XFM-45 through XFM-11	1⅝	1⅛	11/32
XFM-12 through XFM-13	1⅝	1⅛	7/16

YFM

Catalog No.	Mfd.	DC Voltage Working	DC Voltage Test	List Price
YFM-45	.00005	1200	2500	$1.00
YFM-31	.0001	1200	2500	1.00
YFM-32	.0002	1200	2500	1.00
YFM-325	.00025	1200	2500	1.00
YFM-33	.0003	1200	2500	1.00
YFM-34	.0004	1200	2500	1.00
YFM-35	.0005	1200	2500	1.00
YFM-21	.001	1200	2500	1.25
YFM-215	.0015	1200	2500	1.60
YFM-22	.002	1200	2500	1.90
YFM-225	.0025	1200	2500	2.00
YFM-23	.003	1200	2500	2.10
YFM-24	.004	1200	2500	2.10
YFM-25	.005	1200	2500	2.40
YFM-26	.006	1200	2500	2.40
YFM-27	.007	1200	2500	2.75
YFM-28	.008	1200	2500	3.10
YFM-11	.01	1200	2500	3.90

Catalog Nos.	Dimensions L	Dimensions W	Dimensions T
YFM-45 through YFM-24	1⅝	1⅛	11/32
YFM-25 through YFM-11	1⅝	1⅛	7/16

ZFM

Catalog No.	Mfd.	DC Voltage Working	DC Voltage Test	List Price
ZFM-45	.00005	2500	5000	$1.25
ZFM-31	.0001	2500	5000	1.25
ZFM-32	.0002	2500	5000	1.40
ZFM-325	.00025	2500	5000	1.50
ZFM-33	.0003	2500	5000	1.55
ZFM-34	.0004	2500	5000	1.65
ZFM-35	.0005	2500	5000	1.70
ZFM-21	.001	2500	5000	2.05
ZFM-215	.0015	2500	5000	2.70
ZFM-22	.002	2500	5000	3.10
ZFM-23	.003	2500	5000	3.80
ZFM-24	.004	2500	5000	4.35
ZFM-25	.005	2500	5000	4.70

Catalog Nos.	Dimensions L	Dimensions W	Dimensions T
ZFM-45 through ZFM 22	1⅝	1⅛	11/32
ZFM-23 through ZFM-25	1⅝	1⅛	7/16

SPRAGUE 1MC & 2MC

STANDARD CAPACITY TOLERANCE ±5%
(See Photos, Page P-59.)

1MC

Catalog No.	Mfd.	Voltage AC Peak	List Price
1MC-45	.00005	3000	$10.80
1MC-31	.0001	3000	10.80
1MC-315	.00015	3000	10.80
1MC-32	.0002	3000	10.80
1MC-325	.00025	3000	10.80
1MC-33	.0003	3000	10.80
1MC-34	.0004	3000	10.80
1MC-35	.0005	3000	10.80
1MC-36	.0006	3000	10.80
1MC-37	.0007	3000	10.80
1MC-38	.0008	3000	10.80
1MC-21	.001	3000	10.80
1MC-215	.0015	3000	10.80
1MC-22	.002	3000	10.80
1MC-23	.003	2000	10.80
1MC-24	.004	2000	10.80
1MC-25	.005	2000	10.80
1MC-26	.006	2000	10.80
1MC-27	.007	2000	10.80
1MC-28	.008	1500	10.80
1MC-11	.01	1000	10.80
1MC-115	.015	1000	10.80
1MC-12	.02	1000	11.50
1MC-13	.03	500	11.50
1MC-14	.04	500	11.50
1MC-15	.05	250	11.50
1MC-1	.1	250	12.00

Catalog No.	Dimensions L	Dimensions W	Dimensions H
1MC	2	15/16	1 19/32

2MC

Catalog No.	Mfd.	Voltage AC Peak	List Price
2MC-45	.00005	5000	$14.40
2MC-31	.0001	5000	14.40
2MC-315	.00015	5000	14.40
2MC-32	.0002	5000	14.40
2MC-325	.00025	5000	14.40
2MC-33	.0003	5000	14.40
2MC-34	.0004	5000	14.40
2MC-35	.0005	5000	14.40
2MC-36	.0006	5000	14.40
2MC-37	.0007	5000	14.40
2MC-38	.0008	5000	14.40
2MC-21	.001	5000	14.40
2MC-215	.0015	5000	14.40
2MC-22	.002	5000	14.40
2MC-23	.003	3000	14.40
2MC-24	.004	3000	14.40
2MC-25	.005	3000	14.40
2MC-26	.006	3000	14.40
2MC-27	.007	3000	14.40
2MC-28	.008	2000	14.40
2MC-11	.01	2000	14.40
2MC-115	.015	2000	14.40
2MC-12	.02	2000	16.00
2MC-13	.03	1500	14.40
2MC-14	.04	1500	14.40
2MC-15	.05	1500	14.50
2MC-16	.06	1000	15.00
2MC-17	.07	1000	15.50
2MC-18	.08	500	16.00
2MC-1	.1	500	16.50

Catalog No.	Dimensions L	Dimensions W	Dimensions H
2MC	2¼	1¼	1 13/16

SPRAGUE 1CC & 2CC

STANDARD CAPACITY TOLERANCE ±5%
(See Photos, Page P-61.)

1CC

Catalog No.	Mfd.	Voltage AC Peak	List Price
1CC-45	.00005	6000	$26.40
1CC-475	.000075	6000	27.75
1CC-31	.0001	6000	28.80
1CC-315	.00015	6000	31.20
1CC-32	.0002	6000	31.20
1CC-325	.00025	6000	31.20
1CC-33	.0003	6000	32.40
1CC-34	.0004	6000	32.40
1CC-35	.0005	6000	32.40
1CC-36	.0006	6000	32.40
1CC-37	.0007	6000	32.40
1CC-38	.0008	6000	32.40
1CC-21	.001	6000	32.40
1CC-215	.0015	6000	33.60
1CC-22	.002	6000	33.60
1CC-23	.003	6000	34.80
1CC-24	.004	6000	34.80
1CC-25	.005	4000	34.80
1CC-26	.006	4000	34.80
1CC-27	.007	4000	34.80
1CC-28	.008	4000	34.80
1CC-11	.01	4000	36.00
1CC-115	.015	3000	36.00
1CC-12	.02	2000	36.00
1CC-125	.025	2000	37.50
1CC-13	.03	1500	39.00
1CC-14	.04	1500	41.00
1CC-15	.05	1500	42.50
1CC-16	.06	1500	44.00
1CC-17	.07	1000	45.00
1CC-18	.08	1000	46.00
1CC-1	.1	1000	48.00

Catalog No.	Dimensions D	Dimensions H
1CC	2 13/16	2½

2CC

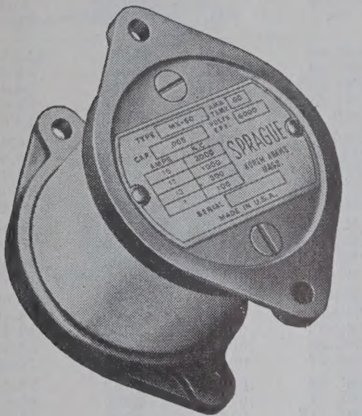
Catalog No.	Mfd.	Voltage AC Peak	List Price
2CC-45	.00005	10000	$48.00
2CC-475	.000075	10000	48.00
2CC-31	.0001	10000	48.00
2CC-315	.00015	10000	45.60
2CC-32	.0002	10000	45.60
2CC-33	.0003	10000	45.60
2CC-34	.0004	10000	45.60
2CC-35	.0005	10000	45.60
2CC-36	.0006	10000	45.60
2CC-37	.0007	10000	45.60
2CC-38	.0008	10000	45.60
2CC-21	.001	10000	45.60
2CC-215	.0015	10000	45.60
2CC-22	.002	10000	45.60
2CC-23	.003	8000	45.60
2CC-24	.004	8000	45.60
2CC-25	.005	6000	48.00
2CC-26	.006	5000	48.00
2CC-27	.007	5000	48.00
2CC-28	.008	5000	48.00
2CC-11	.01	5000	48.00
2CC-115	.015	4000	48.00
2CC-12	.02	3000	48.00
2CC-125	.025	3000	50.00
2CC-13	.03	2000	51.00
2CC-14	.04	2000	54.00
2CC-15	.05	2000	56.00
2CC-16	.06	2000	57.50
2CC-17	.07	1500	59.00
2CC-18	.08	1500	60.00
2CC-1	.1	1500	62.50

Catalog No.	Dimensions D	Dimensions H
2CC	3½	3

SPRAGUE CAPACITORS

MICA TYPES
(continued)

SPRAGUE 3CC-4CC



TYPES 1CC, 2CC, 3CC and 4CC

STANDARD CAPACITY TOLERANCE OF TYPES 3CC AND 4CC IS ±5%.

3CC

Catalog No.	Mfd.	Voltage AC Peak	List Price
3CC-45	.00005	20000	$72.00
3CC-475	.000075	20000	78.00
3CC-31	.0001	20000	80.40
3CC-315	.00015	20000	80.40
3CC-32	.0002	20000	80.40
3CC-33	.0003	20000	80.40
3CC-34	.0004	20000	80.40
3CC-35	.0005	20000	80.40
3CC-36	.0006	20000	80.40
3CC-37	.0007	20000	80.40
3CC-38	.0008	20000	78.00
3CC-21	.001	20000	78.00
3CC-215	.0015	15000	78.00
3CC-22	.002	15000	78.00
3CC-23	.003	12000	78.00
3CC-24	.004	12000	78.00
3CC-25	.005	10000	79.20
3CC-26	.006	10000	82.00
3CC-27	.007	10000	84.00
3CC-28	.008	10000	86.00
3CC-11	.01	8000	90.00
3CC-115	.015	5000	86.00
3CC-12	.02	5000	86.00
3CC-125	.025	3000	79.20
3CC-13	.03	3000	79.20
3CC-14	.04	3000	79.20
3CC-15	.05	3000	79.20
3CC-16	.06	3000	83.00
3CC-17	.07	2000	86.00
3CC-18	.08	2000	90.00
3CC-1	.1	2000	95.00

	Dimensions	
Catalog No.	D	H
3CC	5	4

4CC

Catalog No.	Mfd.	Voltage AC Peak	List Price
4CC-31	.0001	30000	$114.00
4CC-315	.00015	30000	123.00
4CC-32	.0002	30000	132.00
4CC-33	.0003	30000	132.00
4CC-34	.0004	30000	132.00
4CC-35	.0005	30000	132.00
4CC-36	.0006	30000	132.00
4CC-37	.0007	30000	126.00
4CC-38	.0008	30000	126.00
4CC-21	.001	30000	126.00
4CC-215	.0015	25000	114.00
4CC-22	.002	20000	114.00
4CC-23	.003	20000	120.00
4CC-24	.004	15000	120.00
4CC-25	.005	15000	138.00
4CC-26	.006	15000	138.00
4CC-27	.007	15000	144.00
4CC-28	.008	12000	144.00
4CC-29	.009	12000	144.00
4CC-11	.01	10000	150.00
4CC-115	.015	8000	144.00
4CC-12	.02	6000	138.00
4CC-13	.03	6000	138.00
4CC-14	.04	5000	144.00
4CC-15	.05	5000	150.00
4CC-16	.06	5000	160.00
4CC-17	.07	4000	165.00
4CC-18	.08	3000	170.00
4CC-1	.1	3000	180.00

	Dimensions	
Catalog No.	D	H
4CC	5	5¾

SPRAGUE HARDWARE

Sprague Mounting Clamps and Straps provide quick, dependable means for securing a wide variety of capacitors and resistors to a mounting surface. All clamps and straps are made from plated steel.

CMC Vertical Mounting Clamps for Cylindrical Capacitors (Figs. 1 and 2) are ideally suited for vertical or "above chassis" mounting of Sprague Capacitor Types AP, CL, DR, EL, HLV, LM, LS, OT, PC, PLS, RW, SC or other round can units.

The RMC Wrap Around Clamps for Rectangular Capacitors (Fig. 3) are designed for mounting Type CR Capacitors or other rectangular units.

Type TMS Mounting Straps for Tubular Capacitors (Fig. 4) fit any tubular capacitor or resistor having a diameter of between ¼" and 1⅜", inclusive. They may be used with Sprague Types AT, PX, SW, TA, TC, TR, TU, UHC, UT or other tubular units and with Sprague *Koolohm Resistor Types 5KT/5NIT, 10KT/10NIT, 25KT/25NIT, 50KT/50NIT and 120KT/120NIT.

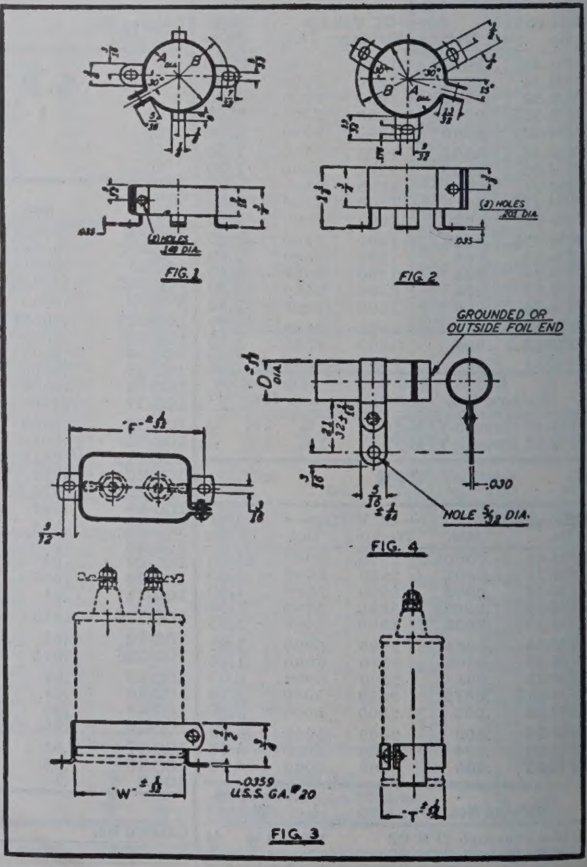


FIG. 1

FIG. 2

FIG. 4

FIG. 3

VERTICAL MOUNTING CLAMPS FOR CYLINDRICAL CAPACITORS

Catalog No.	A Diameter	B Mounting Radius	Figure No.	List Price
CMC-12	¾	21/32	1	$0.08
CMC-16	1	23/32	1	.08
CMC-20	1¼	27/32	1	.08
CMC-22	1⅜	57/64	1	.08
CMC-24	1½	31/32	1	.12
CMC-28	1¾	1 3/32	1	.14
CMC-32	2	1¼	2	.18
CMC-40	2½	1½	2	.18

WRAP AROUND CLAMPS FOR RECTANGULAR CAPACITORS

Catalog No.	Dimensions			Figure No.	List Price
	T	W	F		
RMC-17	1 1/16	1 13/16	2¼	3	$0.20
RMC-19	1 3/16	2½	3	3	.20
RMC-20	1¼	3¾	4⅜	3	.20
RMC-28	1¾	3¾	4⅜	3	.20
RMC-36	2¼	3¾	4⅜	3	.25
RMC-40	2½	3¾	4⅜	3	.25
RMC-51	3 3/16	3¾	4⅜	3	.30
RMC-73	4 9/16	3¾	4⅜	3	.40
RMC-128	8	4	4⅝	3	.50

MOUNTING STRAPS FOR TUBULAR CAPACITORS

Catalog No.	Tube Diameter	Figure No.	List Price	Catalog No.	Tube Diameter	Figure No.	List Price
TMS-4	¼"	4	$0.06	TMS-14	⅞"	4	$0.06
TMS-5	5/16"	4	.06	TMS-15	15/16"	4	.06
TMS-6	⅜"	4	.06	TMS-16	1"	4	.10
TMS-7	7/16"	4	.06	TMS-17	1 1/16"	4	.10
TMS-8	½"	4	.06	TMS-18	1⅛"	4	.10
TMS-9	9/16"	4	.06	TMS-19	1 3/16"	4	.10
TMS-10	⅝"	4	.06	TMS-20	1¼"	4	.15
TMS-11	11/16"	4	.06	TMS-21	1 5/16"	4	.15
TMS-12	¾"	4	.06	TMS-22	1⅜"	4	.15
TMS-13	13/16"	4	.06				

*Trademark Reg. U. S. Pat. Off.

SPRAGUE KOOLOHMS

TRADEMARK REGISTERED U.S. PAT. OFF

SPRAGUE

THE RESISTORS WITH THE CERAMIC-COATED WIRE INSULATION

Sprague Koolohm Wire-Wound Resistors are wound with wire that is insulated before it is wound with a flexible, ceramic coating that is impervious to heat as high as 1000° C. In addition, each resistor is doubly protected by a glazed ceramic coating and new type of end seals which guard it effectively against any moisture or other climatic conditions. Ordinary resistors may be designed to provide some degree of "tropicalized" protection at extra cost. STANDARD Koolohms give FULL protection at regular prices!

No Other Resistors Have These Features

Because of the complete protection afforded by both their wire insulation and outer ceramic shells, Koolohms may be mounted anywhere, even flat against a chassis or against grounded parts. They can safely be used at full wattage ratings, even on the high-resistance values because of the excellent insulation at high temperatures. No danger of shorts or current leakage! Thanks to their ceramic wire insulation, Koolohms can be wound in layers. This means higher ratings in much smaller physical sizes. Even more important, larger, sturdier wire sizes can be used. Actually, the wire sizes in Koolohm Resistors average 2¼ times greater in cross-sectional area than those in ordinary resistors of the same size!

High Insulation Resistance

Also standard Koolohms have the high insulation resistance to ground required for television and other high-voltage uses—10,000 volts from the surface of their sturdy ceramic jackets to their resistance elements!

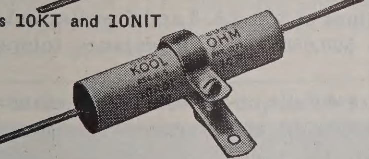
The following listings include only the Sprague Koolohm Wire-Wound Resistor types commonly supplied for radio repair service and amateur radio applications. Various other types are also regularly produced in large quantities and to the most exacting standard or special applications. All have been thoroughly proved and tested for the most exacting military, naval and aircraft applications.

SPRAGUE
KOOLOHM

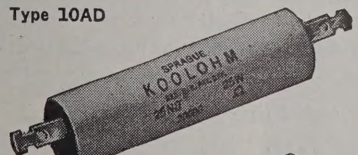
Types 5KT and 5NIT

SPRAGUE
KOOLOHM

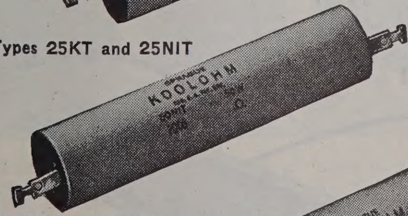
Types 10KT and 10NIT



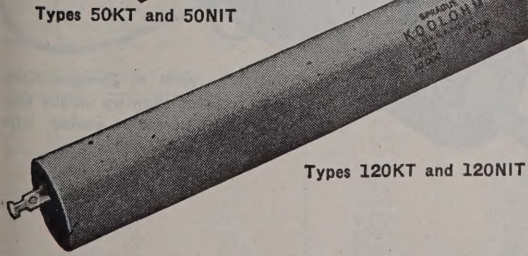
Type 10AD



Types 25KT and 25NIT



Types 50KT and 50NIT



Types 120KT and 120NIT

STANDARD RESISTANCE TOLERANCE ±5%

5 Watts

$1\frac{7}{32}$" x $\frac{15}{32}$" Diameter
CATALOG TYPES 5KT
and 5NIT (Non-Inductive)

List Price 5NIT (Non-Induc.)	Resistance Ohms	Maximum Current M.A.	Maximum Volts	List Price Type 5KT
$0.78	5	1000	5.00	$0.52
.78	10	707	7.07	.52
.78	15	587	8.67	.52
.78	20	500	10	.52
.78	25	446	11	.52
.78	30	406	12	.52
.78	40	354	14	.52
.78	50	316	15	.52
.78	75	258	19	.52
.78	100	224	22	.52
.78	150	183	27	.52
.78	200	158	31	.52
.78	250	141	35	.52
.78	300	129	38	.52
.78	400	112	44	.52
.78	500	100	50	.52
.78	600	91	54	.52
.78	700	84	59	.52
.78	800	79	63	.52
.78	900	74	67	.52
.78	1000	70	70	.52
.91	1250	63	79	.52
.91	1500	57	86	.52
.91	1750	53	93	.52
.91	2000	50	100	.52
.98	2500	44	112	.52
.98	3000	40	123	.52
.98	4000	35	141	.52
1.04	5000	31	158	.52
	* 6000	28	173	.54
	* 7000	26	187	.54
	* 7500	25	194	.54
	* 8000	25	200	.54
	* 9000	23	212	.54
	* 10000	22	224	.54
	* 12500	20	250	.60
	* 14000	18	265	.60
	* 15000	18	274	.60
	* 20000	15	333	.66
	* 25000	14	354	.84
	* 30000	13	387	.90
	* 40000	11	447	1.02

* Type KT only.

10 Watts

$1\frac{27}{32}$" x $\frac{15}{32}$" Diameter
CATALOG TYPES 10KT
and 10NIT (Non-Inductive)

List Price 10NIT (Non-Induc.)	Resistance Ohms	Maximum Current M.A.	Maximum Volts	List Price Type 10KT
$0.78	5	1414	7.07	$0.59
.78	10	1000	10	.59
.78	15	830	12.3	.59
.78	20	707	14.1	.59
.78	25	630	15.8	.59
.78	30	575	17.4	.59
.78	40	500	20	.59
.78	50	447	22.4	.59
.78	75	365	27.4	.59
.78	100	316	31.6	.59
.78	150	259	38.7	.59
.78	200	223	44.6	.59
.78	250	200	50	.59
.78	300	182	54.7	.59
.78	400	158	63.3	.59
.78	500	141	70.7	.59
.78	600	129	77.6	.59
.78	700	119	84	.59
.78	750	115	86.9	.59
.78	800	112	89.5	.59
.78	900	105	95	.59
.78	1000	100	100	.59
.91	1250	89	112	.59
.91	1500	81	123	.59
.91	1750	75	133	.59
.91	2000	70	143	.59
.98	2500	63	158	.59
.98	3000	57	174	.59
.98	4000	50	200	.59
1.04	5000	44	227	.59
1.04	6000	41	245	.59
1.17	7500	36	275	.59
1.17	8000	35	283	.59
1.17	9000	33	300	.59
1.50	10000	32	316	.59
	* 12000	29	346	.65
	* 14000	26	384	.65
	* 15000	25	400	.65
	* 17500	24	419	.72
	* 20000	21	475	.72
	* 25000	20	500	.84
	* 30000	18	555	.90
	* 40000	16	632	1.08
	* 50000	14	700	1.20
	* 60000	13	780	1.50
	* 70000	12	840	1.68

SPRAGUE KOOLOHMS

TRADEMARK REGISTERED U.S. PAT OFF

SPRAGUE

10 Watts Adjustable†

1$\frac{29}{32}$″ x $\frac{15}{32}$″ Diameter
CATALOG TYPE No. 10-AD

Resistance Ohms	Maximum Current M.A.	Maximum Volts	List Price
10	1000	10	$0.98
25	630	15.8	.98
50	447	22.4	.98
100	316	31.6	.98
150	259	38.7	.98
200	223	44.6	.98
250	200	50	.98
300	182	54.7	.98
400	158	63.3	.98
500	141	70.7	.98
750	115	86.9	.98
1000	100	100	.98
1500	81	123	.98
2000	70	143	.98
2500	63	158	.98
3000	57	174	.98
4000	50	200	.98
5000	44	227	.98
7500	36	275	.98
10000	32	316	.98

Extra Bands, $0.10

†Adjustable resistors are not of tropicalized construction.

25 Watts

2⅞″ x $\frac{23}{32}$″ Diameter
CATALOG TYPES 25KT
and 25NIT (Non-Inductive)

List Price 25NIT (Non-Induc.)	Resistance Ohms	Maximum Current M.A.	Maximum Volts	List Price Type 25KT
$1.98	5	2.23	11	$1.08
1.98	10	1.58	15	1.08
1.98	25	1.0	25	1.08
1.98	50	.707	35	1.08
1.98	75	.577	43	1.08
1.98	100	.500	50	1.08
1.98	150	.408	61	1.08
1.98	200	.353	70	1.08
1.98	250	.316	79	1.08
1.98	500	.223	111	1.08
1.98	600	.204	122	1.08
1.98	750	.182	137	1.08
1.98	1000	.158	158	1.08
1.98	1500	.129	193	1.08
1.98	2000	.111	223	1.08
1.98	2500	.100	250	1.08
1.98	3000	.091	273	1.08
1.98	4000	.079	316	1.08
1.98	5000	.070	353	1.08
1.98	7500	.057	432	1.26
1.98	10000	.050	500	1.26
2.22	12000	.046	548	1.26
2.22	15000	.041	612	1.26
2.64	20000	.035	707	1.44
2.64	25000	.032	790	1.44
	*50000	.022	1118	1.80
	*75000	.018	1370	2.15
	*100000	.016	1580	2.40

50 Watts

4″ x ⅞″ Diameter
CATALOG TYPES 50KT
and 50NIT (Non-Inductive)

List Price 50NIT (Non-Induc.)	Resistance Ohms	Maximum Current M.A.	Maximum Volts	List Price Type 50KT
$2.82	5	3.16	15	1.56
2.82	10	2.23	22	1.56
2.82	25	1.41	35	1.56
2.82	50	1.00	50	1.56
2.82	75	.816	61	1.56
2.82	100	.707	70	1.56
2.82	150	.577	86	1.56
2.82	200	.500	100	1.56
2.82	250	.447	111	1.56
2.82	500	.316	158	1.56
2.82	600	.289	173	1.56
2.82	750	.258	193	1.56
2.82	1000	.223	223	1.56
2.82	1500	.182	274	1.56
2.82	2000	.158	316	1.56
2.82	2500	.141	353	1.56
2.82	3000	.129	387	1.56
2.82	4000	.111	447	1.56
2.82	5000	.100	500	1.56
3.24	7500	.081	612	1.80
3.24	10000	.070	707	1.80
3.24	12000	.064	775	1.80
3.24	15000	.057	870	1.80
3.24	20000	.050	1000	1.80
3.24	25000	.044	1120	1.80
3.90	50000	.032	1580	2.15
	*75000	.026	1936	2.50
	*100000	.022	2238	2.70

120 Watts

8$\frac{15}{16}$″ x 1$\frac{1}{16}$″ Diameter
CATALOG TYPES 120KT
& 120NIT (Non-Inductive)

List Price 120NIT (Non-Induc.)	Resistance Ohms	Maximum Current M.A.	Maximum Volts	List Price Type 120KT
$6.60	5	4.9	24.5	$4.60
6.60	10	3.46	34.6	4.60
6.60	25	2.18	54.6	4.60
6.60	50	1.54	77.4	4.60
6.60	75	1.26	94.8	4.60
6.60	100	1.09	109.5	4.60
6.60	150	.884	134	4.60
6.60	200	.775	155	4.60
6.60	250	.692	173	4.60
6.60	500	.490	245	4.60
6.60	600	.446	268	4.60
6.60	750	.400	300	4.60
6.60	1000	.346	346	4.60
6.60	1500	.282	424	4.60
6.60	2000	.245	490	4.60
6.60	2500	.219	548	4.60
6.60	3000	.200	600	4.60
6.60	5000	.154	774	4.60
7.20	7500	.126	948	4.80
7.20	10000	109	1095	4.80
7.60	15000	.089	1340	5.00
8.00	20000	.077	1550	5.20
8.00	25000	.069	1733	5.20
8.40	50000	.049	2450	5.60
	*75000	.040	3000	6.35
	*100000	.034	3460	7.10

*Type KT only.

Other types not listed in this catalog include:

Hermetically-Sealed, Ferrule Terminal, Power Wire-Wound Resistors, with power ratings of 15, 20, 40, 50, 90, 120 and 150 watts. These are the famous Sprague Koolohm "Grade 1, Class 1" resistors that are impervious to salt water, thermal shock, and corrosive atmospheres.

Precision Meter Multiplier Resistors, Wire-Wound, Hermetically-Sealed. Resistance values up to 7.5 megohms per unit. Three types, MFA, MFB, and MFC. Resistance tolerances of ±0.5% and stability of ±0.1%. The most rugged meter multipliers in the world!

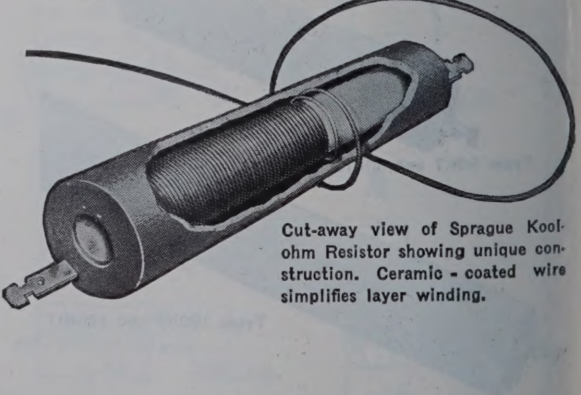
Voltage Divider Resistors. Wire-wound power resistors with ratings of 10, 15, and 25 watts. Designed for through bolt mounting as individual units, or in multiple sections of any size to provide tapped voltage dividers.

***MEGOMAX. High-resistance, High-Voltage, Resistors.** Ferrule terminal, hermetically-sealed, composition resistors of pressed and sintered ring construction, capable of high-temperature operation to 150° C. Three types with resistance values to 1000 megohms; power ratings of 6, 12 and 22 watts and voltages up to 20,000 volts.

BOBBIN Wire-Wound, Semi-Precision Resistors. Wound with ceramic-insulated wire on high-temperature plastic forms. Five high stability types with power ratings of 1, 2, 2.5, 3 and 5 watts, and resistance values to 500,000 ohms. Resistance tolerance down to ±0.5%.

Complete details on the above and other new types are contained in the Sprague Koolohm Industrial Catalog No. C-551, copy of which will gladly be sent on request by industrial users. Sprague engineers welcome the opportunity to be of assistance regarding industrial resistor applications.

*Trademark applied for.

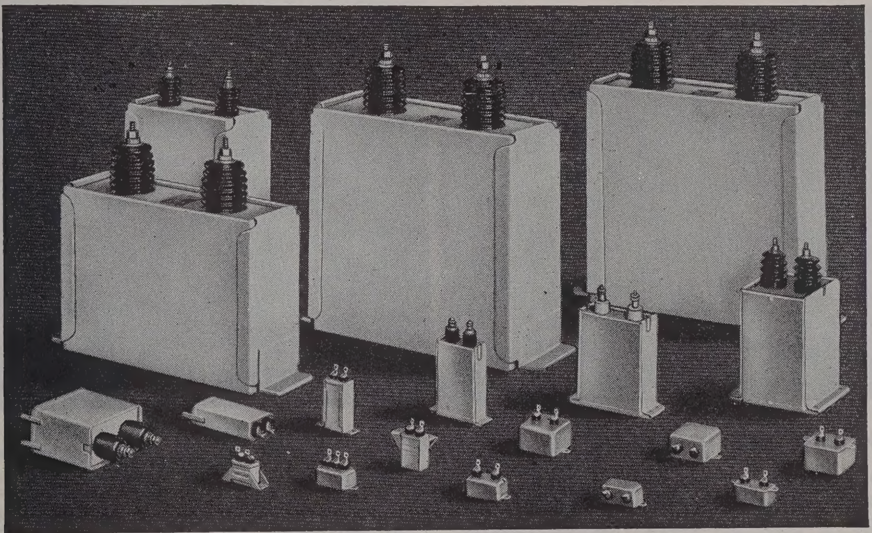


Cut-away view of Sprague Koolohm Resistor showing unique construction. Ceramic-coated wire simplifies layer winding.

PYRANOL* CAPACITORS

*Trade-mark reg. U. S. Pat. Off.

In accordance with Joint Army-Navy Specification JAN-C-25 Amendment-1.

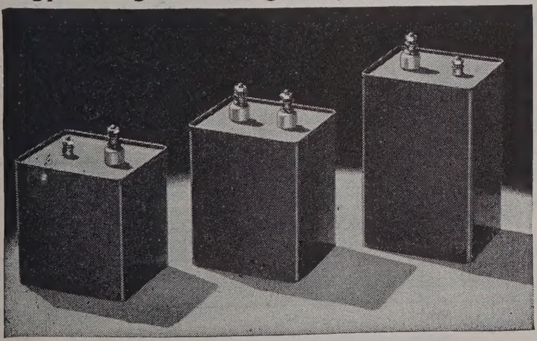


Case styles CP 53, 54, 55—Bathtub Style
CP 70—Large Rectangular
CP 61, 63, 65—Miniature Rectangular

All case styles are available in characteristic E and F. Single-section units are supplied with a capacitance tolerance of ±10 per cent (K), and two- and three-section units with a capacitance tolerance of +20 per cent, —10 per cent (V). Spade-lug and footed mounting brackets are available for use with capacitors on which the mounting bracket is not an integral part.

Write for Bulletin GEA-4357.

Energy-storage discharge capacitors



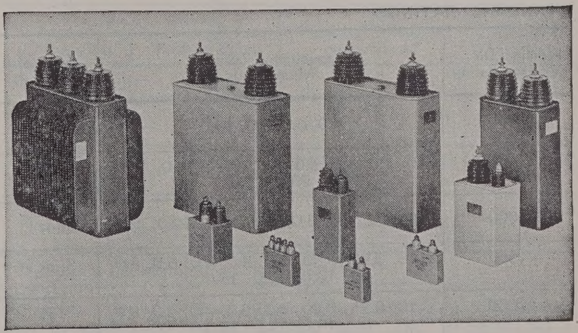
G-E light-duty energy-storage capacitors are made in a wide range of ratings to fit practically every requirement of high-speed flash photography, as well as home and industrial welders for light metals. Careful construction, high-quality materials, and skillful design contribute to long life and efficient operation.

Write for Bulletin GEA-4646.

STANDARD RATINGS

Max. D-c volts	Capacitance, Microfarads	Max. D-c volts	Capacitance, Microfarads
2000	25	4000	12.5
2000	40	4000	25/50
2500	14	4000	100
2500	25.5	5000	25/50
3000	60	6000	55
3350	17.8	6000	25

Capacitor networks



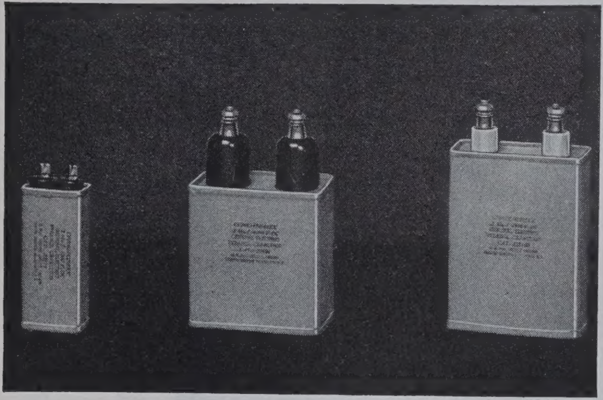
General Electric pioneered in the development of mineral-oil-treated paper dielectric capacitor networks for air, sea, and land radar, and was a prime supplier for the government services. The products supplied varied from the miniature types used with aircraft radar to the large land station designs.

All of the general facilities and the highly specialized test equipment involved are being retained for further work in this field and inquiries on new requirements are solicited.

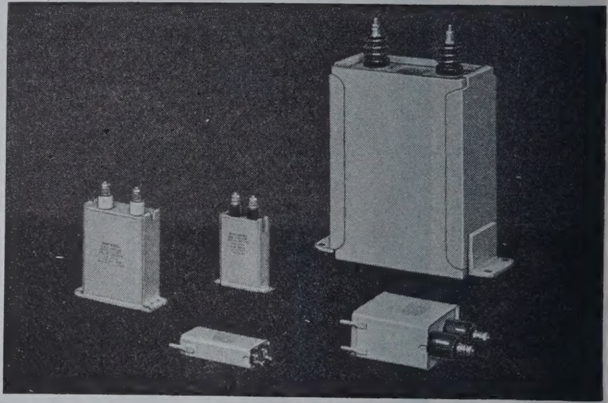
PYRANOL* CAPACITORS

*Trade-mark reg. U. S. Pat. Off.

Case Style 70



Case style 70 units with various types of terminals.



Case style 70 units with various types of removable mounting brackets.

These Pyranol fixed-paper-dielectric capacitors in case style 70 are hermetically sealed in rectangular cases. This line includes standard ratings, ranging from very small units weighing only three ounces to large high-voltage units weighing up to 175 pounds.

All are of single-section construction, with a capacitance tolerance of ±10 per cent. Cases are isolated and the two bushings are brought out through the cover. Units are available with either solder-lug terminals or with pillar-insulator terminals in 600-, 1000-, and 1500-volt ratings. All higher-voltage ratings have pillar-insulator terminals. These units may be operated in altitudes up to 7500 feet.

STANDARD RATINGS

Nominal Direct Voltage Rating	Capacitance Ratings, Microfarads	Type of Terminals
400	4.0, 6.0, 8.0, 10.0	Sl* or Pl†
600	1.0, 2.0, 4.0, 6.0, 8.0, 10.0, 12.0, 15.0, 20.0, 25.0	Sl or Pl
1000	1.0, 2.0, 4.0, 6.0, 8.0, 10.0, 12.0, 15.0	Sl or Pl
1500	0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 6.0, 8.0, 10.0, 12.0, 15.0	Sl or Pl
2000	0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 6.0, 8.0, 10.0, 12.0, 15.0	Pl
2500	0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 6.0, 8.0, 10.0, 12.0, 20.0, 25.0, 55.0, 75.0	Pl
3000	0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 6.0, 8.0, 12.0, 20.0, 45.0, 60.0	Pl
4000	0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 6.0, 7.0, 13.0, 20.0, 30.0	Pl
5000	0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 6.0, 8.0, 14.0, 18.0	Pl
6000	0.10, 0.25, 0.50, 1.0, 2.0, 4.0, 5.0, 10.0, 14.0	Pl
7500	0.10, 0.25, 0.50, 1.0, 2.0, 3.0, 7.0, 9.0	Pl

* Solder lug. † Pillar insulator.

Bushings with solder-lug terminals are made of molded Textolite, and those which have pillar-insulator terminals are of the highest-quality porcelain. All bushings are thoroughly bonded to the container to provide a permanent liquid-tight seal.

All units can be supplied with removable mounting brackets, as illustrated above. In addition to the screw-spade-lug brackets, two types of footed brackets are also available—one with a straight "L"-shaped foot and the other with a "U"-shaped foot that grips the bottom of the unit. The brackets can be attached to either the top or bottom of the unit, permitting either upright or inverted mounting.

Write for Bulletin GEA-2621.

STANDARD RATINGS

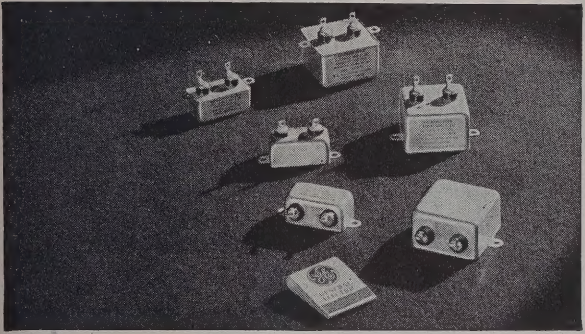
Nominal Direct Voltage Rating	Capacitance Ratings, Microfarads	Type of Terminals
10,000	0.10, 0.25, 0.50, 1.0, 1.5, 2.0, 3.5, 5.0	Pl
12,500	0.10, 0.25, 0.50, 0.75, 1.0, 1.2, 2.5, 3.3	Pl
15,000	0.25, 0.50, 0.75, 0.90, 1.75, 2.25	Pl
20,000	0.15, 0.25, 0.50, 1.0, 1.25, 3.0	Pl
25,000	0.10, 0.25, 0.60, 1.0	Pl
30,000	0.25, 0.5, 0.75	Pl
40,000	0.10, 0.20, 0.25, 0.35	Pl
50,000	0.17, 0.25	Pl
75,000‡	0.25	Pl
100,000‡	0.125	Pl

‡ Mid-point connected to case.

PYRANOL* CAPACITORS

*Trade-mark reg. U. S. Pat. Off.

Case styles 50, 51, and 52



These fixed-paper-dielectric "bathtub" capacitors are of small and compact construction, and will fit into very restricted places in radio and electronic equipments.

All three case styles are constructed with solder-lug terminals, and are available in single-section, two-section, or three-section construction for all circuit diagrams.

The hermetically sealed metallic containers are of drawn construction and include two integral mounting lugs.

The only difference in construction of the three case styles is in the location of the bushings, which are brought out through the side for case style 50 units, through the top for case style 51 units, and through the bottom for case style 52 units.

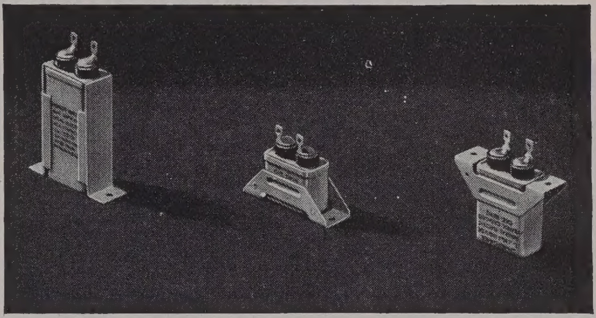
Write for Bulletin GEA-2621.

STANDARD RATINGS

Type of Construction	Nominal Direct Voltage Rating	Capacitance Ratings, Microfarads*	Capitance Tolerance
Single-section units	600	.05, .10, .25, .50, 1.0, 2.0	±10%
	1000	.05, .10, .25, .50, 1.0	
Two-section units	600	.05, .10, .25, .50, 1.0	+20% —10%
	1000	.05, .10, .25, .50	
Three-section units	600	.05, .10, .25, .50	+20% —10%
	1000	.05, .10, .25	

* Capacitance per section of two- and three-section units.

Case styles 60, 62, and 64



These small rectangular-case fixed-paper-dielectric units are of narrower width than the "bathtub" units, and will fit into a very restricted panel surface, where case height is not the limiting dimension. Mounting lugs, of either the removable or attached type, are of very sturdy construction.

All three case styles are constructed with solder-lug terminals, and are available in either single-section or dual-section construction for all circuit diagrams.

The metallic containers are hermetically sealed, and of deep-drawn construction.

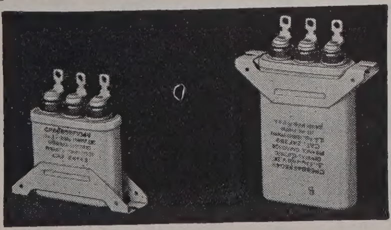
Case style 60 units have no brackets, but removable brackets of either the footed or screw-spade-lug type can be supplied, while the case style 62 and case style 64 units have soldered-on brackets for upright or inverted mounting, respectively.

STANDARD RATINGS

Type of Construction	Nominal Direct Voltage Rating	Capacitance Ratings, Miscofarads*	Capacitance Tolerance
Single-section units	400	2.0	±10%
	600	.05, .10, .25, .50, 1.0	
	1000	.01, .02, .05, .10, .25, .50	
Two-section units	600	.05, .10, .25, .50	+20%
	1000	.01, .02, .05, .10, .25	—10%

* Capacitance per section of two-section units.

Case styles 66-68



Case styles 66 and 68 units are similar to the case style 62 and 64 designs but slightly greater in width to accommodate three terminals.

Both case styles are constructed with solder lug terminals and are available in single-section, two-section, or three-section units. The metallic containers are deep-drawn construction and are hermetically sealed.

Case style 66 units have integral mounting brackets for base mounting, and case style 68 units integral mounting brackets for inverted mounting.

STANDARD RATINGS

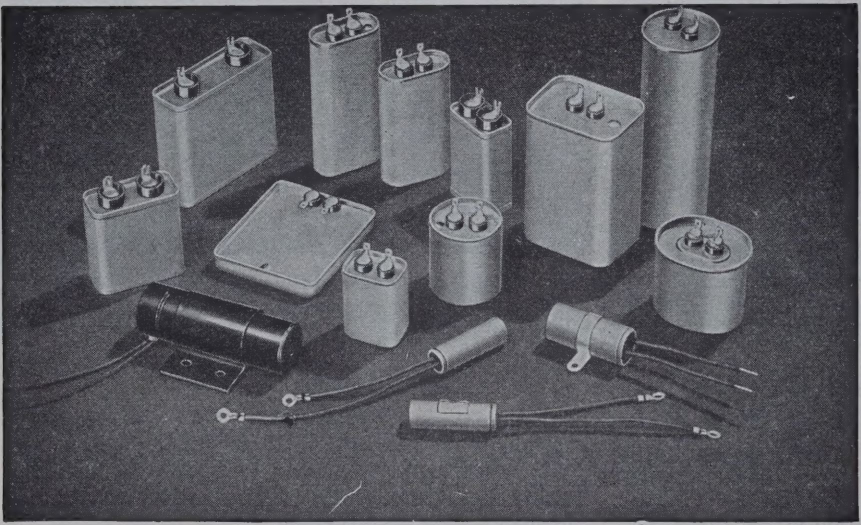
Type of Construction	Nominal Direct Voltage Rating	Capacitance Ratings, Microfarads*	Cap. Toler.
Single-section units	600	0.05, 0.10, 0.25, 0.50, 1.0	±10%
	1000	0.01, 0.02, 0.05, 0.10, 0.25, 0.50	
Two-section units	600	0.05, 0.10, 0.25, 0.50	+20%
	1000	0.01, 0.02, 0.05, 0.10, 0.25	—10%
Three-section units	600	0.05, 0.10, 0.25	+20%
	1000	0.01, 0.02, 0.05, 0.10, 0.25	—10%

* Capacitance per section of two- and three-section units.

PYRANOL* CAPACITORS

*Trade-mark reg. U. S. Pat. Off.

FOR GENERAL-PURPOSE A-C APPLICATIONS



Small a-c Pyranol capacitors are recommended for use with motors, luminous-tube transformers, industrial control, and other equipment.

The use of Pyranol* as a treating material, because of its high dielectric strength, high permittivity, and exceptional stability, has made possible a marked reduction in physical size, as well as a capacitor far superior to those formerly available.

Design advantages

(1) Small and compact units, because of the use of Pyranol.

(2) Wide range of ratings available in rectangular, cylindrical and oval cases.

(3) Three styles of mounting brackets are available and supplied separate from the units. Units may be operated in any position.

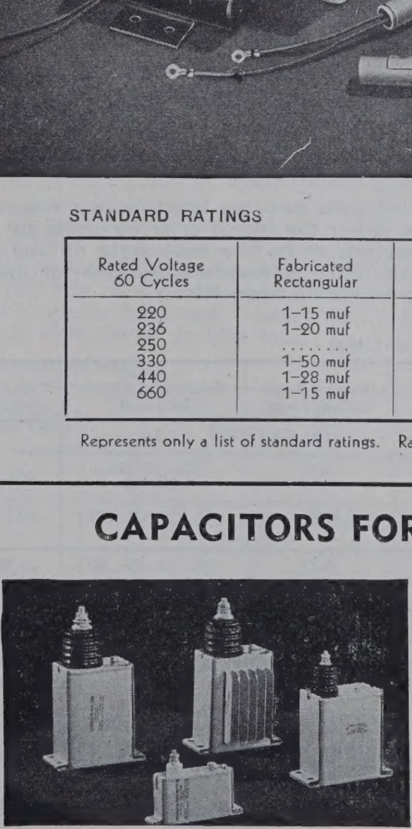
Write for Bulletin GEA-2027

STANDARD RATINGS

Rated Voltage 60 Cycles	Fabricated Rectangular	Drawn Rectangular	Drawn Cylindrical	Shallow Drawn	Oval Drawn
220	1–15 muf	....	....	....	2–6 muf
236	1–20 muf	....	....	....	....
250	....	....	....	2–3.5 muf	....
330	1–50 muf	1–17.5 muf	2.5–11 muf	....	2–3.5 muf
440	1–28 muf	....	....	....	2–4 muf
660	1–15 muf	....	....	....	1.75 muf

Represents only a list of standard ratings. Ratings other than these listed will be supplied when required.

CAPACITORS FOR OSCILLATOR TANK CIRCUITS



This line of fixed-paper-dielectric capacitors has been developed primarily for grid and plate blocking service in the electronic oscillator circuits of high-frequency induction-heating equipments. They can also be used to advantage in other high-frequency oscillator circuits of a similar nature.

G-E high-voltage paper-dielectric capacitors are of relatively high capacitance (0.01 mu f) for high-frequency units, and yet they are more economical than conventional high-frequency units of considerably smaller capacitance values. They can, therefore, be applied with savings in cost as well as reduced losses and lower voltage drop across the capacitor.

features

- Hermetically sealed in metallic cases.
- Single-bushing construction for minimum size.
- Removable mounting brackets.
- Internal lead connections arranged for minimum inductance.

Write for Bulletin GEA-4388.

STANDARD RATINGS

D-c Voltage Rating	Microfarad Rating
5000	0.01
15,000	0.01
20,000	0.01
20,000*	0.01

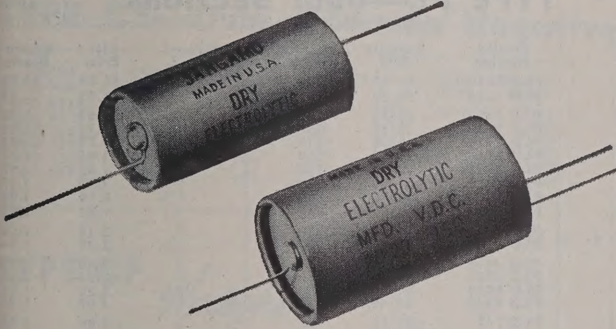
* With cooling fins for higher current-carrying capacity.
Capacitance tolerance ±10%.

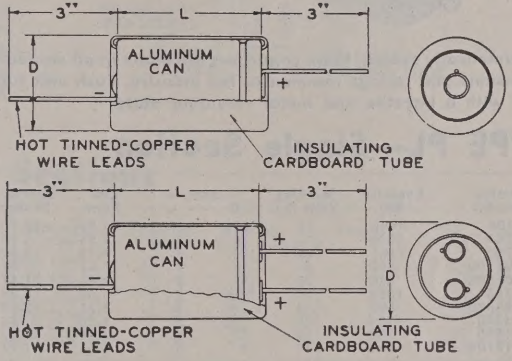
SANGAMO CAPACITORS

Electrolytics by Sangamo

TYPE MT **TYPE MTD**

Chieftain




3"
L
3"
D
ALUMINUM CAN
+
−
HOT TINNED-COPPER WIRE LEADS
INSULATING CARDBOARD TUBE
3"
L
3"
ALUMINUM CAN
+
−
+
D
HOT TINNED-COPPER WIRE LEADS
INSULATING CARDBOARD TUBE

Hermetically sealed in round aluminum tubes, these DC dry tubular electrolytics have heavy insulating sleeves on which polarity is clearly indicated. Double pure paper spacers assure adequate breakdown characteristics and all sections are tightly held in place within the container. Multiple staking connects the terminal tabs to the electrodes and provides permanent low resistance contact throughout the life of the capacitor. Low voltage units utilize etched cathodes to maintain uniform capacity when these capacitors are subjected to heat and high ripple currents.

TYPE MT—Single Section

Catalog Number	Capacity Mfd.	Working Volts D.C.	— Size — D	L	List Price	Sggstd. Resale
MT 0210	10	25	⅝	1 1/16	$0.75	$0.45
MT 0225	25	25	⅝	1 1/16	.85	.51
MT 0250	50	25	⅝	1 5/16	.95	.57
MT 02100	100	25	⅞	1 13/16	1.20	.72
MT 0510	10	50	⅝	1 1/16	.80	.48
MT 0525	25	50	⅝	1 5/16	.90	.54
MT 0550	50	50	¾	1 9/16	1.05	.63
MT 1504	4	150	⅝	1 1/16	.75	.45
MT 1508	8	150	⅝	1 1/16	.80	.48
MT 1512	12	150	⅝	1 5/16	.85	.51
MT 1516	16	150	⅝	1 9/16	.90	.54
MT 1520	20	150	⅝	1 9/16	.95	.57
MT 1530	30	150	¾	1 9/16	1.00	.60
MT 1540	40	150	¾	1 13/16	1.10	.66
MT 1550	50	150	⅞	1 13/16	1.20	.72

NOTE: Metal mounting straps are available at extra cost. They are not supplied as a standard item.

Catalog Number	Capacity Mfd.	Working Volts D.C.	— Size — D	L	List Price	Sggstd. Resale
MT 2508	8	250	⅝	1 9/16	$0.80	$0.48
MT 2512	12	250	⅝	1 13/16	1.00	.60
MT 2516	16	250	¾	1 9/16	1.10	.66
MT 2520	20	250	¾	1 13/16	1.20	.72
MT 2540	40	250	⅞	2 5/16	1.40	.84
MT 3508	8	350	¾	1 9/16	.90	.54
MT 3512	12	350	¾	1 13/16	1.05	.63
MT 3516	16	350	⅞	1 13/16	1.20	.72
MT 4504	4	450	⅝	1 5/16	.90	.54
MT 4508	8	450	¾	1 9/16	.95	.57
MT 4510	10	450	¾	1 9/16	1.05	.63
MT 4512	12	450	⅞	1 9/16	1.15	.69
MT 4516	16	450	⅞	1 13/16	1.35	.81
MT 4520	20	450	1	1 13/16	1.50	.90
MT 4530	30	450	1	2 5/16	1.65	.99
MT 4540	40	450	1	2 ⅞	2.00	1.20

NOTE: Packaging 10, 25 or 50 Capacitors per display carton.

TYPE MTD—Dual Common Negative Sections

Catalog Number	Capacity Mfd.	Working Volts D.C.	— Size — D	L	List Price	Sggstd. Resale
MTD 0210	10-10	25	⅞	1 1/16	$1.05	$0.63
MTD 0220	20-20	25	⅞	1 1/16	1.10	.66
MTD 1520	20-20	150	¾	1 9/16	1.30	.78
MTD 1530	30-30	150	⅞	1 9/16	1.50	.90
MTD 301	50-30	150	1	1 13/16	1.70	1.02
MTD 302	40-20	150	1	1 13/16	1.50	.90
MTD 1540	40-40	150	1	1 13/16	1.70	1.02

NOTE: Metal mounting straps are available at extra cost. They are not supplied at a standard item.

Catalog Number	Capacity Mfd.	Working Volts D.C.	— Size — D	L	List Price	Sggstd. Resale
MTD 2520	20-20	250	1	1 13/16	$1.80	$1.08
MTD 3520	20-20	350	1	2 ⅞	2.10	1.26
MTD 4508	8- 8	450	⅞	1 13/16	1.70	1.02
MTD 4510	10-10	450	1	1 13/16	1.85	1.11
MTD 4520	20-20	450	1	2 ⅞	2.50	1.50

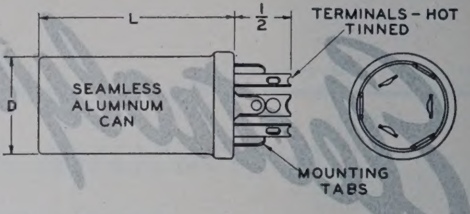
NOTE: Packaging 10, 25 or 50 Capacitors per display carton.

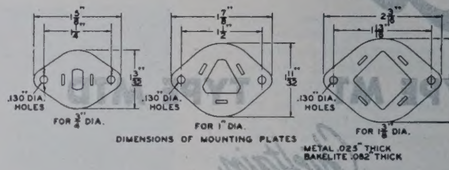
SANGAMO CAPACITORS

ELECTROLYTIC CAPACITORS

TYPE PL *Warrior*

SANGAMO
DRY ELECTROLYTIC
MADE IN U S A
PLZ-707
MFD
VDC


L
1/2
TERMINALS - HOT TINNED
D
SEAMLESS ALUMINUM CAN
MOUNTING TABS


1 5/8"
1 1/4"
1 3/32"
.130" DIA. HOLES
FOR 3/4" DIA.
1 7/8"
1 1/2"
1 11/32"
.130" DIA. HOLES
FOR 1" DIA.
2 3/16"
1 13/16"
1 17/32"
.130" DIA. HOLES
FOR 1 3/8" DIA.
METAL .025" THICK
BAKELITE .082" THICK

DIMENSIONS OF MOUNTING PLATES

Hermetically sealed, these capacitors are made in all standard dimensions and ratings common to the industry. Each unit supplied with a bakelite and metal mounting plate.

TYPE PL—Single Section

Catalog Number	Capacity Mfd.	Working Volts D.C.	— Size — D	L	List Price	Sggstd. Resale
PL 700	3000	10	1⅜	3	$4.50	$2.70
PL 701	1000	15	1	3	3.25	1.95
PL 703	2000	15	1⅜	3	4.70	2.82
PL 02100	100	25	1	2	1.45	.87
PL 02500	500	25	1	3	2.45	1.47
PL 705	1000	25	1⅜	3	3.55	2.13
PL 05500	500	50	1⅜	3	3.55	2.13
PL 1530	30	150	¾	2	1.25	.75
PL 1550	50	150	1	2	1.45	.87
PL 15100	100	150	1	3	1.95	1.17
PL 4510	10	450	1	2	1.30	.78
PL 4515	15	450	1	2	1.55	.93
PL 4520	20	450	1	2	1.75	1.05
PL 4530	30	450	1	2½	1.90	1.14
PL 4540	40	450	1	3	2.25	1.35
PL 4580	80	450	1⅜	3	3.85	2.31
PL 5010	10	500	1	2½	1.75	1.05
PL 5020	20	500	1	3	2.65	1.59

TYPE PL—Dual Sections

Catalog Number	Capacity Mfd.	Working Volts D.C.	— Size — D	L	List Price	Sggstd. Resale
PLD 0240	40-40	25	1	2	$1.50	$0.90
PLD 1520	20-20	150	1	2	1.55	.93
PLD 710	30-20	150	1	2	1.65	.99
PLD 1530	30-30	150	1	2	1.75	1.05
PLD 712	40-20	150	1	2	1.75	1.05
PLD 714	40-30	150	1	2	1.85	1.11
PLD 1540	40-40	150	1	2	1.95	1.17
PLD 716	50-30	150	1	2	1.95	1.17
PLD 1550	50-50	150	1	2½	2.10	1.26
PLD 2520	20-20	250	1	2	1.75	1.05
PLD 3515	15-15	350	1	2	2.10	1.26
PLD 3520	20-20	350	1	2½	2.35	1.41
PLD 4510	10-10	450	1	2	2.10	1.26
PLD 4520	20-20	450	1	3	2.65	1.59
PLD 4530	30-30	450	1⅜	2½	3.25	1.95
PLD 4540	40-40	450	1⅜	3	4.00	2.40
PLD 717	80-10	400	1⅜	3	4.00	2.40

TYPE PL—Triple Sections

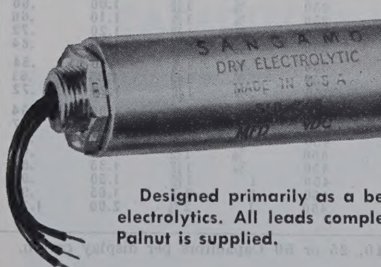
Catalog Number	Capacity Mfd.	Working Volts D.C.	— Size — D	L	List Price	Sggstd. Resale
PLT 1520	20-20-20	150	1	2	$2.30	$1.38
PLT 738	40-30-20	150	1	2	2.45	1.47
PLT 1540	40-40-40	150	1	2½	2.60	1.56
PLT 4510	10-10-10	450	1	3	2.50	1.50
PLT 4520	20-20-20	450	1⅜	2½	3.45	2.07
PLY 748	20-20/20	150/25	1	2	2.00	1.20
PLY 749	40-20/20	150/25	1	2	2.20	1.32

NOTES

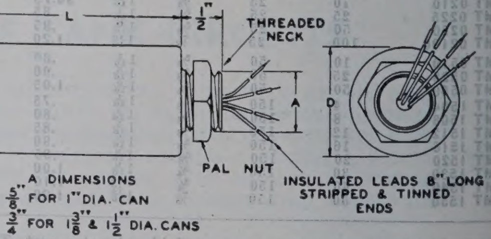
Each unit is supplied with a bakelite and a metal mounting plate. Additional hardware available at extra cost.

Packaging, individual display carton.

TYPE SL *Mohican*


SANGAMO
DRY ELECTROLYTIC
MADE IN U S A
MFD
VDC

Designed primarily as a better replacement for wet electrolytics. All leads completely insulated from can. Palnut is supplied.


L
1/2"
THREADED NECK
A
D
PAL NUT
INSULATED LEADS 8" LONG STRIPPED & TINNED ENDS
A DIMENSIONS
5/8" FOR 1" DIA. CAN
3/4" FOR 1 3/8" & 1 1/2" DIA. CANS

TYPE SL

Catalog Number	Capacity Mfd.	Single Section Working Volts D.C.	— Size — D	L	List Price	Sggstd. Resale
SL 2512	12	250	1	2½	$1.75	$1.05
SL 2525	25	250	1	3½	2.00	1.20
SL 4508	8	450	1	2½	1.75	1.05
SL 4512	12	450	1	2½	2.15	1.29
SL 4516	16	450	1	3½	2.40	1.44
SL 4520	20	450	1⅜	2½	2.65	1.59
SL 4530	30	450	1⅜	3½	3.00	1.80
SL 4540	40	450	1⅜	4¼	3.40	2.04

NOTE: Insulated leads are color-coded and are 8″ long with ½″ at ends skinned and tinned. Palnut is supplied.

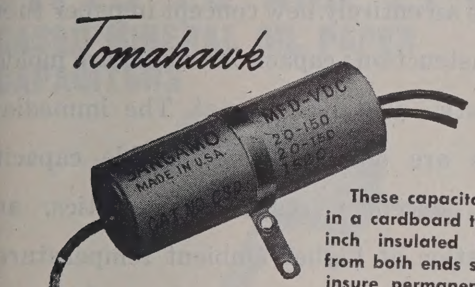
Catalog Number	Capacity Mfd.	Working Volts D.C.	— Size — D	L	List Price	Sggstd. Resale
SL 6004	4	600	1⅜	3½	$3.00	$1.80
SL 6008	8	600	1⅜	4¼	4.00	2.40
SL 6016	16	600	1½	4¼	5.00	3.00
Dual Common Negative Sections						
SLD 2508	8- 8	250	1	3	$2.30	$1.38
SLD 4508	8- 8	450	1⅜	2½	2.75	1.65
SLD 4516	16-16	450	1⅜	3½	3.50	2.10
SLD 4520	20-20	450	1⅜	4¼	4.00	2.40

NOTE. Packaging, individual display carton.

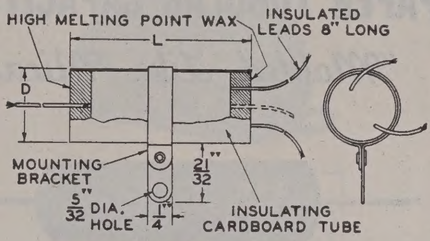
SANGAMO CAPACITORS

TYPE CS ELECTROLYTIC CAPACITORS

Tomahawk


SANGAMO
MADE IN U.S.A.
MFD-VDC
20-150
20-150
150DC
CAT. NO. CSD

These capacitors are contained in a cardboard tube and have 8-inch insulated leads extending from both ends sealed in pitch to insure permanency. Each unit is supplied with a mounting strap around the tube to facilitate mounting to the chassis.


HIGH MELTING POINT WAX
INSULATED LEADS 8" LONG
L
D
MOUNTING BRACKET
21/32"
5/32" DIA. HOLE
1/4"
INSULATING CARDBOARD TUBE

TYPE CS—Dual Common Negative Sections

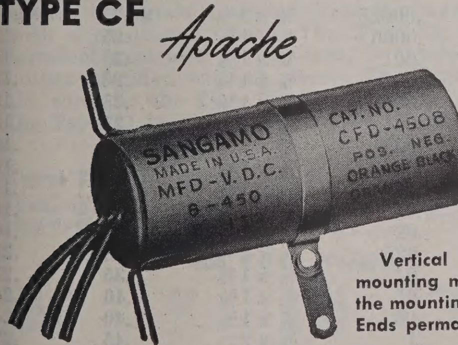
Catalog Number	Capacity Mfd.	Working Volts D.C.	Size D	Size L	List Price	Sggstd. Resale
CSD 0210	10-10	25	9/16	2⅜	$1.05	$0.63
CSD 0510	10-10	50	9/16	2⅜	1.15	.69
CSD 502	20-10	150	¾	2½	1.25	.75
CSD 1520	20-20	150	¾	2½	1.30	.78
CSD 1530	30-30	150	⅞	2½	1.50	.90
CSD 505	40-20	150	1	2½	1.50	.90

Catalog Number	Capacity Mfd.	Working Volts D.C.	Size D	Size L	List Price	Sggstd. Resale
CSD 1540	40-40	150	1	2½	$1.70	$1.02
CSD 512	50-30	150	1	2½	1.70	1.02
CSD 1550	50-50	150	1	3⅝	1.85	1.11
CSD 516	8-16	250	⅞	2½	1.60	.96
CSD 2516	16-16	250	1	2½	1.70	1.02
CSD 4508	8- 8	450	1	2½	1.70	1.02
CSD 522	8-16	450	1	2⅞	2.00	1.20

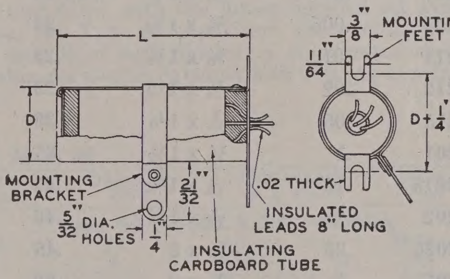
NOTE: Packaging 10, 25 or 50 Capacitors per display carton.

TYPE CF

Apache


SANGAMO
MADE IN U.S.A.
MFD-V.D.C.
8-450
CAT. NO.
CFD-4508
POS. NEG.
ORANGE BLACK

Vertical or horizontal mounting made possible by the mounting feet and strap. Ends permanently sealed.


L
3/8" MOUNTING FEET
11/64"
D
D+1/4"
MOUNTING BRACKET
21/32"
.02 THICK
5/32" DIA. HOLES
1/4"
INSULATED LEADS 8" LONG
INSULATING CARDBOARD TUBE

TYPE CF

Single Section

Catalog Number	Capacity Mfd.	Working Volts D.C.	Size D	Size L	List Price	Sggstd. Resale
CF 1520	20	150	⅞	2½	$1.15	$0.69
CF 2508	8	250	⅞	2½	1.05	.63
CF 2516	16	250	⅞	2½	1.30	.78
CF 2524	24	250	1	2¾	1.45	.87
CF 3508	8	350	⅞	2½	1.10	.66
CF 3512	12	350	⅞	2½	1.30	.78
CF 3516	16	350	⅞	2½	1.45	.87
CF 3524	24	350	1	3⅝	1.55	.93
CF 4508	8	450	⅞	2½	1.15	.69
CF 4512	12	450	⅞	2⅞	1.35	.81

Catalog Number	Capacity Mfd.	Working Volts D.C.	Size D	Size L	List Price	Sggstd. Resale
CF 4516	16	450	⅞	2⅞	$1.55	$0.93
CF 4530	30	450	1	3⅝	1.85	1.11
Dual Common Negative Sections						
CFD 1520	20-20	150	⅞	2½	$1.50	$0.90
CFD 1530	30-30	150	1	2⅞	1.70	1.02
CFD 1550	50-50	150	1 1/16	3⅛	2.05	1.23
CFD 2508	8- 8	250	1	2¾	1.65	.99
CFD 3508	8- 8	350	1	2¾	1.80	1.08
CFD 4508	8- 8	450	1	2⅞	1.90	1.14

NOTE: Packaging 10, 25 or 50 Capacitors per display carton.

COLOR CODE OF WIRE LEADS FOR TYPES CF, CS AND SL ELECTROLYTIC CAPACITORS

Black	Common Negative
Orange	Positive, Highest voltage or capacity
Red	Positive, next highest voltage or capacity
Blue	Positive, next highest voltage or capacity
Yellow	Positive, next highest voltage or capacity
Brown	Negative, in separate section unit

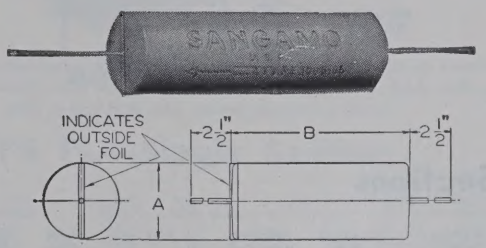
NOTE: Lead colors are determined by the rated working voltages. Where there are two or more sections of different voltages and the same capacity, the lead color will be determined by the voltage; with the same voltages and unequal capacities the lower capacity takes the next color in the sequence.

NOTE: Based upon proposed R.M.A. color code.

SANGAMO CAPACITORS

TYPE 30 PLASTIC MOLDED PAPER TUBULAR CAPACITORS

"Molded Like Micas"



Here is an entirely new concept in paper tubular construction: capacitors which are molded in plastic—just like micas! The immediate results are obvious: more stable capacity values, excellent seal characteristics, and application at higher ambient temperatures. In the long run, too, the result is obvious: a new standard of permanence. Halowax impregnation is suitable for operation in ambient temperature ranges from —55° C. to +55° C.

200 V.D.C. Working

Catalog Number	Capacity Mfd.	Size Inches A x B	List Price	Net Price
300221	.001	⅜ x 1⅛	$0.25	$0.15
300225	.005	⅜ x 1⅛	.25	.15
300211	.01	⅜ x 1⅛	.25	.15
300212	.02	⅜ x 1⅛	.25	.15
300215	.05	7/16 x 1¼	.30	.18
300201	.1	½ x 1½	.35	.21
3002015	.15	9/16 x 1⅝	.35	.21
300202	.2	9/16 x 1⅝	.40	.24
3002025	.25	⅝ x 2	.45	.27
300205	.5	¾ x 2	.60	.36
300210	1.	1 x 2⅛	.90	.54

400 V.D.C. Working

Catalog Number	Capacity Mfd.	Size Inches A x B	List Price	Net Price
300421	.001	⅜ x 1⅛	$0.25	$0.15
300411	.01	⅜ x 1⅛	.25	.15
300412	.02	⅜ x 1⅛	.25	.15
300415	.05	7/16 x 1¼	.30	.18
300401	.1	9/16 x 1⅝	.35	.21
3004015	.15	9/16 x 1⅝	.35	.21
300402	.2	⅝ x 2	.40	.24
3004025	.25	⅝ x 2	.45	.27
300405	.5	⅞ x 2	.60	.36
300410	1.	1 1/16 x 2½	.90	.54

Prices subject to change without notice.

600 V.D.C. Working

Catalog Number	Capacity Mfd.	Size Inches A x B	List Price	Net Price
3006325	.00025	⅜ x 1⅛	$0.25	$0.15
300635	.0005	⅜ x 1⅛	.25	.15
300621	.001	⅜ x 1⅛	.25	.15
300622	.002	⅜ x 1⅛	.25	.15
300623	.003	⅜ x 1⅛	.25	.15
300624	.004	⅜ x 1⅛	.25	.15
300625	.005	⅜ x 1⅛	.25	.15
300626	.006	⅜ x 1⅛	.25	.15
300611	.01	7/16 x 1¼	.30	.18
3006115	.015	7/16 x 1¼	.30	.18
300612	.02	7/16 x 1¼	.30	.18
3006125	.025	½ x 1½	.35	.21
300614	.04	½ x 1½	.35	.21
300615	.05	9/16 x 1⅝	.40	.24
300616	.06	9/16 x 1⅝	.40	.24
300601	.1	⅝ x 2	.45	.27
3006015	.15	¾ x 2	.50	.30
300602	.2	⅞ x 2	.55	.33
3006025	.25	⅞ x 2	.55	.33
300605	.5	1 1/16 x 2½	.80	.48
300610	1.	1⅜ x 2⅝	1.25	.75

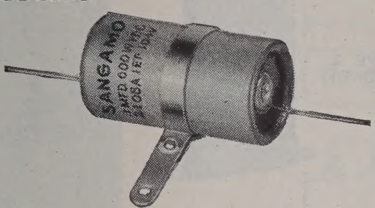
1000 V.D.C. Working

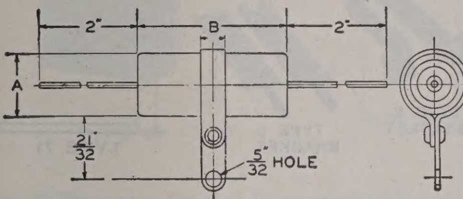
Catalog Number	Capacity Mfd.	Size Inches A x B	List Price	Net Price
301021	.001	⅜ x 1⅛	$0.30	$0.18
301022	.002	⅜ x 1⅛	.30	.18
301023	.003	⅜ x 1⅛	.35	.21
301024	.004	⅜ x 1⅛	.35	.21
301025	.005	7/16 x 1¼	.40	.24
301026	.006	7/16 x 1¼	.40	.24
301011	.01	7/16 x 1¼	.50	.30
3010115	.015	½ x 1½	.50	.30
301012	.02	½ x 1½	.50	.30
301013	.03	9/16 x 1⅝	.55	.33
301015	.05	⅝ x 2	.60	.36
301016	.06	⅝ x 2	.60	.36
301001	.1	¾ x 2	.75	.45
3010025	.25	1 1/16 x 2½	.85	.51

Prices subject to change without notice.

SANGAMO CAPACITORS

TYPES 20 AND 21 METAL CASED MINERAL OIL PAPER CAPACITORS





TYPES 20 AND 21

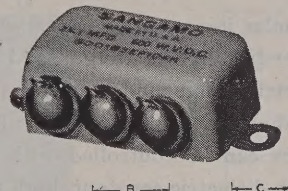
Designed for by-pass and coupling applications, Types 20 and 21 capacitors are non-inductively wound paper capacitors impregnated in mineral oil of greatest stability and housed in metal tubes. The Type 21, having terminals insulated from the case, is covered with a cardboard sleeve. The Type 20, having one terminal grounded to the case, is similarly covered unless specified without sleeve. The Type 20, priced the same as the Type 21, has the same diameter as the Type 21 but is ⅛" shorter in length.

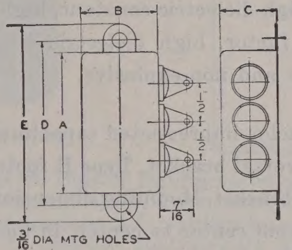
Types 20 & 21

Catalog Number	Capacity Mfd.	Size Inches A x B	List Price	Net Price
		200 V.D.C. Working		
2102-.005	.005	½ x 1 5/16	$0.90	$0.54
2102-.01	.01	½ x 1 5/16	.90	.54
2102-.1	.1	¾ x 1 9/16	1.00	.66
		400 V.D.C. Working		
2104-.005	.005	½ x 1 5/16	.90	.54
2104-.01	.01	½ x 1 5/16	.90	.54
2104-.05	.05	¾ x 1 9/16	.95	.57
		600 V.D.C. Working		
2106-.005	.005	½ x 1 5/16	.95	.57
2106-.01	.01	½ x 1 5/16	.95	.57
2106-.05	.05	¾ x 1 9/16	1.10	.66
2106-.1	.1	¾ x 1 13/16	1.25	.75
2106-.5	.5	1 1/16 x 2 5/16	2.20	1.32
		1000 V.D.C. Working		
2110-.0005	.0005	½ x 1 5/16	1.10	.66
2110-.005	.005	½ x 1 5/16	1.10	.66
2110-.01	.01	½ x 1 9/16	1.10	.66
2110-.05	.05	¾ x 1 11/16	1.30	.78
2110-.1	.1	13/16 x 2 1/16	1.50	.90
		1600 V.D.C. Working		
2116-.003	.003	¾ x 1 5/16	1.20	.72
2116-.006	.006	¾ x 1 7/16	1.20	.72
2116-.01	.01	¾ x 1 7/16	1.20	.72
2116-.02	.02	¾ x 1 9/16	1.30	.78
2116-.05	.05	13/16 x 2 1/16	1.30	.78
2116-.1	.1	1 1/16 x 2 1/16	2.10	1.26

Inquiries should be directed to the factory for capacities and voltages other than those listed above.
Prices subject to change without notice.

TYPES 50 AND 59 BYPASS PAPER CAPACITORS





TYPES 50 AND 59

Types 50 and 59 paper capacitors are non-inductively wound paper dielectric sections sealed in seamless containers. Primarily intended for bypass applications, their characteristics are excellent for R.F. and A.F. bypass, audio frequency coupling and A.C. circuits. The Type 50 capacitors are vacuum impregnated and filled with the finest mineral oil available for use; the Type 59 capacitors are vacuum impregnated and filled with diaclor; a chlorinated dielectric providing maximum capacity and voltage in minimum space.

Types 50 & 59

Catalog Number	Capacity Mfd.	Size Inches A x B x C	List Price	Net Price
	Type 50	**600 V.D.C. Working**		
5006-.05	.05	1 13/16 x 1 x ¾	$2.60	$1.50
5006-.5	.5	1 13/16 x 1 x ⅞	3.00	1.80
5006-1	1.	2 x 1¾ x ⅞	3.40	2.04
5006-.05x2	.05-.05	1 13/16 x 1 x ¾	3.30	1.98
5006-.5x2	.5-.5	2 x 1¾ x ⅞	3.90	2.34
5006-.1x3	.1-.1-.1	1 13/16 x 1 x ¾	3.80	2.28
5006 .5x3	.5-.5-.5	2 x 2 x 1⅛	5.20	3.12
	Type 50	**1000 V.D.C. Working**		
5010-.05	.05	1 13/16 x 1 x ¾	2.75	1.65
5010-1	1.	2 x 2 x 1⅛	4.00	2.40
5010-.05x2	.05-.05	1 13/16 x 1 x ¾	3.50	2.10
5010-.5x2	.5-.5	2 x 2 x 1⅛	4.95	2.97
5010-.25x3	.25-.25-.25	2 x 2 x 1⅛	5.00	3.00
	Type 59	**600 V.D.C. Working**		
5906-.05	.05	1 13/16 x 1 x ¾	2.60	1.50
5906-1	1.	2 x 1¾ x 13/16	3.40	2.04
5906-2	2.	2 x 2 x 1⅛	4.55	2.73
5906-.05x2	.05-.05	1 13/16 x 1 x ¾	3.30	1.98
5906-1.x2	1.-1.	2 x 2 x 1⅛	4.80	2.88
5906-.1x3	.1-.1-.1	1 13/16 x 1 x ¾	3.80	2.28
5906-.5x3	.5-.5-.5	2 x 2 x 1⅛	5.20	3.12
	Type 59	**1000 V.D.C. Working**		
5910-.05	.05	1 13/16 x 1 x ¾	2.75	1.65
5910-1	1.	2 x 2 x 1⅛	4.00	2.40
5910-.05x2	.05-.05	1 13/16 x 1 x ¾	3.50	2.10
5910-.5x2	.5-.5	2 x 2 x 1⅛	4.95	2.97
5910-.25x3	.25-.25-.25	2 x 2 x 1⅛	5.00	3.00

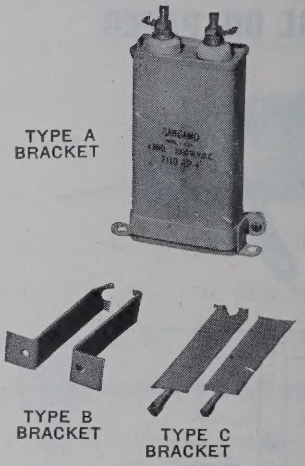
Standard tolerance +20% —10%. Types 50 and 59 standard capacitors supplied with side terminals or to customer spec. When ordering non-standard terminals specify design, R—Rivet, S—Screw; specify position, T—Top, B—Bottom, E—End.
Inquiries should be directed to the factory for capacities and voltages other than those listed above.
Prices subject to change without notice.

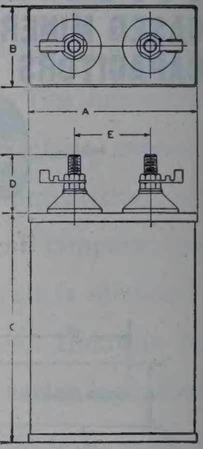
SANGAMO CAPACITORS

TYPE 71 DIACLOR IMPREGNATED TRANSMITTING CAPACITORS

Sangamo Diaclor impregnated capacitors have the advantage of longer life, lighter weight, and smaller size. Diaclor is a specially compounded, chemically purified chlorinated liquid dielectric. This synthetic impregnant, whose characteristics can be controlled with great uniformity, assures a high dielectric constant, high volume resistivity, low power factor, high dielectric strength, and is non-inflammable and non-explosive.

Type 71 Diaclor impregnated capacitors are supplied with Type A universal bracket, Type B footed bracket, or Type C spade lug bracket. Mounting dimensions of these brackets are given from center to center, in inches, in column "F" below. Terminals: composition rivet or screw; pyrex glass; or, stand-off porcelain. Prices include choice of brackets and terminals.





TYPE 71

Catalog Number	Capacity Mfd.	Dimensions — Inches						List Price	Net Price
		A	B	C	D	E	F		
		600 V.D.C. Working							
7106-.5	.5	1 13/16	1 1/16	1⅝	⅞	13/16	2¼	$4.25	$2.55
7106-1	1.	1 13/16	1 1/16	2	⅞	13/16	2¼	5.25	3.15
7106-2	2.	1 13/16	1 1/16	2¾	⅞	13/16	2¼	6.50	3.90
7106-4	4.	2½	1 3/16	2⅞	⅞	1⅛	3	8.25	4.95
7106-6	6.	2½	1 3/16	3¾	⅞	1⅛	3	10.25	6.15
7106-8	8.	3¾	1¼	3¼	⅞	2	4⅜	12.25	7.35
7106-10	10.	3¾	1¼	3¾	⅞	2	4⅜	13.75	8.25
7106-12	12.	3¾	1¼	4¼	⅞	2	4⅜	15.50	9.30
		1000 V.D.C. Working							
7110-.1	.1	1 13/16	1 1/16	1⅝	⅞	13/16	2¼	3.75	2.25
7110-.25	.25	1 13/16	1 1/16	1⅝	⅞	13/16	2¼	4.25	2.55
7110-.5	.5	1 13/16	1 1/16	2	⅞	13/16	2¼	4.50	2.70
7110-1	1.	1 13/16	1 1/16	2½	⅞	13/16	2¼	5.75	3.45
7110-2	2.	1 13/16	1 1/16	3⅞	⅞	13/16	2¼	7.50	4.50
7110-4	4.	2½	1 3/16	4⅛	⅞	1⅛	3	9.50	5.70
7110-6	6.	3¾	1¼	3⅞	⅞	2	4⅜	12.75	7.65
7110-8	8.	3¾	1¼	4⅝	⅞	2	4⅜	13.75	8.25
7110-10	10.	3¾	1¾	4¼	⅞	2	4⅜	15.25	9.15
7110-12	12.	3¾	2¼	4	⅞	2	4⅜	16.50	9.90
7110-15	15.	3¾	2½	4⅝	⅞	2	4⅜	18.25	10.95
		1500 V.D.C. Working							
7115-.25	.25	1 13/16	1 1/16	2	⅞	13/16	2¼	5.25	3.15
7115-.5	.5	1 13/16	1 1/16	2¼	⅞	13/16	2¼	5.75	3.45
7115-1	1.	1 13/16	1 1/16	3¼	⅞	13/16	2¼	6.75	4.05
7115-2	2.	2½	1 3/16	3⅝	⅞	1⅛	3	9.50	5.70
7115-4	4.	3¾	1¼	4¼	⅞	2	4⅜	12.75	7.65
7115-6	6.	3¾	1¾	4½	⅞	2	4⅜	15.50	9.30
7115-8	8.	3¾	2½	4⅝	⅞	2	4⅜	19.00	11.40
7115-10	10.	3¾	3 3/16	4⅛	⅞	2	4⅜	22.75	13.65
7115-12	12.	3¾	3 3/16	5⅛	⅞	2	4⅜	24.75	14.85
7115-15	15.	3¾	4 9/16	4½	⅞	2	4⅜	27.25	16.35

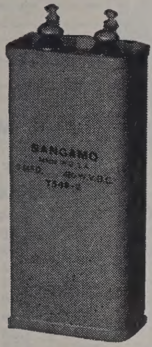
Standard tolerance ±10%

Catalog Number	Capacity Mfd.	Dimensions — Inches						List Price	Net Price
		A	B	C	D	E	F		
		2000 V.D.C. Working							
7120-.1	.1	1 13/16	1 1/16	1⅝	⅞	13/16	2¼	$6.00	$3.60
7120-.25	.25	1 13/16	1 1/16	2⅛	⅞	13/16	2¼	6.50	3.90
7120-.5	.5	1 13/16	1 1/16	2⅞	⅞	13/16	2¼	6.75	4.05
7120-1	1.	2½	1 3/16	3¼	1¼	1⅛	3	8.25	4.95
7120-2	2.	3¾	1¼	3¾	1¼	2	4⅜	9.75	5.85
7120-4	4.	3¾	1¾	4¾	1¼	2	4⅜	13.75	8.25
7120-6	6.	3¾	2½	4¾	1¼	2	4⅜	18.25	10.95
7120-8	8.	3¾	3 3/16	5⅛	1¼	2	4⅜	22.75	13.65
7120-10	10.	3¾	4 9/16	4¾	1¼	2	4⅜	27.75	16.65
7120-12	12.	3¾	4 9/16	5⅛	1¼	2	4⅜	30.25	18.15
7120-15	15.	3¾	4 9/16	6⅜	1¼	2	4⅜	35.25	21.15
		2500 V.D.C. Working							
7125-.5	.5	1 13/16	1 1/16	3⅞	1¼	1⅛	2¼	10.50	6.30
7125-1	1.	2½	1 3/16	4¼	1¼	1⅛	3	12.00	7.20
7125-2	2.	3¾	1¼	5⅛	1¼	2	4⅜	19.50	11.70
7125-4	4.	3¾	2¼	5⅛	1¼	2	4⅜	27.25	16.35
7125-10	10.	3¾	4 9/16	6½	1¼	2	4⅜	68.25	40.95
		3000 V.D.C. Working							
7130-.1	.1	2½	1 3/16	2	1¼	1⅛	3	12.75	7.65
7130-.25	.25	2½	1 3/16	2⅞	1¼	1⅛	3	13.50	8.10
7130-.5	.5	2½	1 3/16	3¾	1¼	1⅛	3	15.25	9.15
7130-1	1.	3¾	1¼	4¼	1¼	2	4⅜	18.25	10.95
7130-2	2.	3¾	1¾	5⅛	1¼	2	4⅜	22.75	13.65
7130-4	4.	3¾	4 9/16	4¼	2	2	4⅜	33.50	20.10
		4000 V.D.C. Working							
7140-.1	.1	3¾	1¼	3¼	2	2	4⅜	22.75	13.65
7140-.25	.25	3¾	1¼	3¼	2	2	4⅜	24.00	14.40
7140-.5	.5	3¾	1¾	3½	2	2	4⅜	27.25	16.35
7140-1	1.	3¾	2¼	4¼	2	2	4⅜	33.50	20.10
7140-2	2.	3¾	3 3/16	5½	2	2	4⅜	42.50	25.50
7140-4	4.	3¾	4 9/16	7	2	2	4⅜	60.75	36.45
		5000 V.D.C. Working							
7150-.25	.25	3¾	1¾	3¼	2	2	4⅜	26.50	15.90
7150-.5	.5	3¾	1¾	4½	2	2	4⅜	30.25	18.15
7150-1	1.	3¾	2¼	6	2	2	4⅜	38.00	22.80
7150-2	2.	3¾	4 9/16	5¾	2	2	4⅜	48.75	29.25
		6000 V.D.C. Working							
7160-1	1.	3¾	4 9/16	5	2	2	4⅜	76.00	45.60

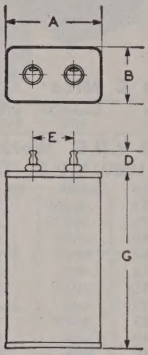
Prices subject to change without notice.

SANGAMO CAPACITORS

TYPE 75 DIACLOR IMPREGNATED A.C. CAPACITOR



TYPE 75

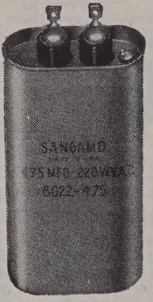


Type 75 Sangamo Diaclor Impregnated Capacitors are designed for continuous A.C. duty in ambient temperatures up to 75 degrees centigrade. These capacitors are recommended for use with capacitor motors—as power factor correction capacitors—and other similar A.C. applications. They are supplied with either the composition rivet or screw terminal, or with stand-off porcelain terminal. Type mounting bracket desired should be specified when ordering.

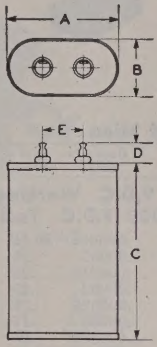
Catalog Number	Capacity Mfd.	Dimensions — Inches A	B	C	D	List Price	Net Price
			220 V.A.C. Working				
7522-2	2.	1 13/16	1 1/16	2¾	⅞	$4.25	$2.55
7522-3	3.	1 13/16	1 1/16	3¼	⅞	4.95	2.97
7522-3.75	3.75	2½	1 3/16	2⅞	⅞	5.35	3.21
7522-5	5.	2½	1 3/16	3¼	⅞	6.10	3.36
7522-7.5	7.5	3¾	1¼	3¾	⅞	7.65	4.59
7522-8	8.	3¾	1¼	3¾	⅞	8.05	4.83
7522-10	10.	3¾	1¼	3¾	⅞	9.20	5.52
7522-12	12.	3¾	1¾	3¼	⅞	10.91	6.55
7522-15	15.	3¾	1¾	3⅞	⅞	12.90	7.74
7522-25	25.	3¾	3 3/16	4⅛	⅞	19.65	11.79
			330 V.A.C. Working				
7533-2	2.	1 13/16	1 1/16	3⅞	⅞	4.75	2.85
7533-3	3.	1 13/16	1 1/16	4¾	⅞	5.65	3.45
7533-3.75	3.75	2½	1 3/16	3¾	⅞	6.10	3.36
7533-5	5.	2½	1 3/16	4⅝	⅞	6.95	4.17
7533-7.5	7.5	3¾	1¼	4⅝	⅞	8.55	5.13
7533-10	10.	3¾	1¼	5½	⅞	10.40	6.24
			440 V.A.C. Working				
7544-1	1.	1 13/16	1 1/16	2½	⅞	4.95	2.97
7544-2	2.	1 13/16	1 1/16	3⅞	⅞	5.90	3.54
7544-3	3.	2½	1 3/16	3¼	⅞	6.60	3.96
7544-3.75	3.75	2½	1 3/16	3¾	⅞	7.05	4.23
7544-5	5.	3¾	1¼	3½	⅞	8.30	4.98
7544-7.5	7.5	3¾	1¾	3½	⅞	10.10	6.06
7544-10	10.	3¾	1¾	4¼	⅞	12.30	6.78
			660 V.A.C. Working				
7566-1	1.	1 13/16	1 1/16	3¼	⅞	5.30	3.18
7566-2	2.	2½	1 3/16	3⅝	⅞	6.95	4.17
7566-3	3.	3¾	1¼	3½	⅞	7.85	4.71
7566-3.75	3.75	3¾	1¾	3¼	⅞	8.65	5.19
7566-5	5.	3¾	1¾	3⅞	⅞	10.25	6.15

Inquiry should be directed to the factory for capacities and voltages other than those listed above. Prices subject to change without notice.

TYPE 80 DIACLOR IMPREGNATED A.C. CAPACITOR



TYPE 80



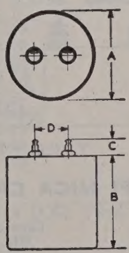
Sangamo Type 80 Diaclor Impregnated capacitors are especially recommended for fluorescent use but can be employed for numerous A.C. applications. These units are designed to operate continuously at 75 degrees centigrade.

Catalog Number	Capacity Mfd.	Dimensions — Inches A	B	C	D	E	List Price	Net Price
				220 V.A.C. Working				
8022-3.75	3.75	2	1	3 9/16	¾	1	$4.85	$2.91
8022-4.5	4.5	2	1	4 1/16	¾	1	5.25	3.15
8022-4.75	4.75	2	1	4 3/16	¾	1	5.40	3.24
8022-5	5.	2	1	4 9/16	¾	1	5.55	3.33
8022-5.5	5.5	2	1	4 9/16	¾	1	5.80	3.48
				330 V.A.C. Working				
8033-2	2.	2	1	2 3/16	¾	1	4.25	2.55
8033-2.5	2.5	2	1	2 3/16	¾	1	4.50	2.70
8033-2.75	2.75	2	1	2 3/16	¾	1	4.75	2.85
8033-3.	3.	2	1	2 11/16	¾	1	5.00	3.00
8033-3.25	3.25	2	1	2 13/16	¾	1	5.20	3.12
8033-3.5	3.5	2	1	3 1/16	¾	1	5.35	3.21
8033-3.75	3.75	2	1	3 3/16	¾	1	5.55	3.33
8033-4	4.	2	1	3 7/16	¾	1	5.80	3.48

TYPE 90 DIACLOR IMPREGNATED A.C. CAPACITOR

SANGAMO
330 W.V.A.C.
9033-3.75

TYPE 90



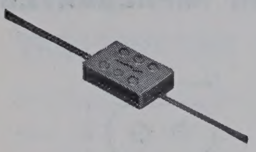
Sangamo Type 90 Diaclor Impregnated capacitors are designed to operate continuously at 75 degrees centigrade in any standard A.C. application. They are particularly adaptable to fluorescent use. Either composition rivet or pyrex glass terminals are available.

Catalog Number	Capacity Mfd.	Dimensions — Inches A	B	C	D	List Price	Net Price
			330 V.A.C. Working				
9033-1.5	1.5	2	2 3/16	¾	1	$4.00	$2.40
9033-2.5	2.5	2	2 3/16	¾	1	4.50	2.70
9033-2.75	2.75	2	2 3/16	¾	1	4.75	2.85
9033-3	3.	2	2 3/16	¾	1	5.00	3.00
9033-3.5	3.5	2	2 3/16	¾	1	5.35	3.21
9033-3.75	3.75	2	2 3/16	¾	1	5.55	3.33
9033-4	4.	2	2½	¾	1	5.80	3.48
9033-5	5.	2	2¾	¾	1	6.55	3.93

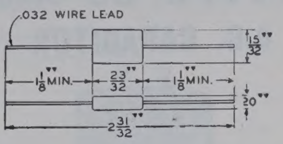
Inquiry should be directed to the factory for capacities and voltages other than those listed above. Prices subject to change without notice.

SANGAMO CAPACITORS

TYPE K Mica Capacitor



TYPE KR Silvered Mica



Type K Mica

Catalog Number	Capacity Mfd.	List Price	Net Price
500 V.D.C. Working— 1000 V.D.C. Test			
K-1550	.000005	$0.25	$0.15
K-1410	.00001	.25	.15
K-1415	.000015	.25	.15
K-1420	.00002	.25	.15
K-1425	.000025	.25	.15
K-1430	.00003	.25	.15
K-1439	.000039	.25	.15
K-1443	.000043	.20	.12
K-1450	.00005	.20	.12
K-1475	.000075	.20	.12
K-1310	.0001	.20	.12
K-1315	.00015	.20	.12
K-1320	.0002	.20	.12
K-1325	.00025	.25	.15
K-1330	.0003	.25	.15
K-1340	.0004	.25	.15
K-1350	.0005	.25	.15
K-1370	.0007	.35	.21
K-1380	.0008	.35	.21
K-1210	.001	.35	.21

Standard tolerance, ±20%, B characteristic.

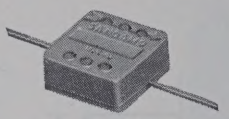
Type KR Silvered Mica

Catalog Number	Capacity Mfd.	List Price	Net Price
500 V.D.C. Working— 1000 V.D.C. Test			
KR-1550	.000005	$0.45	$0.27
KR-1410	.00001	.40	.24
KR-1415	.000015	.40	.24
KR-1420	.00002	.40	.24
KR-1425	.000025	.40	.24
KR-1430	.00003	.40	.24
KR-1439	.000039	.40	.24
KR-1443	.000043	.40	.24
KR-1450	.00005	.40	.24
KR-1475	.000075	.40	.24
KR-1310	.0001	.40	.24
KR-1315	.00015	.45	.27
KR-1320	.0002	.45	.27
KR-1325	.00025	.45	.27
KR-1330	.0003	.55	.33
KR-1340	.0004	.65	.39
KR-1350	.0005	.70	.42
KR-1370	.0007	.75	.45
KR-1380	.0008	.80	.48
KR-1210	.001	.90	.54

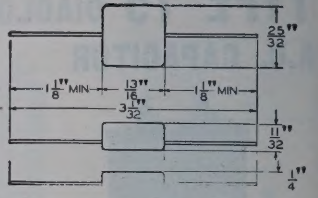
Standard tolerance, ±5%, C characteristic.

Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed.

TYPE C Mica Capacitor



TYPE CR Silvered Mica



Type C Mica

Catalog Number	Capacity Mfd.	List Price	Net Price
500 V.D.C. Working— 1000 V.D.C. Test			
C-1350	.0005	$0.25	$0.15
C-1362	.00062	.25	.15
C-1375	.00075	.25	.15
C-1380	.0008	.25	.15
C-1390	.0009	.25	.15
C-1210	.001	.30	.18
C-1215	.0015	.30	.18
C-1220	.002	.40	.24
C-1225	.0025	.45	.27
*C-1230	.003	.50	.30
*C-1240	.004	.50	.30
*C-1250	.005	.65	.39
*C-1260	.006	.65	.39
300 V.D.C. Working— 600 V.D.C. Test			
*C-06275	.0075	.90	.54
*C-06280	.008	1.00	.60
*C-06290	.009	1.00	.60
*C-06110	.01	1.20	.72

Standard tolerance, ±20%, B characteristic. *Thickness 11/32"

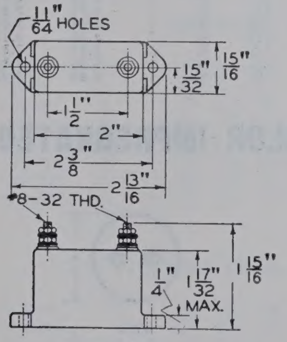
Type CR Silvered Mica

Catalog Number	Capacity Mfd.	List Price	Net Price
500 V.D.C. Working— 1000 V.D.C. Test			
CR-1350	.0005	$0.70	$0.42
CR-1362	.00062	.80	.48
CR-1375	.00075	.85	.51
CR-1380	.0008	.95	.57
CR-1390	.0009	1.00	.60
CR-1210	.001	1.10	.66
CR-1215	.0015	1.35	.81
CR-1220	.002	1.35	.81
CR-1225	.0025	1.80	1.08
*CR-1230	.003	2.05	1.23
*CR-1240	.004	2.15	1.29
*CR-1250	.005	2.25	1.35
*CR-1260	.006	2.40	1.44
300 V.D.C. Working— 600 V.D.C. Test			
*CR-06275	.0075	2.45	1.47
*CR-06280	.008	2.80	1.68
*CR-06290	.009	2.95	1.77
*CR-06110	.01	3.20	1.92

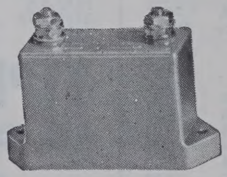
Standard tolerance, ±5%, C characteristic. *Thickness 11/32"

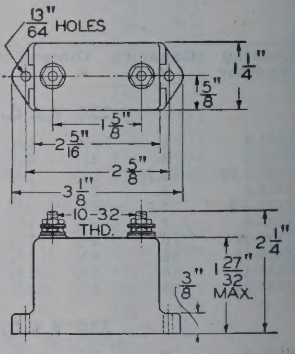
Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed.

TYPES F1 AND F2 MICA CAPACITORS



TYPE F1





TYPE F2

Types F1 and F2 capacitors, the smallest of the Sangamo line of transmitting types, possess a range of voltage and current ratings suitable for many applications. They are housed in low loss molded bakelite cases. The mica and foil sections are permanently clamped, vacuum impregnated, and installed in the case in such a manner as to provide stable characteristics and adequate moisture proofing.

TYPE F1 MICA CAPACITORS

Catalog Number	Capacity Mfd.	Test Volts Effective Peak Wkg.	List Price	Net Price
F1-331	.0001	3000	$10.80	$6.48
F1-332	.0002	3000	10.80	6.48
F1-3325	.00025	3000	10.80	6.48
F1-335	.0005	3000	10.80	6.48
F1-321	.001	3000	10.80	6.48
F1-322	.002	3000	10.80	6.48
F1-223	.003	2000	10.80	6.48
F1-224	.004	2000	10.80	6.48
F1-225	.005	2000	10.80	6.48
F1-226	.006	2000	10.80	6.48
F1-1528	.008	1500	10.80	6.48
F1-111	.01	1000	10.80	6.48
F1-112	.02	1000	11.50	6.90
F1-0215	.05	250	11.50	6.90
F1-0201	.1	250	12.00	7.20

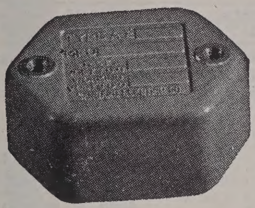
TYPE F2 MICA CAPACITORS

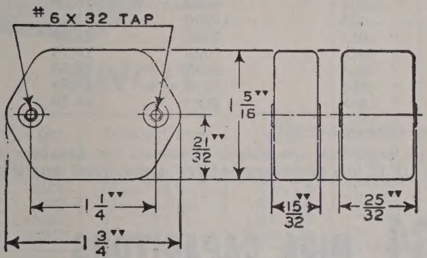
Catalog Number	Capacity Mfd.	Test Volts Effective Peak Wkg.	List Price	Net Price
F2-531	.0001	5000	$14.40	$8.64
F2-5325	.00025	5000	14.40	8.64
F2-535	.0005	5000	14.40	8.64
F2-536	.0006	5000	14.40	8.64
F2-521	.001	5000	14.40	8.64
F2-522	.002	5000	14.40	8.64
F2-523	.003	5000	16.00	9.60
F2-325	.005	3000	14.40	8.64
F2-326	.006	3000	14.40	8.64
F2-211	.01	2000	14.40	8.64
F2-212	.02	2000	16.00	9.60
F2-1515	.05	1500	14.50	8.70
F2-0501	.1	500	16.50	9.90
F2-0202	.2	250	22.00	13.50
F2-02025	.25	250	24.00	14.40

Standard tolerance ±5%, B characteristic.
Inquiry should be directed to the factory for availability of capacities and voltages other than those listed above.
Prices subject to change without notice.

SANGAMO CAPACITORS

TYPE A MICA CAPACITORS





TYPE A THIN AND THICK

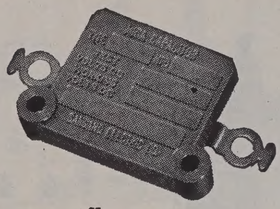
Catalog Number	Capacity Mfd.	List Price	Net Price
600 V.D.C. Working — 1200 V.D.C. Test			
A-1450	.00005	$0.85	$0.51
A-1310	.0001	.85	.51
A-1320	.0002	.85	.51
A-1350	.0005	.85	.51
A-1210	.001	.85	.51
A-1220	.002	.90	.54
A-1230	.003	1.20	.72
A-1250	.005	1.20	.72
A-1110	.01	1.95	1.17
A-1115	.015	2.25	1.35
A-1120	.02	2.60	1.56
*A-1125	.025	3.20	1.92
*A-1130	.03	3.45	2.07
*A-1150	.05	5.35	3.21
1200 V.D.C. Working — 2500 V.D.C. Test			
A-2450	.00005	1.00	.60
A-2310	.0001	1.00	.60
A-2320	.0002	1.00	.60
A-2350	.0005	1.00	.60
A-2210	.001	1.25	.75
A-2220	.002	1.90	1.14
A-2230	.003	2.20	1.32
A-2250	.005	2.40	1.44
A-2110	.01	3.90	2.34
*A-2115	.015	4.65	2.79
*A-2120	.02	5.45	3.21
*A-2130	.03	6.40	3.84
2500 V.D.C. Working — 5000 V.D.C. Test			
A-5450	.00005	1.25	.75
A-5310	.0001	1.25	.75
A-5320	.0002	1.40	.84
A-5350	.0005	1.70	1.02
A-5210	.001	2.05	1.23
A-5215	.0015	2.60	1.56
A-5220	.002	3.10	1.86
A-5230	.003	3.80	2.28
A-5250	.005	4.70	2.82
*A-5110	.01	5.70	3.42
*A-5115	015	6.20	3.72

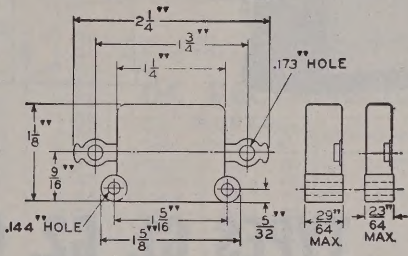
*Thickness 25/32" — Standard Insulators are available if desired. If .144" clearance holes are required, designate by adding letter "A" to Type No. (AA).

Standard tolerance ±10%, B Characteristic, unless otherwise specified.

Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed above.

TYPE H MICA CAPACITORS





TYPE H THICK AND THIN

Catalog Number	Capacity Mfd.	List Price	Net Price
600 V.D.C. Working — 1200 V.D.C. Test			
H-1450	.00005	$0.70	$0.42
H-1310	.0001	.70	.42
H-1320	.0002	.70	.42
H-1350	.0005	.70	.42
H-1210	.001	.70	.42
H-1220	.002	.80	.48
H-1230	.003	1.00	.60
H-1250	.005	1.00	.60
H-1110	.01	1.60	.96
*H-1115	.015	1.80	1.08
*H-1120	.02	2.20	1.32
*H-1125	.025	2.65	1.59
*H-1130	.03	2.95	1.77
1200 V.D.C. Working — 2500 V.D.C. Test			
H-2450	.00005	1.00	.60
H-2310	.0001	1.00	.60
H-2320	.0002	1.00	.60
H-2350	.0005	1.00	.60
H-2210	.001	1.25	.75
H-2220	.002	1.90	1.14
H-2230	.003	2.10	1.26
*H-2250	.005	2.40	1.44
*H-2110	.01	3.90	2.34
2500 V.D.C. Working — 5000 V.D.C. Test			
H-5450	.00005	1.25	.75
H-5310	.0001	1.25	.75
H-5320	.0002	1.40	.84
H-5350	.0005	1.70	1.02
H-5210	.001	2.05	1.23
H-5215	.0015	2.70	1.62
H-5220	.002	3.10	1.86
*H-5230	.003	3.80	2.28
*H-5250	.005	4.70	2.82

*Thickness 29/64". For meter mounting bracket add letter "E" to Type designation; if assembled add 30 cents to list price; if unassembled add 20 cents and specify case size.

Standard tolerance ±10%, B Characteristic, unless otherwise specified.

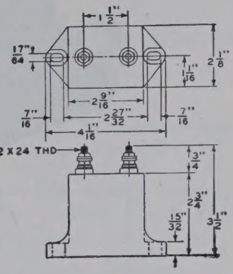
Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed above.

Prices subject to change without notice.

SANGAMO CAPACITORS

TYPE E MICA CAPACITORS

SANGAMO
TYPE E
MICA CAPACITOR
CAPACITY MFD
TEST VOLTS D.C.
SANGAMO ELECTRIC CO.
SPRINGFIELD, ILLINOIS, U.S.A.



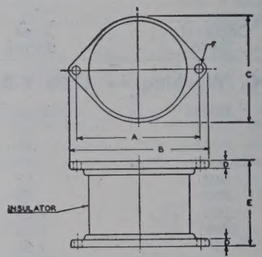
TYPE E

Catalog Number	Capacity Mfd.	Test Volts D.C.	List Price	Net Price
E-1245	.00005	12500	$8.00	$4.80
E-1231	.0001	12500	8.00	4.80
E-1235	.0005	12500	8.00	4.80
E-721	.001	7000	7.25	4.35
E-1221	.001	12500	8.00	4.80
E-722	.002	7000	9.50	5.70
E-1222	.002	12500	11.00	.6.60
E-723	.003	7000	10.40	6.24
E-1023	.003	10000	13.60	8.16
E-3525	.005	3500	10.50	6.30
E-1025	.005	10000	14.50	8.70
E-3511	.01	3500	16.00	9.60
E-711	.01	7000	16.75	10.05
E-215	.05	2000	16.50	9.90
E-3515	.05	3500	18.50	11.10
E-201	.1	2000	18.50	11.10

Standard tolerance ±20%.

This type capacitor specifically designed for amateur transmitters. It is not recommended for commercial applications.

TYPES G1, G2, G3 AND G4 MICA CAPACITORS



TYPE G1, 2, 3 and 4

TYPE G1

Catalog Number	Capacity Mfd.	Test Volts Effective Peak Wkg.	List Price	Net Price
G1-641	.00001	6000	$28.30	$16.98
G1-645	.00005	6000	30.50	18.30
G1-631	.0001	6000	32.10	19.26
G1-635	.0005	6000	37.00	22.20
G1-621	.001	6000	37.00	22.20
G1-622	.002	6000	39.00	23.40
G1-624	.004	6000	40.10	24.06
G1-625	.005	6000	41.00	24.60
G1-511	.01	5000	41.00	24.60
G1-312	.02	3000	41.00	24.60

TYPE G2

Catalog Number	Capacity Mfd.	Test Volts Effective Peak Wkg.	List Price	Net Price
G2-1031	.0001	10000	$52.00	$31.20
G2-1032	.0002	10000	52.00	31.20
G2-10325	.00025	10000	52.00	31.20
G2-1035	.0005	10000	52.00	31.20
G2-1021	.001	10000	52.00	31.20
G2-10215	.0015	10000	52.00	31.20
G2-1022	.002	10000	52.00	31.20
G2-824	.004	8000	52.00	31.20
G2-525	.005	5000	52.00	31.20
G2-511	.01	5000	55.00	33.00

Type G ceramic cased capacitors are intended for service where highest voltage and R.F. current ratings are required, such as in commercial transmitting or induction heating applications. All possible steps are taken in design and manufacturing operations to insure permanence of quality. Current ratings of these four sizes as well as detailed information on the Type G5 will be supplied upon request. Terminal plates are designed to permit any usual connecting or mounting practices.

TYPE G3

Catalog Number	Capacity Mfd.	Test Volts Effective Peak Wkg.	List Price	Net Price
G3-2031	.0001	20000	$85.00	$51.00
G3-2032	.0002	20000	90.00	54.00
G3-2035	.0005	20000	90.00	54.00
G3-2021	.001	20000	90.00	54.00
G3-15215	.0015	15000	90.00	54.00
G3-1522	.002	15000	93.50	56.10
G3-1025	.005	10000	98.50	59.10
G3-1011	.01	10000	109.50	65.70
G3-512	.02	5000	104.00	62.40
G3-313	.03	3000	93.00	55.80

TYPE G4

Catalog Number	Capacity Mfd.	Test Volts Effective Peak Wkg.	List Price	Net Price
G4-3031	.0001	30000	$134.50	$80.70
G4-3032	.0002	30000	152.00	91.20
G4-3035	.0005	30000	152.00	91.20
G4-3021	.001	30000	157.00	94.20
G4-25215	.0015	25000	134.50	80.70
G4-2022	.002	20000	134.50	80.70
G4-2024	.004	20000	139.50	83.70
G4-1525	.005	15000	147.50	88.50
G4-1526	.006	15000	155.00	93.00
G4-1011	.01	10000	161.00	96.60

Standard tolerance ±5%, B characteristic.

TYPE G MICA CAPACITOR DIMENSIONS — INCHES

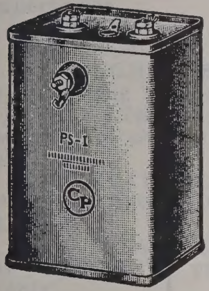
Type	A	B	C	D	E	F
G1	3¼	$3\frac{13}{16}$	$2\frac{13}{16}$	¼	2½	$\frac{17}{64}$
G2	4¼	5	3½	¼	3	$\frac{9}{32}$
G3	5¾	6½	5	⅜	4	.377
G4	5¾	6½	5	⅜	5¾	.377

Inquiry as to the availability of capacities and voltages other than those listed above should be directed to the factory.

Prices subject to change without notice.

PLASTICON CAPACITORS

HI VOLT POWER SUPPLIES



Designed to transform 118V AC to high voltage—low current DC for use in radiation counters, oscilloscopes, dust precipitators, projection television sets, spectographic analysers, photoflash equipment, etc. Hi Volt Power Supplies are self-contained in hermetically sealed steel containers.

HIVOLT

Cat. No.	VDC	Dimensions	List Price
PS-1	2400	3 3/16x3¾x5½″	$18.95
PS-2	2400	3 3/16x3¾x5½″	25.75
PS-5	5000	4 9/16x3¾x6½″	65.00
PS-10	10000	4 9/16x3¾x8″	100.00
PS-30	30000	7x7x7″	250.00

PHOTOFLASH CAPACITORS

For the best in photoflash capacitors, specify PLASTICONS for faster discharge and more light. Type AOCOE are the lightest photoflash capacitors made, more flexible to use, safer and more economical than single high capacitance large block.

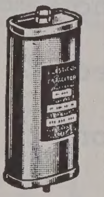


PHOTO FLASH

Cat. No.	Watt Sec.	Pk. Chg V.	Dimensions	List Price
AOCOE22C3	7.6	2250	4x2x1¼″	$4.95
AOCOE3M2	9	3000	4x2x1¼″	5.12
AOCOE4M1.5	12	4000	4x2x1¼″	5.45
AOCOE55C1	15.1	5500	4x2x1¼″	6.05
AOCE4M12	100	4000	4½x4 9/16x3¾	46.20
AOCE4M24	200	4000	8x4 9/16x3¾″	66.00

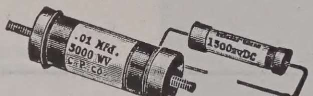
PLASTICONS

By the use of synthetic plastic film dielectrics, PLASTICONS can be made smaller, lighter, more efficient and more economical than older types of capacitors made with paper and mica insulation. Plasticon films are chemically purer and more uniform. Plasticon capacitors have a longer life and can operate under more severe conditions.

SPECIAL PLASTICONS

Taking advantage of the wide variety of plastic film dielectric characteristics, Plasticons are engineered to meet many special applications. We can furnish capacitors for 200°C for pulse network duty; close tolerances; ultra high resistance. Send us your specifications.

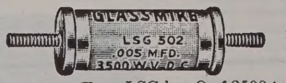
GLASSMIKES ASG



Type ASG are Plasticon A dielectric-silicone fluid impregnated capacitor elements in hermetically sealed glass tubes. Temperature range — 60° C to ± 125° C. The smallest and lightest high voltage capacitors made. Type ASG are ideal for DC and low frequency AC applications.

Cat. No.	Cap. Mfd.	Volts D.C.	Dimensions	List Price
ASG 1	.01	600	19/32x1 3/16″	$1.50
ASG 2	.02	600	19/32x1 3/16″	1.60
ASG 3	.05	600	19/32x1 9/16″	1.75
ASG 4	.1	600	¾x1¾″	1.95
ASG 5	.25	600	29/32x2¼″	2.25
ASG 6	.5	600	1⅜x2¾″	2.60
ASG 7	.005	1,000	19/32x1 3/16″	1.50
ASG 8	.01	1,000	19/32x1 3/16″	1.60
ASG 9	.02	1,000	19/32x1 3/16″	1.70
ASG 10	.05	1,000	¾x1¾″	1.85
ASG 11	.1	1,000	¾x2¼″	2.15
ASG 12	.25	1,000	29/32x2¾″	2.50
ASG 13	.002	2,000	19/32x1 3/16″	1.90
ASG 14	.005	2,000	19/32x1 3/16″	2.05
ASG 15	.01	2,000	19/32x1 3/16″	2.25
ASG 16	.02	2,000	19/32x1 9/16″	2.50
ASG 17	.05	2,000	¾x1¾″	2.80
ASG 18	.1	2,000	29/32x2¼″	3.20
ASG 19	.25	2,000	1⅜x2¾″	3.70
ASG 20	.001	3,000	19/32x1 3/16″	5.15
ASG 21	.002	3,000	19/32x1 3/16″	5.25
ASG 22	.005	3,000	19/32x1 3/16″	5.40
ASG 23	.01	3,000	19/32x1 9/16″	5.60
ASG 24	.02	3,000	¾x1¾″	5.85
ASG 25	.05	3,000	29/32x2¼″	6.15
ASG 26	.1	3,000	1⅜x2¾″	6.50
ASG 27	.001	5,000	19/32x1 3/16″	6.50
ASG 28	.002	5,000	19/32x1 3/16″	6.70
ASG 29	.005	5,000	19/32x1 9/16″	6.95
ASG 30	.01	5,000	¾x1¾″	7.25
ASG 31	.02	5,000	¾x2¼″	7.65
ASG 32	.05	5,000	1⅜x2¾″	8.15
ASG 33	.1	5,000	1⅜x3½″	9.10
ASG 34	.001	7,500	19/32x1 9/16″	7.00
ASG 35	.002	7,500	19/32x1 9/16″	7.25
ASG 36	.005	7,500	¾x1¾″	7.55
ASG 37	.01	7,500	¾x2¼″	8.15
ASG 38	.02	7,500	29/32x2¾″	9.25
ASG 39	.05	7,500	1⅜x2¾″	11.50
ASG 40	.0005	10,000	19/32x1 9/16	7.30
ASG 41	.001	10,000	19/32x1 9/16″	7.50
ASG 42	.002	10,000	19/32x1 9/16″	7.80
ASG 43	.005	10,000	¾x1¾″	9.00
ASG 44	.01	10,000	29/32x2¼″	10.50
ASG 45	.02	10,000	1⅜x2¾″	12.50
ASG 46	.03	10,000	1⅜x3½″	15.00
ASG 60	.06	10,000	1⅜x3½″	17.50
ASG 47	.0005	15,000	29/32x2¾″	14.50
ASG 48	.001	15,000	29/32x2¾″	14.80
ASG 49	.002	15,000	1⅜x2¾″	15.50
ASG 50	.0005	20,000	1⅜x3½″	19.50
ASG 51	.001	20,000	1⅜x3½″	20.50
ASG 52	.0005	30,000	1⅜x3½″	22.50

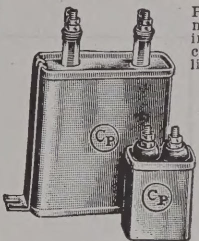
RF GLASSMIKES



Plasticon L film-silicone fluid impregnant in Glassmike style case. Type LSG has Q of 2500 to 5000. Rated at 3500 WV—7500 V Test. Lower losses, more easily mounted, smaller and more economical than mica capacitors.

Cat. No.	Cap. Mfd.	Dimensions OD Length	List Price
LSG500	.00005	19/32x1 3/16″	$1.50
LSG101	.0001	19/32x1 3/16″	1.50
LSG251	.00025	19/32x1 3/16″	1.50
LSG501	.0005	19/32x1 3/16″	1.50
LSG102	.001	19/32x1 9/16″	1.70
LSG202	.002	¾x1 9/16″	2.45
LSG502	.005	¾x1¾″	3.50
LSG602	.006	29/32x1 9/16″	3.75
LSG103	.01	29/32x1¾″	4.25

INDUSTRIAL and TRANSMITTING



Plasticon A element, mineral oil impregnated in sturdy lead coated steel containers. Smaller, lighter and more economical than paper capacitors. Temperature range —40°C to +105°C. Type AOC-rectangular; Type AOCO-flattened oval. Type ASC and ASCO (not listed) have Plasticon A element, silicone impregnated. Same dimensions as corresponding AO types. Temperature range — 60° C to + 125° C; greater capacitance stability. Prices on application.

DC RECTANGULARS

Cat. No.	Cap. Mfd.	Volts DC	Dimensions	List Price
AOC6C1	1.0	600	2⅛ 1¾ 1″	$3.74
AOC6C2	2.0	600	2¾ 1¾ 1″	4.51
AOC6C4	4.0	600	3½ 2½ 1 3/16″	5.61
AOC6C8	8.0	600	4 3¾ 1¼″	8.47
AOC6C10	10.0	600	4⅝ 3¾ 1¼″	9.52
AOCIM1	1.0	1,000	2⅜ 1¾ 1″	4.02
AOCIM2	2.0	1,000	4 1¾ 1″	5.39
AOCIM4	4.0	1,000	4 2½ 1 3/16″	6.54
AOCIM8	8.0	1,000	4⅝ 3¾ 1¾″	9.24
AOCIM10	10.0	1,000	4⅝ 3¾ 1¾″	10.67
AOC2MO5	0.5	2,000	2⅜ 1¾ 1″	4.84
AOC2M1	1.0	2,000	3½ 1¾ 1″	5.88
AOC2M2	2.0	2,000	3½ 2½ 1 3/16″	6.82
AOC2M4	4.0	2,000	3½ 3¾ 1¾″	9.24
AOC3M1	1.0	3,000	4 2½ 1 3/16″	12.10
AOC3M2	2.0	3,000	4 3¾ 1¼″	15.40
AOC3M4	4.0	3,000	4⅝ 3¾ 2¼″	21.28
AOC4M1	1.0	4,000	4 3¾ 1¼″	27.50
AOC4M2	2.0	4,000	4 3¾ 1¾″	33.00
AOC4M4	4.0	4,000	4 3¾ 4 9/16″	50.44
AOC5M1	1.0	5,000	4 3¾ 1¾″	33.00
AOC5M2	2.0	5,000	3½ 3¾ 4 9/16″	41.25
AOC75C1	1.0	7,500	3½ 3¾ 4 9/16″	49.50
AOC10M1	1.0	10,000	4 3¾ 4 9/16″	88.00

DC OVALS

Cat. No.	Cap. Mfd.	Volts D.C.	Dimensions	List Price
AOCO6C2	2.0	600	2⅜ 2 1¼″	$4.40
AOCO6C4	4.0	600	4 2 1¼″	5.28
AOCO1M1	1.0	1,000	2⅜ 2 1¼″	3.85
AOCO1M2	2.0	1,000	3½ 2 1¼″	5.17
AOCO3MO1	0.1	3,000	2⅜ 2 1¼″	7.59
AOCO5MO1	0.1	5,000	2¾ 2 1¼″	14.08
AOCO5MO25	0.25	5,000	3½ 2 1¼″	15.40
AOCO5MO5	0.5	5,000	4⅝ 2 1¼″	18.15
AOCO8MOO5	0.05	8,000	2¾ 2 1¼″	15.18
AOCO8MO1	0.1	8,000	3½ 2 1¼″	16.72
AOCO10MOO5	0.05	10,000	3½ 2 1¼″	19.25

LABORATORY CAPACITORS

Type LAG (Glassmike style) and Type LAC (Rectangular can) have the lowest dielectric absorption of any capacitor made. Residual charge is .01 — .02%. Dissipation factor at 1 MC is .0002 to .0003. Capacitance and Q is constant from DC to 100 KC. Resistance averages one million megohms per microfarad. Standard capacitance tolerance is ± 5%. Type LA units are used for timing and integrating circuits.

Cat. No.	Cap. Mfd.	Dimensions
LAG101	.0001	19/32 1 3/16″
LAG201	.0002	19/32x1 3/16″
LAG501	.0005	19/32x1 3/16″
LAG102	.001	19/32x1 3/16″
LAG202	.002	19/32x1¾″
LAG502	.005	¾x1¾″
LAG103	.01	¾x1¾″
LAG203	.02	¾x2¼″
LAG503	.05	29/32x2¼″
LAC104	.1	2¼x1¾x1″
LAC204	.2	2¼x2½x1 3/16″
LAC504	.5	4x2½x1 3/16″
LAC105	1.	4x3¾x1¼″
LAC205	2.	4x3¾x2¼″
LAC505	5.	6x3¾x4 9/16″

Prices Upon Application

Plasticons are manufactured by Condenser Products Company, Chicago 22, Illinois

Thank You!

When writing for additional
information or when ordering
from sources of supply listed
in this book, please mention

RADIO'S MASTER

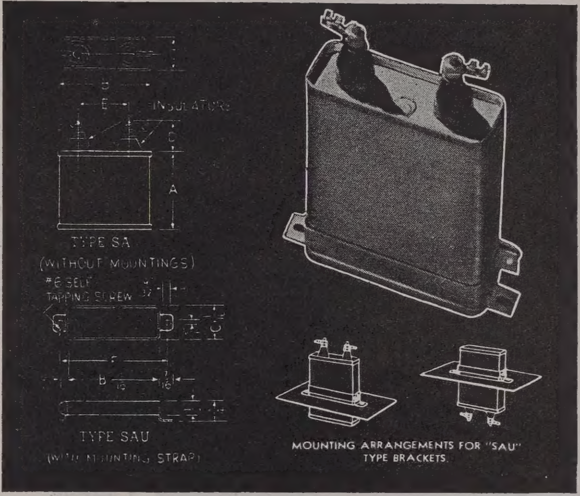
INDUSTRIAL CONDENSER

INDUSTRIAL
CONDENSER CORPORATION

TYPE "SA" OIL FILLED

1. INCCO OIL "A" IMPREGNATED AND FILLED—permitting efficient operation over widest range of temperatures.
2. HERMETICALLY SEALED CASE—is unaffected by time, humidity, or operating temperatures.
3. Use of HIGHEST GRADE CONDENSER TISSUES insures a long uninterrupted life.
4. HIGH-GLAZE PORCELAIN INSULATORS—insure low moisture absorption and high terminal to case flash over.
5. CONSERVATIVELY RATED—SAFE FOR CONTINUOUS OPERATION AT 10 PER CENT OVERLOAD.
6. Use of "SPACE SAVER" UNIVERSAL MOUNTING BRACKET provides adjustable capacitor heights.
7. LEAD COATED STEEL CASE—IS NON-CORROSIVE and lacquer finished.
8. TESTED FOUR TIMES BEFORE SHIPMENT—guarantees a 100 per cent perfect product electrically and mechanically.

If riveted terminal construction is wanted in place of porcelain stand-off insulators add "R" to catalog number. For example, 6SA50 changes to 6SAR50. Submersion proof terminal construction to meet Army and Navy Specifications is optional; specify on order. Standard capacity tolerance plus or minus 10 per cent. Mounting brackets supplied in accordance with following catalog designations: **TYPE SA**—No mounting brackets. **TYPE SAU**—"Space Saver" universal bracket. **TYPE SAJ**—Soldered vertical mounting bracket. **Type SAL**—Reversible mounting foot bracket. **TYPE SAH**—Reversible spade bolt bracket.



For example: The 8mfd. 600V. type with "Space Saver" bracket has catalog number 6SAU800.

NOTE: To facilitate delivery we have standardized on container heights. In many cases units can be supplied in shorter containers if required.

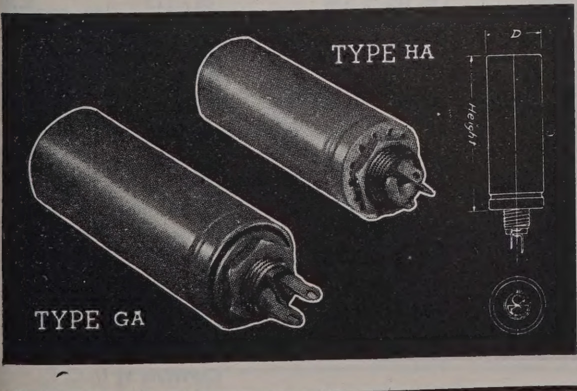
	Cap.	Dimensions in Inches								List
Cat. No.	**Mfd.**	**A**	**B**	**C**	**D**	**E**	**F**	***G**	**H**	**Price**
600 V.D.C. WORKING										
6SA50	.5	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	$3.61
6SA100	1.0	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	4.46
6SA200	2.0	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	5.53
6SA400	4.0	4⅛	2½	1 3/16	⅞	1⅛	3		3	7.01
6SA600	6.0	4¾	2½	1 3/16	⅞	1⅛	3		3	8.71
6SA800	8.0	4	3¾	1¼	⅞	2	4⅜		4⅜	10.41
6SA1000	10.0	4¾	3¾	1¼	⅞	2	4⅜		4⅜	11.69
1000 V.D.C. WORKING										
10SA10	.1	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	3.19
10SA25	.25	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	3.61
10SA50	.5	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	3.83
10SA100	1.0	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	4.89
10SA200	2.0	4	1 13/16	1 1/16	⅞	¾	2¼		2¼	6.38
10SA400	4.0	4¾	2½	1 3/16	⅞	1⅛	3		3	8.08
10SA600	6.0	4¾	3¾	1¼	⅞	2	4⅜		4⅜	10.84
10SA800	8.0	4¾	3¾	1¼	⅞	2	4⅜		4⅜	11.69
10SA1000	10.0	4¾	3¾	1¾	⅞	2	4⅜		4⅜	12.96
1500 V.D.C. WORKING										
15SA50	.5	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	4.89
15SA100	1.0	4	1 13/16	1 1/16	⅞	¾	2¼		2¼	5.74
15SA200	2.0	4⅛	2½	1 3/16	⅞	1⅛	3		3	8.08
15SA400	4.0	4¾	3¾	1¼	⅞	2	4⅜		4⅜	10.84
15SA600	6.0	4¾	3¾	1¾	⅞	2	4⅜		4⅜	13.18
2000 V.D.C. WORKING										
20SA10	.1	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	5.10
20SA25	.25	2⅞	1 13/16	1 1/16	⅞	¾	2¼		2¼	5.53
20SA50	.5	2⅞	1 13/16	1 1/16	⅞	1⅛	3		3	$5.74
20SA100	1.0	4⅛	2½	1 3/16	⅞	2	4⅜		4⅜	7.01
20SA200	2.0	4	3¾	1¼	⅞	2	4⅜		4⅜	8.29
20SA400	4.0	4¼	3¾	2¼	⅞	2	4⅜	2	4⅜	11.69
20SA600	6.0	4¾	3¾	3 3/16	⅞	¾	2¼		2¼	15.51
2500 V.D.C. WORKING										
25SA50	.5	4	3¾	1¼	1¼	2	4⅜		4⅜	8.93
25SA100	1.0	3¼	3¾	1¾	1¼	2	4⅜		4⅜	10.20
25SA200	2.0	4¾	3¾	1¾	1¼	2	4⅜		4⅜	16.58
25SA400	4.0	4¼	3¾	4 9/16	1¼	2	4⅜	3⅜	4	23.16
3000 V.D.C. WORKING										
30SA10	.1	2⅝	2½	1 3/16	1¼	1⅛	3		3	10.84
30SA25	.25	3⅜	2½	1 3/16	1¼	1⅛	3		3	11.48
30SA50	.5	4⅛	2½	1 3/16	1¼	1⅛	3		3	12.96
30SA100	1.0	4¼	3¾	2¼	1¼	2	4⅜		4⅜	15.51
30SA200	2.0	4¾	3¾	3 3/16	1¼	2	4⅜	2	4⅜	19.34
4000 V.D.C. WORKING										
40SA10	.1	2¾	3¾	2¼	1¼	2	4⅜		4⅜	19.34
40SA25	.25	2¾	3¾	2¼	1¼	2	4⅜		4⅜	20.40
40SA50	.5	4¼	3¾	2¼	1¼	2	4⅜		4⅜	23.16
40SA100	1.0	5	3¾	2¼	1¼	2	4⅜		4⅜	28.48
5000 V.D.C. WORKING										
50SA50	.5	4¼	3¾	2¼	1¼	2	4⅜		4⅜	25.71
50SA100	1.0	4¼	3¾	4 9/16	1¼	2	4⅜	3⅜	4⅜	32.30
6000 V.D.C. WORKING										
60SA50	.5	7	3¾	3 3/16	2 5/16	1⅞	4⅜	2	4⅜	51.64
60SA100	1.0	6½	3¾	4 9/16	2 5/16	2	4⅜	3⅜	4⅜	64.60

* Where G dimension is given, two spade lugs or mountings holes are supplied on each bracket.

TYPES "GA" and "HA" OIL FILLED

These inverted mounting capacitors fill a definite need where chassis space is the prime factor.

Types "GA" and "HA" are INCCO Oil "A" impregnated and filled.



The case is a one-piece metal extrusion with a "locked-in" molded neck. This construction meets and surpasses the Army and Navy requirements for a submersion-proof capacitor.

Type "GA" is available in the seven standard rating listed below, but can also be supplied in other capacities and/or voltages to manufacturers' specifications.

In the standard "GA" and "HA" types the container is insulated. A grounding lug can be supplied for connecting one terminal to the case. Fiber washer for insulating container from chassis, when case is grounded, and insulating cover for insulating the container from adjacent equipment, can also be supplied on special order.

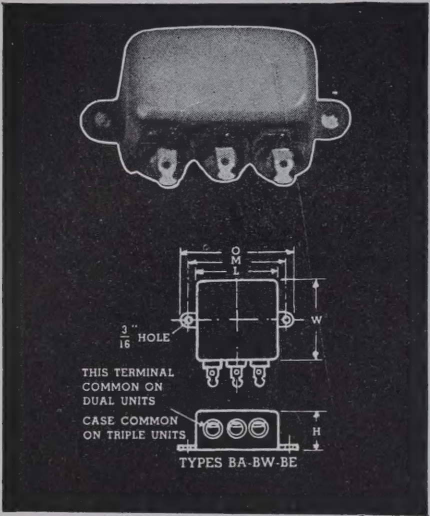
Type "HA" differs from "GA" in container and mounting neck size, and also in the fact that it has three insulated terminals. Primarily, type "HA" is supplied to manufacturers specifications, to meet special requirements of multiple-section and multiple-terminal capacitors, with either insulated or grounded container.

Type	Case Diameter	Size of Mounting Neck
GA — GE — GW	1½"	¾" x 16 thread
HA — HE — HW	1⅜"	⅞" x 16 thread

Cat. No.	Cap. Mfds.	Working Voltage D.C.	Height	List Price
6GA200	2	600	3"	$4.15
6GA300	3	600	4¼"	4.95
6GA400	4	600	4¼"	5.70
10GA100	1	1000	3"	3.80
10GA200	2	1000	4¼"	4.95
15GA50	.5	1500	3"	4.55
15GA100	1	1500	4¼"	4.95

INDUSTRIAL CONDENSER

INDUSTRIAL CONDENSER CORPORATION


O
M
L
W
3/16" HOLE
THIS TERMINAL COMMON ON DUAL UNITS
CASE COMMON ON TRIPLE UNITS
H
TYPES BA-BW-BE

Built to U. S. Signal Corps and Navy Specifications

TYPE "BA" OIL FILLED

1. INCCO OIL "A" permits efficient operation of these compact units over the widest range of temperature.
2. The use of the HIGHEST GRADE CONDENSER TISSUE insures greater safety factor and longer life.
3. Specially PROCESSED RIVETED TERMINALS are designed to withstand total submersion in salt water and changes in temperature from 50° below zero Centigrade to 90° above zero Centigrade without loosening or losing their integrity.
4. CONDENSER MOUNTINGS form an integral part of these drawn shell containers insuring permanent and rigid fastenings.
5. All units are NON-INDUCTIVELY WOUND providing efficient operation over the widest range of frequencies.
6. HERMETICALLY SEALED, they are unaffected by time, temperature or humidity.
7. CONSERVATIVELY RATED for safe and continuous uninterrupted operation at 10% above rated voltage for the lifetime of associated equipment.
8. Tested at twice the rated voltage between terminals and twice the rated voltage plus 1000 from each terminal to case.

Cat. No.	Cap. in MFDS.	Dimensions in Inches L	W	H	M	O	List Price
		600 V. D. C. WORKING					
6BA05	.05	1 13/16	1	13/16	2⅛	2½	$2.20
6BA10	.1	1 13/16	1	13/16	2⅛	2½	2.25
6BA25	.25	1 13/16	1	13/16	2⅛	2½	2.40
6BA50	.5	1 13/16	1	⅞	2⅛	2½	2.55
6BA100	1.0	2	1¾	⅞	2⅜	2¾	2.90
6BA0505	.05-.05	1 13/16	1	13/16	2⅛	2½	2.80
6BA11	.1-.1	1 13/16	1	13/16	2⅛	2½	2.85
6BA22	.25-.25	2	1¾	⅞	2⅜	2¾	2.90
6BA55	.5-.5	2	1¾	⅞	2⅜	2¾	3.30
6BA111	.1-.1-.1	1 13/16	1	13/16	2⅛	2½	3.25
6BA200	2	2	2	1⅛	2⅜	2 13/16	3.90
		1000 V. D. C. WORKING					
10BA05	.05	1 13/16	1	13/16	2⅛	2½	2.35
10BA10	.1	1 13/16	1	13/16	2⅛	2½	2.40
10BA25	.25	1 13/16	1	13/16	2⅛	2½	2.50
10BA50	.5	2	1¾	⅞	2⅜	2¾	2.70
10BA100	1.0	2	2	1⅛	2⅜	2 13/16	3.40
10BA0505	.05-.05	1 13/16	1	13/16	2⅛	2½	3.00
10BA11	.1-.1	1 13/16	1	13/16	2⅛	2½	3.10
10BA22	.25-.25	2	1¾	⅞	2⅜	2¾	3.25

Above units also available in 200 V. D. C., 400 V. D. C. and 1500 V. D, C, on request,

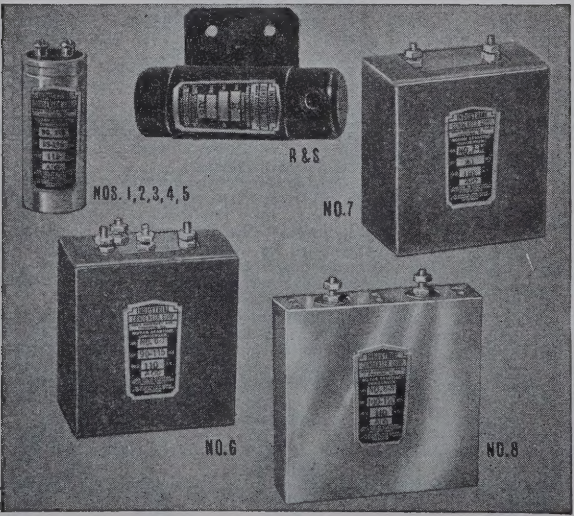
DRY ELECTROLYTICS

Type "B" electrolytic capacitor is the first commercially available unit of this type with the reliability of the total submersion type, oil filled capacitors.

Wound with the highest purity aluminum foil and cellulose separators available; impregnated in electrolyte having excellent temperature characteristics, these units will outlive their associated equipment.

Cat. No.	Cap. in Mfds.	Volts	Dimen. in Inches L	W	H	M	List Price
52BE10	10	25	1 13/16	1	13/16	2⅛	$2.70
52BE25	25	25	1 13/16	1	13/16	2⅛	2.70
52BE50	50	25	1 13/16	1	13/16	2⅛	2.80
05BE10	10	50	1 13/16	1	13/16	2⅛	2.75
05BE25	25	50	1 13/16	1	13/16	2⅛	2.75
05BE50	50	50	1 13/16	1	13/16	2⅛	3.00

NOTICE—Most units are available with TERMINALS ON TOP, BOTTOM, OR ENDS. When ordering, add "T" for top terminals, "B" for terminals on bottom, or "E" for end terminals, i.e., 6BAT100 for terminals on top. Type "B" also available in WAX FILLED. When ordering, change catalog number A to W, i.e., 6BW100. If terminal position is not designated, side terminals are furnished. STANDARD CAPACITY tolerance of plus 20 per cent minus 10 per cent furnished on oil filled and wax filled units unless otherwise specified when ordering. Can be furnished in plus or minus 1 per cent capacity tolerance on special request.



MOTOR STARTING CONDENSERS

These motor starting condensers are all heavy duty three second start. Built of the finest materials obtainable, these capacitors are engineered to the Nth degree of perfection. They are used by all the leading manufacturers of high quality motors.

The listings shown will take care of 90% of all your replacement requirements.

Number	Size, Inches	Capacity	List Price
MS145	1⅜ Dia. x 3¼	45 - 70	$1.90
MS170	1⅜ Dia. x 3¼	70 - 85	2.00
MS185	1⅜ Dia. x 3¼	85 - 115	2.05
MS1108	1⅜ Dia. x 3¼	108 - 120	2.05
MS1120	1⅜ Dia. x 3¼	120 - 150	2.15
MS1145	1⅜ Dia. x 3¼	145 - 162	2.70
MS285	1½ Dia. x 3¾	85 - 115	2.20
MS2120	1½ Dia. x 3¾	120 - 150	2.30
MS390	2 Dia. x 4⅛	90 - 115	3.05
MS3120	2 Dia. x 4⅛	120 - 150	3.20
MS3245	2 Dia. x 4⅛	245 - 300	4.20
MS3161	2 Dia. x 4⅛	161 - 190	3.50
MS3191	2 Dia. x 4⅛	191 - 240	3.85
MS485	2½ Dia. x 4⅛	85 - 115	3.05
MS4120	2½ Dia. x 4⅛	120 - 150	3.20
MS5100	3 Dia. x 4⅛	100 - 115	3.10
MS690	3½ x 4 x 2	90 - 115	3.30
MS6124	3½ x 4 x 2	124 - 138	3.70
MS6145	3½ x 4 x 2	145 - 162	4.30
MS780	3½ x 4 x 2	80	3.20
MS750	3½ x 4 x 2	50 - 65	3.05
MS8100	4½ x 4½ x 1¼	100 - 120	3.80
MS870	4½ x 4½ x 1¼	70 - 90	3.35
R	Mounting Bracket for 1⅜ x 3¼		.75
S	Mounting Bracket for 2 x 4⅛		.95

SEND FOR BULLETIN No. 1075 WHICH LISTS OUR OIL FILLED MOTOR RUNNING CAPACITORS

INDUSTRIAL CONDENSER

INDUSTRIAL CONDENSER CORPORATION

CAPACITORS TO 250,000 V.D.C.W.

INCCO OIL "A" IMPREGNATED AND FILLED assures smaller size, low power factor, and widest range of operating temperatures.

ELECTRIC ARC WELDED HEAVY GAUGE HOT TINNED STEEL CASES are non-corrosive—finished in durable lacquer.

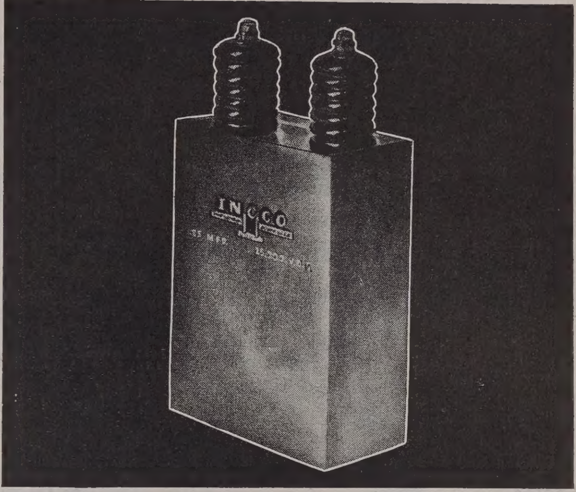
GLAZED WET-PROCESS PORCELAIN INSULATORS—low moisture absorption and high terminal to case flash over.

WOUND WITH HIGHEST GRADE CONDENSER TISSUES—insures a long, uninterrupted life.

CONSERVATIVELY RATED—Safe for continuous operation at 10 per cent overload.

HERMETICALLY SEALED STEEL CASE — unaffected by time, humidity or operating temperatures.

AVAILABLE TO MEET U. S. SIGNAL CORPS AND NAVY SALT WATER SUBMERSION REQUIREMENTS.



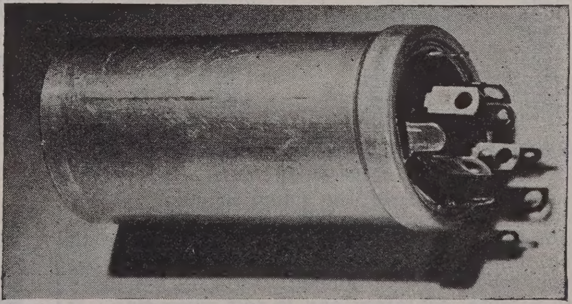
TYPE "WA" — HIGH VOLTAGE OIL FILLED CAPACITORS

Cat. No.	Cap. Mfd.	Case Dimensions in Inches Width	Length	Height	List Price
	6,000 V. D. C. WORKING				
60WA200	2.	4	8	11	$108.00
60WA400	4.	4	12	11	132.00
60WA500	5.	4	12	11	150.00
60WA600	6.	4	12	13	168.00
60WA1000	10.	6	12	13	210.00
	7,500 V. D. C. WORKING				
75WA50	.5	4	8	11	60.00
75WA100	1.	4	8	11	78.00
75WA200	2.	4	8	11	120.00
75WA400	4.	4	12	13	180.00
75WA600	6.	6	12	13	216.00
	10,000 V. D. C. WORKING				
100WA100	1.	4	8	11	156.00
100WA200	2.	4	8	13	198.00
100WA400	4.	6	12	13	240.00
100WA500	5.	6	12	13	264.00
	12,500 W. D. C. WORKING				
125WA50	.5	4	8	11	132.00
125WA100	1.	4	12	11	168.00
125WA200	2.	6	12	13	210.00
125WA500	5.	9½	12	15	396.00
	15,000 V. D. C. WORKING				
150WA25	.25	4	8	11	$126.00
150WA50	.5	4	12	11	150.00
150WA100	1.	4	12	13	210.00
150WA200	2.	9½	12	15	276.00
150WA300	3.	9½	12	15	378.00
	20,000 V. D. C. WORKING				
200WA25	.25	4	8	11	150.00
200WA50	.5	4	12	11	192.00
200WA100	1.	6	12	13	258.00
200WA150	1.5	9½	12	15	348.00
200WA200	2.0	9½	12	15	414.00
	25,000 V. D. C. WORKING				
250WA20	.2	4	12	11	156.00
250WA25	.25	4	12	11	210.00
250WA50	.5	6	12	13	228.00
250WA100	1.	9½	12	15	342.00
	50,000 V. D. C. WORKING				
500WA25	.25	6	13½	16¾	*
500WA50	.5	7¼	18	20	*
	80,000 V. D. C. WORKING				
800WA25	.25	7¼	18	20	*
	100,000 V. D. C. WORKING				
1000WA20	.2	7¼	18	20	*

* Prices on application.

ET SERIES ELECTROLYTIC CAPACITORS

Catalog Number	Cap. Mfd.	D.C. Voltage Working	Surge	Dim. in Ins. Diam.	Lg.	List Price
52ET100	100	25	35	1	2	$1.25
15ET30	30	150	225	1	2	1.10
15ET50	50	150	225	1	2	1.25
45ET10	10	450	550	1	2	1.15
45ET15	15	450	550	1	2	1.35
45ET20	20	450	550	1	2½	1.50
45ET30	30	450	550	1	3	1.75
15ET2x20	20-20	150	225	1	2	1.35
15ET2x30	30-30	150	225	1	2	1.50
15ET2x50	50-50	150	225	1	3	1.80
30ET2x15	15-15	300	400	1	2	1.70
35ET3020	30-20	350	450	1	3	2.25
45ET2x10	10-10	450	550	1	2½	1.80
ET100	30-20/20	150/25	225/35	1	2	1.90
ET101	40-30/20	150/25	225/35	1	2½	2.05
15ET3x20	20-20-20	150	225	1	2	2.00
ET102	40-20-20	150	225	1	2½	2.10
15ET3x40	40-40-40	150	225	1	3	2.20
ET103	10-10/25	450/25	550/35	1	3	2.00
45ET3x10	10-10-10	450	550	1	3	2.15

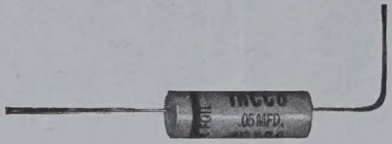


"ET" series capacitors have been designed for ease in installation and reliability. They are constructed to withstand the most severe operating conditions encountered in industrial and electronic equipment. Especially controlled manufacturing processes insure that the equipment in which these capacitors are used will function without interruption. Capacitors can be supplied for operation at temperatures ranging from minus 40 to plus 85 degrees Centigrade. Mounting is effected by inserting the capacitor through the slots in either the chassis or mounting plate, and twisting the mounting prongs 90 degrees.

INDUSTRIAL CONDENSER

INDUSTRIAL
CONDENSER CORPORATION

TELEVISION AND TUBULAR PAPER CONDENSERS



TYPE PT

INDUSTRIAL By-Pass Capacitors are non-inductively wound and designed for maximum efficiency up to the highest frequencies. The units themselves are completely impregnated and sealed with a special non-hygroscopic sealing compound, thus preventing moisture penetration under the most humid conditions.

Catalog Number	Capacity Mfd.	Working Volts D.C.	List Price
PT100	.0001	1000	$0.20
PT101	.00025	1000	.20
PT102	.0005	1000	.20
PT103	.001	1000	.20
PT104	.002	1000	.20
PT105	.005	1000	.20
PT106	.006	1000	.20
PT107	.01	1000	.25
PT131	.001	600	.20
PT132	.002	600	.20
PT133	.005	600	.20
PT134	.006	600	.20
PT135	.01	600	.25
PT136	.02	600	.25
PT137	.03	600	.30
PT130	.04	600	.30
PT138	.05	600	.30
PT139	.1	600	.35
PT140	.25	600	.45
PT141	.5	600	.65
PT142	1.0	600	1.00
PT170	.01	400	.20
PT171	.02	400	.20
PT172	.05	400	.25
PT173	.1	400	.30
PT174	.25	400	.35
PT175	.5	400	.50
PT176	1.0	400	.75
PT200	.02	200	.20
PT201	.05	200	.20
PT202	.1	200	.25
PT203	.25	200	.35
PT204	.5	200	.45
PT205	1.0	200	.70
PT260*	.005	2000	.45
PT261*	.0075	2000	.45
PT262*	.01	2000	.45
PT263*	.02	2000	.50
PT264	.015-.015	1600	.80
PT268	.0005	6000	.75
PT265	.001	6000	.75
PT266	.005	6000	.75
PT269	.03	6000	1.10
PT267	.05	6000	1.15

* Vibrator capacitor.

RADIO INTERFERENCE ELIMINATORS

INDUSTRIAL CONDENSER CORP. has made a special study of the suppression of noises caused by fluorescent lighting. No. 7249 capacitor is designed with three leads, two leads to be connected across the 110 volt line and the single lead to be grounded. No. 4219 is housed in a metal container and is self grounding. It is supplied with strap mounting for easy installation. No. 4252 and No. 4253 are flat type units designed to mount on the ballast support of circline ballasts. The convenient mounting flap grounds the unit when the stem of the lamp is placed through the mounting hole.

Catalog Number	Dimensions in Inches	List Price
7249	21/32 x 1⅜	$1.00
4219	¾ x 2	1.35
4252	2⅛ x ⅝ x 11/32	1.50

DIRECT REPLACEMENT

For Either Dry or Wet Types

No Drilling — No Changes

The "IL" type capacitor is a dry electrolytic assembled in an aluminum container having a threaded mounting neck which is an integral part of the container.

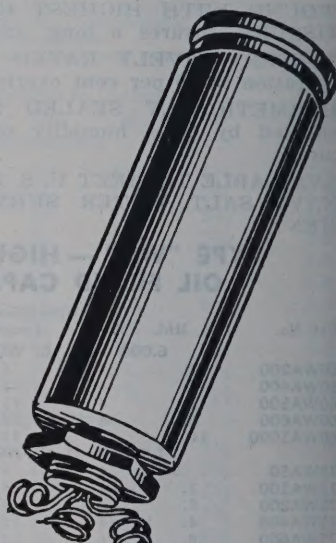
Our "IL" type capacitors may be used as replacements for the old type wet or dry electrolytic capacitors and will mount in the same mounting hole as the part replaced, eliminating the use of adaptors or auxiliary workmanship.

Electrically and mechanically this condenser is designed for heavy duty service. It incorporates the exclusive INDUSTRIAL etched foil process of construction.

Although these capacitors are not hermetically sealed, they are highly superior to the paper type units generally used for this kind of replacement.

These units are supplied with Underwriters Approved 75° C rubber covered leads.

Individually boxed in attractive carton with instructions.

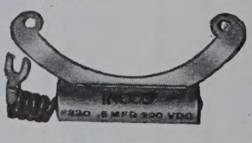


To replace 1⅜" diameter screw neck type

Cat. No.	Cap. Mfd.	Work Volt	Peak Volt	Dimensions	Mtg. Neck	List Price
IL649	8	600	725	1⅜" x 4"	¾"	$3.40
IL650	8	475	600	1⅜" x 4"	¾"	1.55
IL651	12	475	600	1⅜" x 4"	¾"	1.83
IL652	16	475	600	1⅜" x 4"	¾"	2.04
IL653 4 leads	8-8	475	600	1⅜" x 4"	¾"	2.50
IL646	20	475	600	1⅜" x 4"	¾"	2.25
IL647	30	475	600	1⅜" x 4"	¾"	2.55
IL648	40	475	600	1⅜" x 4"	¾"	2.89

AUTO GENERATOR CONDENSER

ALSO AVAILABLE IN HERMETICALLY SEALED SUBMERSION-PROOF CONSTRUCTION



TYPE F

TYPE G

Completely enclosed in a metal container to overcome severe operating conditions of temperature and humidity. Sturdily built to withstand constant vibration.

Cat. No.	Cap. Mfd.	List Price	Cat. No.	Cap. Mfd.	List Price
G325	.25	$0.77	G328	1.0	$1.15
G326	.5	.85	F330	.5	1.06

NDUSTRIAL INDUSTRIAL CONDENSER CORPORATION CONDENSER

DRY ELECTROLYTIC CONDENSERS

GHTY MIDGET METAL TUBULAR TYPE "MM"

t.	Cap. Mfd.	W.V.	Peak Volts	Dimen. Dia. L.	List Price
M406	100	10	15	11/16 x 1 11/16	$1.15
M407	250	10	15	13/16 x 2 3/16	1.25
M408	500	10	15	1 1/16 x 2 3/16	2.30
M409	750	10	15	1 1/16 x 2 11/16	3.00
M400	5	25	35	11/16 x 1 11/16	.70
M401	10	25	35	11/16 x 1 11/16	.70
M402	25	25	35	11/16 x 1 11/16	.75
403*†	10-10	25	35	11/16 x 2⅜	.95
M410	250	25	35	15/16 x 2 3/16	1.70
M411	500	25	35	1 1/16 x 2 11/16	2.00
M404	10	50	75	11/16 x 1 11/16	.70
M405	25	50	75	11/16 x 1 11/16	.80
M412	100	50	75	13/16 x 2 3/16	1.30
M413	200	50	75	1 1/16 x 2 3/16	2.00
M414	300	50	75	1 1/16 x 2 11/16	2.75
M360	8	150	225	11/16 x 1 11/16	.70
M368	12	150	225	11/16 x 1 11/16	.75
M361	16	150	225	11/16 x 1 11/16	.80
M362	20	150	225	11/16 x 2 3/16	.85
M369	30	150	225	13/16 x 2 3/16	.90
M363	40	150	225	13/16 x 2 3/16	1.00
M373	60	150	225	1 1/16 x 2 3/16	1.20
M374	80	150	225	1 1/16 x 2 3/16	1.30
M370†	20-20	150	225	15/16 x 2 3/16	1.20
M375†	30-30	150	225	1 1/16 x 2 3/16	1.35
M376†	40-40	150	225	1 1/16 x 2 3/16	1.55
M364	4	475	600	11/16 x 1 11/16	.80
M365	8	475	600	13/16 x 2 3/16	.85
M371	12	475	600	15/16 x 2 5/16	1.05
M366	16	475	600	15/16 x 2 3/16	1.20
M372	20	475	600	1 1/16 x 2 3/16	1.35
M367†	8-8	475	600	1 1/16 x 2 3/16	1.50

cardboard tube with wax filled ends. † 3 leads.

MIGHTY MIDGET CARTON TYPE "MC"

.	Cap. Mfd.	W.V.	Peak Volts	Dimensions W. T. L.	List Price
451†	20-20	150	225	2½x 13/16x1¼	$2.10
452	8	475	600	2½x ¾x1 1/16	1.45
453†	4-4	475	600	2½x 13/16x1¼	1.90
454†	8-8	475	600	3 x1 x1¼	2.30

leads.

"SB" AND "SM" TYPE

.	Cap. Mfd.	W.V.	Peak Volts	Dimen. Dia. L.	List Price
550†	16-12	150	225	1⅜ x 3¾	$1.90
552†	8-8	475	600	1⅜ x 3¾	1.90
600*	30-10	150	225	13/16 x 3	1.15
605*	20-20	150	225	15/16 x 2½	1.15
606†	20-20	150	225	1 x 2½	1.80
601*	30-30	150	225	15/16 x 3	1.30
608*	40-40	150	225	1 x 3	1.45
607*	50-30	150	225	1 x 3	1.45
610*	40-20	150	225	15/16 x 3	1.30
609†	30-20-20	150	225	1 x 3	1.70
603	8	475	600	13/16 x 3	1.05
604*	8-8	475	600	1 x 3	1.65

600, SM605, SM601, SM608, SM607, SM610: ads.

606, SM609, SB550, SB552: 4 leads.

An extremely popular type of condenser due to its exceptional high quality and midget size. Hermetically sealed in a small metal case and scientifically vented, to protect against adverse operating conditions of voltage, temperature and humidity. Container is insulated by a high grade tube which is spun over the ends of the can to eliminate shorts when wires are bent close to container. Easily mounted by their rigid wire leads.

Type MM

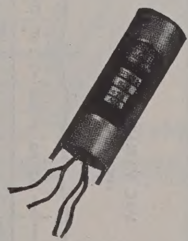
All Type "MM" units are available with mounting strap. Recommended in cases of extreme vibration or when advisable to have unit solidly anchored. When ordering add the letter S before the catalog number.

Type MMS

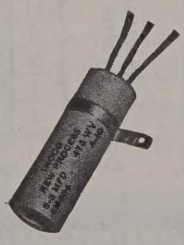
Each unit is completely embedded in a high grade wax and then sealed in an impregnated carton to insure efficient operation under the most adverse conditions. New, high voltage formation, gives complete protection against surges and high peak voltages. Supplied with color coded, Underwriters' Approved, rubber covered leads. Universal lugs permit easy mounting in any position.

Type MC

Spade bolt type "SB" of mounting has been very popular due to its wide use in many radio sets. Each unit is embedded in a high temperature wax and then sealed in a thoroughly impregnated cardboard tube, affording complete immunity to moisture penetration. New high voltage formation gives complete protection against surges and high peak voltages.


Type SB

Type "SM" has identical characteristics as "SB". The addition of the strap mounting bracket has proved favorable in its use due to its wide application in AC-DC and portable sets in the replacement field. The strap can be moved to the best mounting position and then bolted or soldered.


Type SM

Supplied with color-coded, Underwriters' Approved, rubber covered leads.

Jennings RADIO
VACUUM ELECTRONIC COMPONENTS

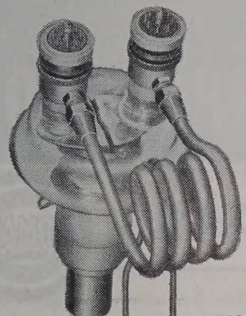
FIXED and VARIABLE HIGH VOLTAGE VACUUM CAPACITORS

• SPECIFICATIONS •

	FIGURES	JENNINGS TYPE NUMBERS	CAPACITIES IN MMFDS.	KV. PEAK TEST VOLTAGE	PEAK AMPERES	DIMENSIONS Overall Length	DIMENSIONS Maximum O. D.	DIMENSIONS Ferrule Diameter	MOUNT C to C
VAC. FIXED NICKEL	8	VC	6, 12, 25, 50, 75, 100, 150	20-30	15-20	$6\frac{1}{2}''$	$2\frac{1}{4}''$	$\frac{13}{16}''$	$5\frac{7}{8}''$
	8	VC	200, 250	20-30	15-20	$6\frac{1}{2}''$	$2\frac{11}{16}''$	$\frac{13}{16}''$	$5\frac{7}{8}''$
		W	6, 12, 25, 50, 100	20	15	$4\frac{3}{16}''$	$2\frac{1}{4}''$	$\frac{11}{32}''$	$3\frac{7}{8}''$
	9	X	5, 10, 15, 20, 25	17	10	$3\frac{1}{4}''$	$1\frac{1}{4}''$	$\frac{11}{32}''$	$2\frac{7}{8}''$
	9	Y	1, 2, 3, 4, 5,	17	10	$3\frac{1}{4}''$	$\frac{7}{8}''$	$\frac{11}{32}''$	$2\frac{7}{8}''$
	6	M	500, 750, 1000	10-15	30	$8\frac{3}{8}''$	$5''$	$2''$	$6\frac{1}{4}''$
	6	ML	500, 750, 1000	20-30	30	$9\frac{1}{4}''$	$5''$	$2''$	$7\frac{1}{4}''$
	6	MH	200 or less	35-50	30	$8\frac{1}{2}''$	$5''$	$2''$	$6\frac{7}{16}''$
		K	50	35-50	15-20	$8\frac{1}{2}''$	$3''$	$\frac{3}{4}''$	$7\frac{3}{4}''$
VAC. FIXED COPPER	5	JC-1	25 or less	15-25	40	$4\frac{1}{2}''$	$1\frac{3}{4}''$	$\frac{1}{2}''$	$3\frac{5}{8}''$
	5	JC-2	25, 50, 100	15-25	60	$3\frac{3}{4}''$	$3\frac{1}{4}''$	$\frac{51}{64}''$	$3\frac{1}{8}''$
	3	JC-3	20, 40, 50, 60	35-50	200	$8\frac{1}{4}''$	$4\frac{1}{4}''$	$2''$	$6\frac{1}{2}''$
	3	JC-4	100 or 125	35-50	200	$9\frac{1}{4}''$	$5''$	$3\frac{1}{8}''$	$7''$
	10	JCS	75, 100, 250	7.5-12	60	$3\frac{5}{8}''$	$2\frac{5}{8}''$	$\frac{55}{64}''$	$3\frac{1}{8}''$
	8	VCC	6, 12, 25, 50, 75, 100, 150	20-30	60	$6\frac{1}{2}''$	$2\frac{1}{4}''$	$\frac{13}{16}''$	$5\frac{7}{8}''$
	8	VCC	200, 250	20-30	60	$6\frac{1}{2}''$	$2\frac{11}{16}''$	$\frac{13}{16}''$	$5\frac{7}{8}''$
	6	MC	500, 750, 1000	10-15	85	$8\frac{3}{8}''$	$5''$	$2''$	$6\frac{1}{4}''$
	6	MHC	200 or less	35-50	85	$8\frac{1}{2}''$	$5''$	$2''$	$6\frac{7}{16}''$
VAC. VARIABLE NICKEL	7	T	5-25	20	15	$6\frac{1}{4}''$	$2\frac{1}{4}''$	$\frac{1}{2}''$	$4''$
	7	TR	2-8	17	15	$6\frac{1}{2}''$	$2\frac{1}{4}''$	$\frac{11}{32}''$	$4''$
	4	AT	10-50	20-30	15	$6\frac{1}{2}''$	$3''$	$\frac{1}{2}''$	$4\frac{3}{16}''$
	2	U	50-250	10-15	30	$11\frac{7}{16}''$	$5''$	$2''$	$6\frac{1}{2}''$
	2	UH	10-75, 75-150	35-50	30	$11\frac{7}{16}''$	$5''$	$2''$	$6\frac{1}{2}''$
	1	UX	40-560	10-15	30	$14''$	$5''$	$3\frac{1}{8}''$	$7\frac{7}{8}''$
	1	UXH	25-150	35-50	30	$14\frac{1}{2}''$	$5''$	$3\frac{1}{8}''$	$8\frac{1}{4}''$
	2	VM	50-1000	10-15	30	$14\frac{5}{16}''$	$7''$	$3\frac{1}{8}''$	$7\frac{7}{8}''$
VAC. VARIABLE COPPER	7	TC	5-25	20	30	$6\frac{1}{4}''$	$2\frac{1}{4}''$	$\frac{1}{2}''$	$4''$
	1	UXC	40-560	10-15	85	$14''$	$5''$	$3\frac{1}{8}''$	$7\frac{7}{8}''$
	11	UCS	5-200, 10-300	5-10	60	$8\frac{9}{16}''$	$2\frac{5}{8}''$	$2''\text{x}\frac{55}{64}''$	$4\frac{9}{16}''$
	2	UC	50-250	35-50	85	$11\frac{7}{16}''$	$5''$	$2''$	$6\frac{1}{2}''$
	2	UHC	10-75, 75-150	35-50	85	$11\frac{7}{16}''$	$5''$	$2''$	$6\frac{1}{2}''$
	1	UXHC	15-100	35-50	85	$14''$	$5''$	$3\frac{1}{8}''$	$7\frac{7}{8}''$
	1	UXHC	25-150	35-50	85	$14\frac{1}{2}''$	$5''$	$3\frac{1}{8}''$	$8\frac{1}{4}''$

CURRENT RATINGS MAY BE INCREASED BY FORCED COOLING—WITH ADEQUATE MOUNTINGS

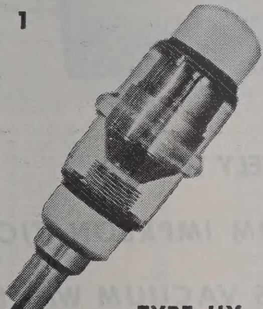
JENNINGS RADIO MANUFACTURING COMPANY • 1098 E. WILLIAM ST. • SAN JOSE 12, CALIFORNIA


TYPE TRONAD

TRONAD... It's New, It's Complete, It Simplifies

1 Combines tube, variable or fixed vacuum condenser with coil.
2 Reduces and simplifies wiring. **3** Saves space and weight.
4 Increases circuit efficiency. **5** Eliminates circuit parasitics.
6 Makes practical Split-Stator operation for harmonic supression.
7 Tronad is designed for single ended units but available in Split-Stator. **8** (Air cooled or water cooled). **9** (Tube is replaceable).

FIXED AND VARIABLE HIGH VOLTAGE VACUUM CAPACITATORS

1

TYPE UX

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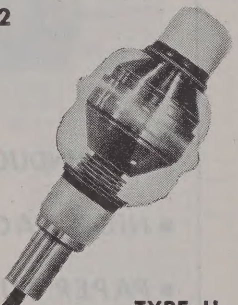
TYPE U

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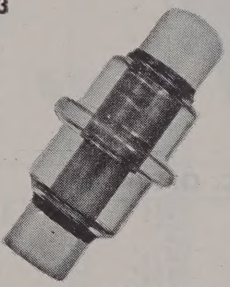
TYPE JC-3

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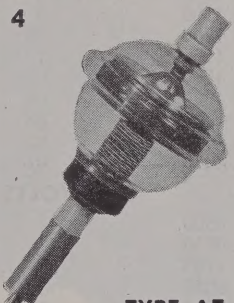
TYPE AT

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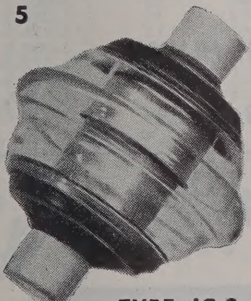
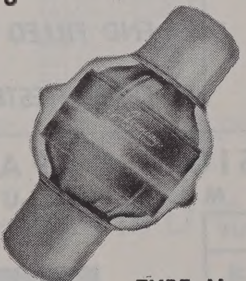
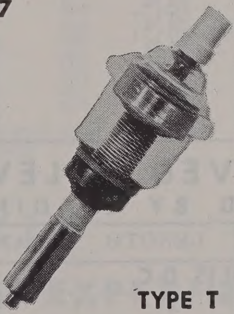

TYPE JC-2

6

TYPE M

7

TYPE T

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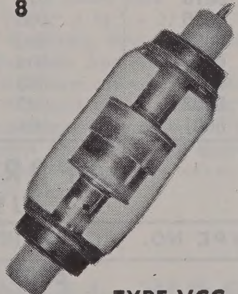
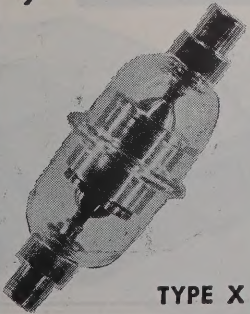

TYPE VCC

9

TYPE X

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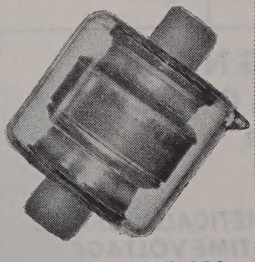
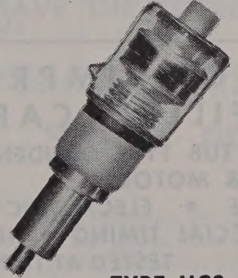

TYPE JCS

11

TYPE UCS

Special characteristics on a to-order basis

Watch **JENNINGS**

for new developments in the field of specialized

VACUUM ELECTRONIC COMPONENTS

JENNINGS RADIO MANUFACTURING COMPANY • 1098 E. WILLIAM ST. • SAN JOSE 12, CALIFORNIA

CHICAGO CONDENSER CORPORATION

CHICAGO 47, ILLINOIS

TYPE NO.	CAP. MFD.	LENGTH	DIAMETER
200 VOLTS D.C. OPERATING			
25x2	1.0	2½"	1"
2500	.5	2"	¾"
2250	.25	1¾"	⅝"
2100	.1	1⅝"	½"
2050	.05	1¼"	7/16"
2040	.04	1¼"	7/16"
2030	.03	1¼"	⅜"
2020	.02	1¼"	⅜"
2010	.01	1¼"	⅜"
400 VOLTS D.C. OPERATING			
45x2	1.0	2½"	1"
4500	.5	2"	⅞"
4250	.25	2"	11/16"
4100	.1	1⅝"	9/16"
4050	.05	1⅝"	7/16"
4040	.04	1⅝"	7/16"
4030	.03	1⅝"	7/16"
4020	.02	1¼"	7/16"
4010	.01	1¼"	⅜"
600 VOLTS D.C. OPERATING			
6500	.5	2½"	1⅛"
6250	.25	2"	¾"
6100	.1	1⅞"	⅝"
6050	.05	1⅝"	9/16"
6040	.04	1⅝"	9/16"
6030	.03	1⅝"	½"
6020	.02	1⅝"	7/16"
6010	.01	1¼"	⅜"
6006	.006	1¼"	⅜"
6005	.005	1¼"	⅜"
6004	.004	1¼"	⅜"
6003	.003	1¼"	⅜"
6002	.002	1¼"	⅜"
6001	.001	1¼"	⅜"

CHICAGO WAX TUBULAR CAPACITORS

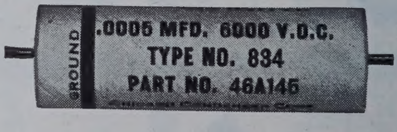
CHICAGO
.1 MFD. 400 V.D.C.
TYPE 4100
GROUND

- *NON-INDUCTIVELY WOUND*
- *HIGH VACUUM IMPREGNATION*
- *PAPER TUBES VACUUM WAXED*
- *TINNED COPPER WIRE*
- *END FILLED WITH HI-WAX*
- *FLASH TESTED 3 TIMES*

APPROVED TELEVISION CAPACITORS

USED BY LEADING MANUFACTURERS

TYPE NO.	CAPACITY	LENGTH	DIAMETER
6000 VOLTS D.C.			
834	.0005	2"	⅝"
833	.001	2"	⅝"
850	.005	2⅝"	1"
854	.03	3½"	1 1/16"
832	.05	3½"	1½"


.0005 MFD. 6000 V.D.C.
TYPE NO. 834
PART NO. 46A145
GROUND

CHICAGO OIL IMPREGNATED VACUUM FILLED CAPACITORS

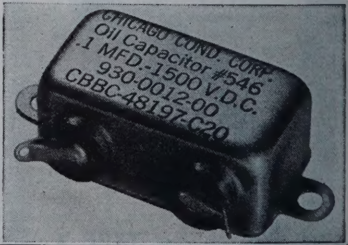
BATH TUB TYPE CONDENSER

BATH TUB TYPE RADIO & MOTORS

INTERFERENCE • ELECTRONIC

SPECIAL TIMING • HERMETICALLY SEALED

TESTED AT THREE-TIME VOLTAGE


CHICAGO COND. CORP.
Oil Capacitor #546
.1 MFD-1500 V.D.C.
930-0012-00
CBBC-48197-C20

ALL SINGLE UNITS HAVE 2 TERMINALS—ALL DUAL UNITS HAVE 3 TERMINALS—ALL TRIPLE UNITS HAVE 3 TERMINALS—ONE GROUNDED TO CASE. OTHER UNITS HIGHER OR LOWER VOLTAGES CAN BE SUPPLIED UPON REQUEST.

ARCO ELECTRONICS, INC.

EL-MENCO CAPACITORS

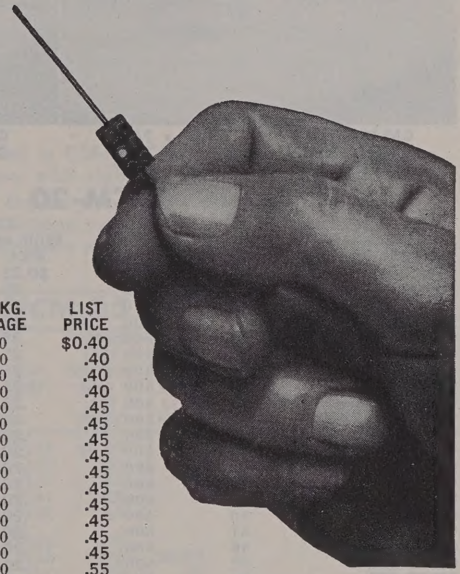
MINIATURE MICA CAPACITORS

SMALLER THAN YOUR FINGERNAIL BUT SKY HIGH IN PERFORMANCE

Known the world over for their reliability under all operating conditions, El-Menco Capacitors are chosen by manufacturers who want successful performance and long life from their products.

El-Menco fixed mica dielectric capacitors are compact, precision made Manufactured in accordance with American military standards to meet Army and Navy JAN-C-5 Specifications. All impregnated and JAN, RMA and RCM color coded. Standard specification limits are shown below.

Moulded in low loss bakelite, tested at double the working voltage. Tests for dielectric strength, insulation resistance, temperature co-efficient and capacitance drift, humidity and life tests according to JAN and RCM STANDARDS. All units are wax dipped for salt water immerison seal.



Actual Size
9/32" x ½" x 3/16".
For Television, Radio and other Electronic Applications.
2 - 420 mmf. cap. at 500v DCA.
2 - 535 mmf. cap. at 300v DCA.
Temperature Co-efficient ±50 parts per million per degree C for most capacity values.
6-dot color coded.

TYPE CM-15

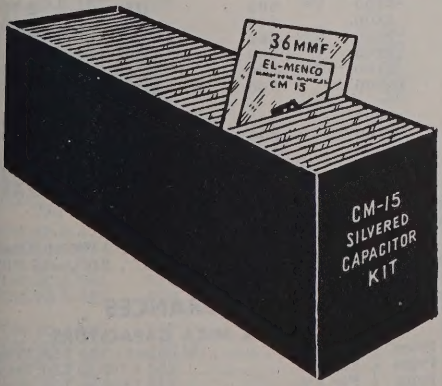
TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLTAGE	LIST PRICE	TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLTAGE	LIST PRICE
CM-15-E-010-M	1	500	$0.50	CM-15-E-750-J	75	500	$0.40
CM-15-E-020-M	2	500	.50	CM-15-E-820-J	82	500	.40
CM-15-E-030-M	3	500	.50	CM-15-E-910-J	91	500	.40
CM-15-E-050-K	5	500	.40	CM-15-E-101-J	100	500	.40
CM-15-E-010-J	10	500	.40	CM-15-E-111-J	110	500	.45
CM-15-E-120-J	12	500	.40	CM-15-E-121-J	120	500	.45
CM-15-E-150-J	15	500	.40	CM-15-E-131-J	130	500	.45
CM-15-E-180-J	18	500	.40	CM-15-E-151-J	150	500	.45
CM-15-E-200-J	20	500	.40	CM-15-E-161-J	160	500	.45
CM-15-E-220-J	22	500	.40	CM-15-E-181-J	180	500	.45
CM-15-E-240-J	24	500	.40	CM-15-E-201-J	200	500	.45
CM-15-E-270-J	27	500	.40	CM-15-E-221-J	220	500	.45
CM-15-E-300-J	30	500	.40	CM-15-E-241-J	240	500	.45
CM-15-E-330-J	33	500	.40	CM-15-E-251-J	250	500	.45
CM-15-E-360-J	36	500	.40	CM-15-E-271-J	270	500	.55
CM-15-E-390-J	39	500	.40	CM-15-E-301-J	300	500	.55
CM-15-E-430-J	43	500	.40	CM-15-E-331-J	330	500	.55
CM-15-E-470-J	47	500	.40	CM-15-E-361-J	360	500	.55
CM-15-E-500-J	50	500	.40	CM-15-E-391-J	390	500	.65
CM-15-E-510-J	51	500	.40	CM-15-E-431-J	430	500	.65
CM-15-E-560-J	56	500	.40	CM-15-E-471-J	470	300	.70
CM-15-E-620-J	62	500	.40	CM-15-E-501-J	500	300	.70
CM-15-E-680-J	68	500	.40	CM-15-E-511-J	510	300	.70

All the above are silver mica only. Temperature Co-efficient: 50 Parts per Million per degree C. (Characteristic "E"). Standard Tolerance: ±5%. Closest Tolerance: ±.5 mmfd.

Special! —HANDY KIT

FOR EXPERIMENTAL WORK

Don't Get Caught Short...



ALWAYS HAVE THE CORRECT CAPACITY ON HAND

This Handy Kit consists of 46 most commonly used Capacitors . . . five of each capacity packed in moisture-proof transparent cellophane envelope, properly identified for permanent use.

YOUR PRICE ONLY $50.00

THESE MINIATURES FIT INTO THE SMALLEST AREA CAPACITOR SIZE (9/32" x ½" x 3/16")

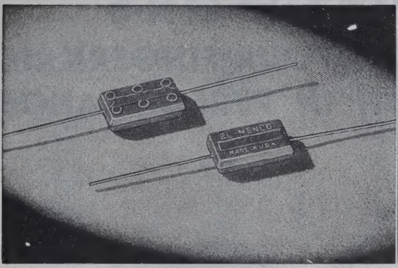
The complete set of capacitors amounts to $106.00 at list prices. You get the entire set during this introductory offer, *for only* $50.00 net. On orders of 5 or 10 sets you get corresponding discounts *on this reduced cost!*

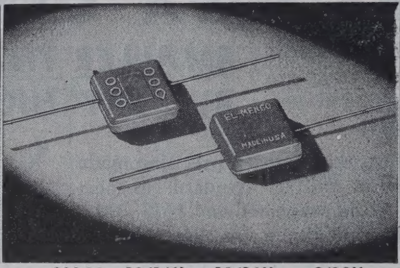
5 sets (5% discount) Only $47.50 each!
10 sets (10% discount) Only $45.00 each!
COMPARE COST!

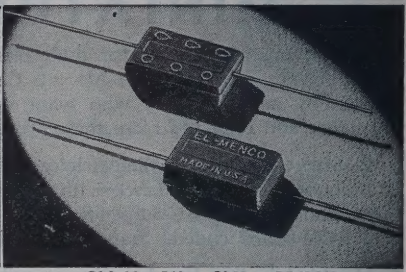
ARCO ELECTRONICS, INC.

EL-MENCO CAPACITORS

MICA CAPACITORS


CM-19—11/16" x 7/16" x 7/32"
CM-20—25/32" x 7/16" x 7/32"
CM-25— 7/16" x 1-7/64" x 7/32"


CM-30—13/16" x 13/16" x 9/32"
CM-35—13/16" x 13/16" x 11/32"


CM-40—1" x ⅝" x 11/32"

CM-19 & CM-20

TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLTAGE	LIST PRICE REGULAR MICA	LIST PRICE SILVERED MICA
CM-20-050	5	500	$0.25	$0.40
CM-20-100	10	500	.25	.40
CM-20-120	12	500	.25	.40
CM-20-150	15	500	.25	.40
CM-20-180	18	500	.25	.40
CM-20-200	20	500	.25	.40
CM-20-220	22	500	.25	.40
CM-20-240	24	500	.25	.40
CM-20-270	27	500	.25	.40
CM-20-300	30	500	.25	.40
CM-20-330	33	500	.20	.40
CM-20-360	36	500	.20	.40
CM-20-390	39	500	.20	.40
CM-20-430	43	500	.20	.40
CM-20-470	47	500	.20	.40
CM-20-500	50	500	.20	.40
CM-20-510	51	500	.20	.40
CM-20-560	56	500	.20	.40
CM-20-620	62	500	.20	.40
CM-20-680	68	500	.20	.40
CM-20-750	75	500	.20	.40
CM-20-820	82	500	.20	.40
CM-20-910	91	500	.20	.40
CM-20-101	100	500	.20	.40
CM-20-111	110	500	.20	.45
CM-20-121	120	500	.20	.45
CM-20-131	130	500	.20	.45
CM-20-151	150	500	.20	.45
CM-20-161	160	500	.20	.45
CM-20-181	180	500	.20	.45
CM-20-201	200	500	.20	.45
CM-20-221	220	500	.20	.45
CM-20-241	240	500	.25	.55
CM-20-251	250	500	.25	.55
CM-20-271	270	500	.25	.55
CM-20-301	300	500	.25	.55
CM-20-331	330	500	.25	.55
CM-20-361	360	500	.25	.55
CM-20-391	390	500	.25	.65
CM-20-431	430	500	.25	.65
CM-20-471	470	500	.25	.70
CM-20-501	500	500	.25	.70
CM-20-511	510	500	.25	.70
CM-20-561	560	500	.25	.75
CM-20-621	620	500	.30	.80
CM-20-681	680	500	.30	.85
CM-20-751	750	500	.30	.90
CM-20-821	820	500	.30	.95
CM-20-911	910	500	.35	1.00
CM-20-102	1000	500	.35	1.10
CM-20-112†	1100	500	.45	1.20
CM-20-122†	1200	500	.45	1.30
CM-20-132†	1300	500	.45	1.40
CM-20-152†	1500	500	.50	1.50
CM-20-162†	1600	500	.50	1.60
CM-20-182†	1800	500	.60	1.70

All capacitors above with exception of those indicated by † can be ordered in CM-19 or CM-20 Cases.

CM-25, CM-30, CM-35 & CM-40

TYPE DESIGNATION	CAP. MMF.	DC WKG. VOLTAGE	LIST PRICE REGULAR MICA	LIST PRICE SILVERED MICA
CM-25-471	470	500	$0.25	$0.70
CM-25-511	510	500	.25	.70
CM-25-561	560	500	.25	.75
CM-25-621	620	500	.30	.80
CM-25-681	680	500	.30	.85
CM-25-751	750	500	.30	.90
CM-25-821	820	500	.30	.95
CM-25-911	910	500	.35	1.00
CM-25-102	1000	500	.35	1.10
CM-25-112	1100	500	.45	1.20
CM-25-122	1200	500	.45	1.30
CM-25-132	1300	500	.45	1.40
CM-25-152	1500	500	.50	1.50
CM-25-162	1600	500	.50	1.60
CM-25-182	1800	500	.60	1.70
CM-25-202	2000	500	.65	1.80
CM-30-621	620	500	.25	.80
CM-30-681	680	500	.25	.85
CM-30-751	750	500	.25	.90
CM-30-821	820	500	.25	.95
CM-30-911	910	500	.25	1.00
CM-30-102	1000	500	.30	1.10
CM-30-112	1100	500	.30	1.10
CM-30-122	1200	500	.30	1.25
CM-30-130	1300	500	.30	1.25
CM-30-152	1500	500	.30	1.35
CM-30-162	1600	500	.40	1.35
CM-30-182	1800	500	.40	1.35
CM-30-202	2000	500	.40	1.50
CM-30-222	2200	500	.40	1.50
CM-30-242	2400	500	.45	1.80
CM-30-252	2500	500	.45	1.80
CM-30-272	2700	500	.45	1.90
CM-30-302	3000	500	.50	2.05
CM-30-332	3300	500	.50	2.05
CM-30-362	3600	500	.50	2.10
CM-30-392	3900	500	.55	2.15
CM-30-432	4300	500	.55	2.15
CM-30-472	4700	500	.55	2.15
CM-30-502	5000	500	.60	2.25
CM-30-512	5100	500	.60	2.25
CM-30-562	5600	500	.60	2.50
CM-35-622*	6200	300	.75	2.75
CM-35-682*	6800	300	.80	3.00
CM-35-752*	7500	300	.90	3.25
CM-35-822*	8200	300	1.00	3.50
CM-35-912*	9100	300	1.00	4.00
CM-35-103*	10000	300	1.20	4.00
CM-40-822*	8200	300	1.00	3.50
CM-40-912*	9100	300	1.00	4.00
CM-40-103*	10000	300	1.20	4.00
CM-40-123	12000	300	1.40	4.50
CM-40-153	15000	300	1.70	5.25

Capacitors marked with * can be supplied in 500 WVDC. Add 10% to above list prices.

ON ALL UNITS LISTED ABOVE: Regular Mica supplied in "A" and "B" Characteristic at List Price. Silvered Mica in CM-19 and CM-20 Cases supplied in "C" and "D" Characteristic at List Price. Silvered Mica in CM-25, CM-30, CM-35 and CM-40 supplied in "C", "D", and "E" Characteristic at List Prices.

STANDARD TOLERANCE

Regular MICA.......................................20%
Silvered MICA.......................................5%
(closest tolerance .5 mmfd.)

PRICES OF OTHER AVAILABLE TOLERANCES

REGULAR MICA CAPACITORS

For 20%..............(Standard) Use List Price
For 10%....................add 10% to List Price
For 5%....................add 20% to List Price

SILVER MICA CAPACITORS

For 5%................(Standard) Use List Price
For 3%......................add 10% to List Price
For 2%......................add 15% to List Price
For 1%......................add 25% to List Price

NOTE: For any RMA size not shown in above listings, figure price to the nearest capacity.

ARCO ELECTRONICS, INC.

EL-MENCO CAPACITORS

TELEVISION • TRANSMITTING • INDUSTRIAL HIGH VOLTAGE MICA CAPACITORS

DC WORKING VOLTAGES: FROM 1000 TO 3000 VOLTS

Molded in CM-20, CM-35, and CM-40 Cases

Demand for smaller units in higher voltages designed to meet the requirements for Television, Power Amplifiers, Low Power Transmitters, and various Industrial Uses has increased. EL-MENCO designed and produced units listed below are especially adaptable to compact circuits where space is an important factor. Their acceptance has been overwhelming by the various manufacturers of Television Receivers.

In many cases, these units will do the work of capacitors molded in CM-45, CM-50, and CM-55 cases without breaking down. No Special Mountings Are Necessary; just wire right into the circuit.

The capacitors are molded in low-loss bakelite and tested at double the branded voltage. They are tested for dielectric strength, insulation resistance, temperature coefficient, capacitance drift, susceptibility to humidity, and length of life, according to RCM Standards. All units are wax-dipped for protection against salt water immersion.

VCM-20

TYPE DESIGNATION	CAP. MMF.	6000 VDC TEST 3000 VDC WKG. LIST PRICE	5000 VDC TEST 2500 VDC WKG. LIST PRICE	4000 VDC TEST 2000 VDC WKG. LIST PRICE	3000 VDC TEST 1500 VDC WKG. LIST PRICE	2000 VDC TEST 1000 VDC WKG. LIST PRICE
VCM-20-B-050	5	$0.30				
VCM-20-B-100	10	.30				
VCM-20-B-120	12	.30				
VCM-20-B-150	15	.35	$0.30			
VCM-20-B-180	18	.35	.30			
VCM-20-B-200	20	.35	.30			
VCM-20-B-220	22	.35	.30			
VCM-20-B-240	24	.35	.30			
VCM-20-B-270	27	.35	.30			
VCM-20-B-300	30	.40	.35			
VCM-20-B-330	33	.40	.35			
VCM-20-B-360	36	.45	.35			
VCM-20-B-390	39	.45	.35			
VCM-20-B-430	43	.45	.35			
VCM-20-B-470	47	.45	.35	$0.30		
VCM-20-B-500	50	.50	.35	.35		
VCM-20-B-510	51	.50	.35	.35		
VCM-20-B-560	56	.50	.35	.35		
VCM-20-B-620	62	.50	.35	.35		
VCM-20-B-680	68	.55	.40	.35		
VCM-20-B-750	75	.60	.45	.35	$0.30	
VCM-20-B-820	82	.60	.45	.35	.30	
VCM-20-B-910	91	.65	.45	.35	.35	
VCM-20-B-101	100	.70	.45	.35	.35	
VCM-20-B-111	110	.70	.50	.40	.35	
VCM-20-B-121	120		.50	.40	.35	$0.30
VCM-20-B-131	130		.50	.40	.35	.30
VCM-20-B-151	150		.55	.40	.35	.35
VCM-20-B-161	160		.60	.45	.35	.35
VCM-20-B-181	180		.60	.45	.35	.35
VCM-20-B-201	200		.65	.50	.40	.35
VCM-20-B-221	220		.70	.50	.40	.35
VCM-20-B-241	240		.70	.55	.40	.35
VCM-20-B-251	250			.55	.45	.40
VCM-20-B-271	270			.55	.45	.40
VCM-20-B-301	300			.60	.50	.40
VCM-20-B-331	330			.65	.50	.40
VCM-20-B-361	360			.65	.50	.40
VCM-20-B-391	390			.70	.55	.40
VCM-20-B-431	430				.55	.45
VCM-20-B-471	470				.60	.45
VCM-20-B-501	500				.60	.45
VCM-20-B-511	510				.60	.45
VCM-20-B-561	560				.65	.50
VCM-20-B-621	620				.70	.50
VCM-20-B-681	680					.55
VCM-20-B-721	750					.55
VCM-20-B-821	820					.60
VCM-20-B-911	910					.65
VCM-20-B-102	1000					.70

VCM-35 & VCM-40

TYPE DESIGNATION	CAP. MMF.	6000 VDC TEST 3000 VDC WKG. LIST PRICE	5000 VDC TEST 2500 VDC WKG. LIST PRICE	4000 VDC TEST 2000 VDC WKG. LIST PRICE	3000 VDC TEST 1500 VDC WKG. LIST PRICE	2000 VDC TEST 1000 VDC WKG. LIST PRICE
VCM-40-B-121	120	$0.50				
VCM-40-B-151	150	.55				
VCM-40-B-161	160	.60				
VCM-40-B-181	180	.60				
VCM-40-B-221	200	.65				
VCM-40-B-241	240	.70				
VCM-40-B-251	250	.70	$0.55			
VCM-40-B-271	270	.70	.55			
VCM-40-B-301	300	.75	.60			
VCM-40-B-331	330	.80	.60			
VCM-40-B-361	360	.85	.65			
VCM-40-B-391	390	.90	.70			
VCM-40-B-431	430	1.00	.70	$0.60		
VCM-40-B-471	470	1.05	.70	.65		
VCM-40-B-501	500	1.10	.75	.65		
VCM-40-B-511	510	1.10	.75	.65		
VCM-40-B-561	560	1.20	.80	.65		
VCM-40-B-621	620	1.25	.85	.70		
VCM-40-B-681	680	1.35	.90	.70	$0.65	
VCM-40-B-821	820	1.55	1.00	.80	.75	
VCM-40-B-911	910		1.10	.85	.80	
VCM-40-B-102	1000		1.20	.95	.80	
VCM-40-B-112	1100		1.20	1.00	.85	$0.55
VCM-40-B-122	1200		1.30	1.05	.95	.60
VCM-40-B-132	1300		1.40	1.10	1.00	.60
VCM-40-B-152	1500		1.60	1.25	1.10	.65
VCM-40-B-162	1600		1.70	1.30	1.10	.70
VCM-40-B-182	1800			1.40	1.25	.70
VCM-40-B-202	2000			1.55	1.35	.75
VCM-40-B-222	2200				1.40	.85
VCM-40-B-242	2400				1.55	.90
VCM-40-B-272	2700					.90
VCM-40-B-302	3000					1.00
VCM-40-B-332	3300					1.05
VCM-40-B-362	3600					1.15
VCM-40-B-392	3900					1.20
VCM-40-B-432	4300					1.30
VCM-40-B-472	4700					1.40
VCM-40-B-502	5000					1.45
VCM-40-B-512	5100					1.45

All of the above units can be obtained, on request, in CM-35 cases, at 10% above list price.

All units supplied in "A" or "B" Characteristic at list price.
Case Size Dimensions (See page P-92 for illustrations):
VCM-20—$\frac{25}{32}$" x $\frac{7}{16}$" x $\frac{7}{32}$" **VCM-35**—$\frac{13}{16}$" x $\frac{13}{16}$" x $\frac{11}{32}$"
VCM-40—1" x $\frac{5}{8}$" x $\frac{11}{32}$"

Standard Tolerance: ±20%.
Prices will be quoted for closer tolerances in "Silvered" mica upon request.

ARCO ELECTRONICS, INC.

EL-MENCO CAPACITORS

PAPER TUBULAR CAPACITORS

CP TYPE

EL-MENCO CP-6
EL-MENCO CP-5
EL-MENCO CP-4
EL-MENCO CP-3
EL-MENCO CP-2
EL-MENCO CP-1

MINERAL OIL IMPREGNATION
NON-INDUCTIVE WINDING
SYNTHETIC RESIN END SEALS
STEATITE CASE

EL-MENCO CP type paper tubular capacitors are sealed into STEATITE CERAMIC TUBES which serve to insulate the capacitor electrically as well as against moisture and heat. The capacitor insert is impregnated with MINERAL OIL, thereby assuring long life at 85° C operating conditions. This feature insures successful operation at the high ambient temperatures existing in small, compact enclosures.

The NON-INDUCTIVELY wound paper and foil units are sealed in the CERAMIC TUBES by means of baked SYNTHETIC RESIN END FILLS which cannot melt at any conceivable operating temperature. The end fills will not dissolve in wax, permitting the capacitors to be potted without damage to the insert. Leads are of tinned copper wire 2¼″ long.

Many of the large TELEVISION, TRANSMITTER AND HIGH VOLTAGE AMPLIFIER manufacturers have found these capacitors to be of highest quality. Breakdown tests have exceeded the required standards.

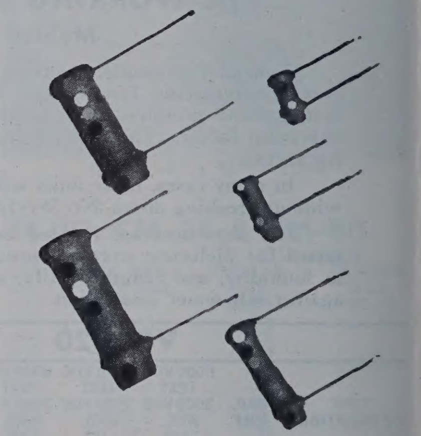
CAPACITY MFD.	1600 WVDC		1000 WVDC		600 WVDC		400 WVDC		200 WVDC	
	PART NUMBER	LIST PRICE	PART NUMBER	LIST PRICE	PART NUMBER	LIST PRICE	PART NUMBER	LIST PRICE	PART NUMBER	LIST PRICE
.001	CP-3-102	$.50	CP-2-102	$.40	CP-1-102	$.25				
.0015	CP-3-152	.50	CP-2-152	.40	CP-1-152	.25				
.002	CP-3-202	.50	CP-2-202	.40	CP-1-202	.25				
.0022	CP-3-222	.50	CP-2-222	.40	CP-1-222	.25				
.0025	CP-3-252	.50	CP-2-252	.40	CP-1-252	.25				
.003	CP-3-302	.50	CP-3-302	.40	CP-1-302	.25				
.0033	CP-3-332	.50	CP-3-332	.40	CP-1-332	.25				
.004	CP-3-402	.50	CP-3-402	.40	CP-1-402	.25				
.0047	CP-4-472	.50	CP-3-472	.45	CP-1-472	.25				
.005	CP-4-502	.50	CP-3-502	.45	CP-1-502	.25				
.006	CP-4-602	.50	CP-3-602	.45	CP-2-602	.25				
.0068	CP-4-682	.60	CP-3-682	.45	CP-2-682	.25				
.0075	CP-5-752	.60	CP-3-752	.45	CP-2-752	.30				
.01	CP-5-103	.60	CP-3-103	.50	CP-2-103	.30				
.015	CP-5-153	.60	CP-4-153	.50	CP-2-153	.30				
.02	CP-6-203	.60	CP-5-203	.50	CP-3-203	.30	CP-2-203	$.25		
.022	CP-6-223	.60	CP-5-223	.50	CP-3-223	.30	CP-3-223	.30		
.025	CP-6-253	.60	CP-5-253	.50	CP-4-253	.35	CP-3-253	.30		
.03	CP-6-303	.60	CP-5-303	.50	CP-4-303	.35	CP-3-303	.30		
.033	CP-6-333	.65	CP-5-333	.60	CP-4-333	.35	CP-3-333	.30		
.04			CP-6-403	.60	CP-4-403	.35	CP-3-403	.30		
.047			CP-6-473	.60	CP-4-473	.35	CP-4-473	.30		
.05			CP-6-503	.60	CP-4-503	.40	CP-4-503	.30		
.056			CP-6-563	.65	CP-5-563	.40	CP-4-563	.30		
.068					CP-6-683	.40	CP-4-683	.35		
.075					CP-6-753	.45	CP-5-753	.35		
.1					CP-6-104	.45	CP-5-104	.35	CP-4-104	$.35
.15							CP-6-154	.40	CP-4-154	.40
.22							CP-6-224	.45	CP-5-224	.40
.25							CP-6-254	.45	CP-5-254	.40
.33									CP-6-334	.50
.47									CP-6-474	.60
.5									CP-6-504	.60

STANDARD TOLERANCE ON ABOVE UNITS IS ± 20%. FOR ± 10% TOLERANCE ADD 15% TO LIST PRICE.

DIMENSIONS FOR CP TYPE CAPACITORS

	DIAMETER	LENGTH
CP-1	⅜″	1⅛″
CP-2	⅜″	1⅜″
CP-3	7/16″	1⅜″
CP-4	9/16″	1⅝″
CP-5	¾″	2⅛″
CP-6	13/16″	2⅛″

SILVER CERAMIC HIGH "K" CAPACITORS



Bypass and Coupling Capacitors

Wax Impregnated, Low-Loss PHENOLIC COATING. Insulation Resistance: 10,000 Megohms Minimum. 90% Relative Humidity Test for 100 Hours. RADIAL LEADS of No. 22 Tinned Copper Wire 1¼″ Minimum. RMA COLOR CODED. STANDARD TOLERANCE ± 20%. 1000 VDC Test, 500 VDC Working. Meets Requirements of RMA Standards.

TYPE DESIGNATION	CAP. MMF.	SIZE		LIST PRICE
		LENGTH	DIAM.	
CC-1-100	10	9/16″	.250″	$.25
CC-1-150	15	9/16″	.250″	.25
CC-1-250	25	9/16″	.250″	.25
CC-1-400	40	9/16″	.250″	.25
CC-1-500	50	9/16″	.250″	.25
CC-1-820	82	9/16″	.250″	.25
CC-1-101	100	9/16″	.250″	.25
CC-1-151	150	9/16″	.250″	.25
CC-1-201	200	9/16″	.250″	.25
CC-1-251	250	9/16″	.250″	.25
CC-1-301	300	9/16″	.250″	.25
CC-1-401	400	9/16″	.250″	.25
CC-1-501	500	9/16″	.250″	.25
CC-2-751	750	¾″	.250″	.25
CC-2-102	1000	¾″	.250″	.25
CC-2-122	1200	¾″	.250″	.25
CC-2-152	1500	¾″	.250″	.25
CC-2-202	2000	¾″	.250″	.25
CC-3-252	2500	11/16″	.350″	.30
CC-3-302	3000	11/16″	.350″	.30
CC-3-402	4000	11/16″	.350″	.35
CC-4-502	5000	1″	.350″	.40
CC-4-682	6800	1″	.350″	.40
CC-5-752	7500	1.20″	.350″	.45
CC-5-103	10000	1.20″	.350″	.50
CC-6-123	12000	1.325″	.350″	.50

ARCO ELECTRONICS, INC.

EL-MENCO CAPACITORS

Single and Dual PADDERS

El-Menco Padding Condensers have been acclaimed by engineers as the finest development in adjustable mica condensers.

The construction is such as to completely enclose and protect the delicate edges of the mica films, made of the finest quality clear India ruby mica.

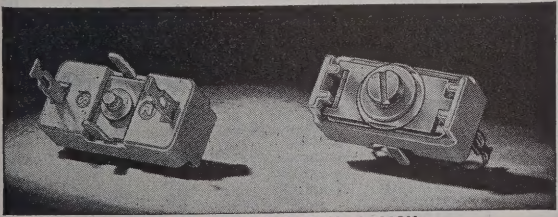
The phosphor bronze adjusting plates assure permanent resilience and freedom from mechanical fatigue. All parts are heavily plated to resist corrosion.

TYPE 30

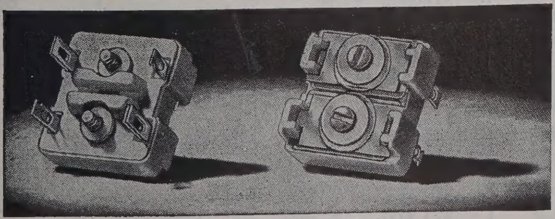
350 Volts DC Flash-Test — 175 WVDC

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE At 1½ Inch Pounds Cap. Will Be More Than MMF.	GUARANTEED RANGE At 2½ Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
302	2 Pl.	130	15	$0.55
303	3 pl.	340	65	.60
304	4 Pl.	550	100	.65
305	5 Pl.	760	190	.75
306	6 Pl.	970	275	.80
307	7 Pl.	1180	350	.85
308	8 Pl.	1390	450	.90
309	9 Pl.	1600	550	1.00
310	10 Pl.	1890	650	1.10
311	11 Pl.	2110	780	1.15
312	12 Pl.	2330	880	1.20
313	13 Pl.	2605	1150	1.30
314	14 Pl.	2830	1300	1.35
315	15 Pl.	3055	1400	1.40

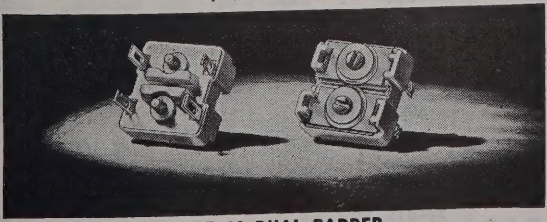
Screw is insulated from top plate my mica washer. Above maximum capacity values are based on using 1½ to 1¾ Mil Mica films.



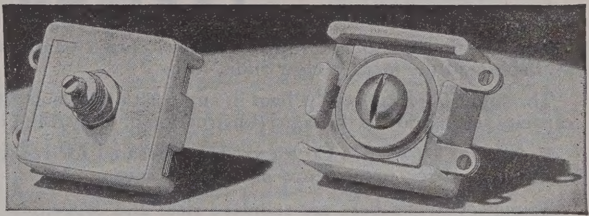
TYPE 58 PADDER 1.000" x .468"



TYPE 50 DUAL PADDER
(will fit any size shield having dimensions exceeding 1-1/16" x 1-1/16")



TYPE 60 DUAL PADDER
(will fit any size shield having dimensions exceeding ¾" x ¾")



TYPE 30 AND TYPE 30-M PADDER 7/8" x 15/16"

TYPE 30-M

1000 Volts DC Flash-Test — 500 Working Volts DC

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE At 1½ Inch Pounds Cap. Will Be More Than MMF.	GUARANTEED RANGE At 2½ Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
302-M	2 Pl.	120	15	$0.55
303-M	3 Pl.	320	65	.60
304-M	4 Pl.	500	100	.70
305-M	5 Pl.	690	180	.75
306-M	6 Pl.	880	265	.80
307-M	7 Pl.	1070	340	.90
308-M	8 Pl.	1260	425	.95
309-M	9 Pl.	1415	525	1.00
310-M	10 Pl.	1600	615	1.10
311-M	11 Pl.	1785	730	1.15
312-M	12 Pl.	1970	800	1.25
313-M	13 Pl.	2155	1000	1.30
314-M	14 Pl.	2340	1100	1.35
315-M	15 Pl.	2525	1200	1.45

Screw is insulated from top plate by mica washer. Above maximum capacity values are based on using 2 to 2¼ Mil Mica.

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE At Tight Cap. Will Be More Than MMF.	GUARANTEED RANGE At 2 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
582	2 Pl.	80	7.5	$0.40
583	3 Pl.	160	19	.45
584	4 Pl.	240	50	.50

◄**TYPE 58** Padder is a single variable trimmer section provided with a two-pronged staple mounting for attachment to bracket or chassis. Base is made of lowest loss steatite and the mica is India Ruby.

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE At Tight Cap. Will Be More Than MMF.	GUARANTEED RANGE At 2 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
502	2 Pl.	80	7.5	$0.60
503	3 Pl.	160	19	.70
504	4 Pl.	240	50	.80

◄**TYPE 50** Dual Padders provide two variable trimmers mounted on a single base. This unit is designed as a tuning component for I.F. transformers; and as such, may be snap-in mounted along with the transformer coil in any size shield having dimensions exceeding 1$\frac{1}{16}$" x 1$\frac{1}{16}$".

PART NUMBER	NUMBER OF PLATES	GUARANTEED RANGE At Tight Cap. Will Be More Than MMF.	GUARANTEED RANGE At 2 Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
602	2 Pl.	55	7	$0.50
603	3 Pl.	100	15	.60
604	4 Pl.	160	35	.70

◄**TYPE 60** Dual Padders provide two variable trimmers mounted on a single base. This unit is designed as a tuning component for I.F. transformers; and as such, may be snap-in mounted along with the transformer coil in any size shield having dimensions exceeding ¾" x ¾".

See page P-96 for Mica Trimmer Capacitors

ARCO ELECTRONICS, INC.

EL-MENCO CAPACITORS

TYPE 46 TRIMMER

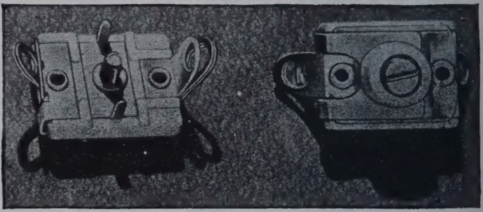
The base is made of the lowest dielectric loss ceramic material available and the mica is clear India Ruby.

The soldering lugs may be bent in any position without affecting capacity setting due to the rigid construction of adjusting plates.

El-Menco Trimming Condensers are treated for resistance to humidity and for permanence of capacity setting.

Trimmers shown here are standard sizes and capacities.

TYPE 46W NUMBER PART	PLATES NUMBER OF	GUARANTEED RANGE At Tight Cap. Will Be More Than MMF.	 At 2½ Turns Open Cap. Will Be Less Than MMF.	LIST PRICE
460	1¼ Pl.	15	1.5	$0.30
461	1¾ Pl.	30	2.7	.30
462	2 Pl.	80	5	.35
463	3 Pl.	180	9	.40
464	4 Pl.	280	25	.45
465	5 Pl.	380	50	.50
466	6 Pl.	480	80	.55
467	7 Pl.	580	110	.60
468	8 Pl.	680	140	.65
469	9 Pl.	780	170	.70



TYPE 46 TRIMMER ¾" x ⅝"

Metal Mounting Brackets for these trimmers can be supplied from stock

	LIST PRICE
Bracket for mounting 2 Trimmers	$0.10
Bracket for mounting 3 Trimmers	.12
Bracket for mounting 4 Trimmers	.14
Bracket for mounting 5 Trimmers	.16
Bracket for mounting 6 Trimmers	.18

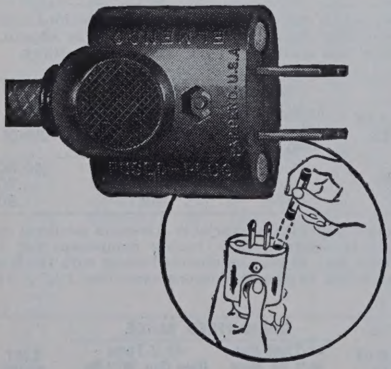
EL-MENCO FUSED PLUG

They're all saying again, "It's a wonder no one thought of it before." Here's a plug *that carries its own fuses.*

It attaches to the cord just as any standard plug, looks pretty much the same, light-weight, but easier to handle because of finger grips. However, it contains two small fuses, which provide complete protection against damage to the appliance and to the main line.

Blown fuses are easily removable; replacements are available up to 10 amperes.

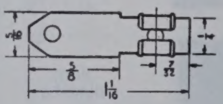
Fuses Available Wherever Electrical Supplies Are Sold



REMOVE FUSES IN A JIFFY

•

REPLACE FUSES INSTANTLY



POLARIZED BLADE can be supplied instead of regular blades, upon request—no extra cost.

LIST PRICE 35¢ EACH

LESS FUSES

UNDERWRITERS LABORATORY APPROVED

FUSES

3 AG FUSES (32 VOLTS OR LESS)

		LIST PRICE
311005.	5 amp.	$0.05
31107.5	7½ amp.	.05
311010.	10 amp.	.04
311015	15 amp.	.04
311020	20 amp.	.035
311030	30 amp.	.05

3 AG FUSES (250 VOLTS OR LESS)

312.062	1/16 amp.	.15
312.125	⅛ amp.	.15
312.250	¼ amp.	.15
312.375	⅜ amp.	.15
312.500	½ amp.	.15
312.750	¾ amp.	.15
312001.	1 amp.	.07
31201.5	1½ amp.	.07
312002.	2 amp.	.07
312003.	3 amp.	.07
312004.	4 amp.	.10
312005.	5 amp.	.10
312006.	6 amp.	.10

3 AG SLO-BLO FUSES

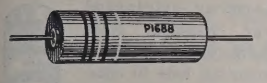
313.010	1/100 amp.	.25
313.032	1/32 amp.	.25
313.062	1/16 amp.	.25
313.125	⅛ amp.	.25
313.187	3/16 amp.	.25
313.250	¼ amp.	.25
313.375	⅜ amp.	.25
313.500	½ amp.	.25
313.750	¾ amp.	.25
313001.	1 amp.	.25
31301.5	1½ amp.	.20
313002.	2 amp.	.20
313003.	3 amp.	.20
313005.	5 amp.	.20
313010.	10 amp.	.20
313015.	15 amp.	.20
313020.	20 amp.	.20

3 AB TINY-MIGHTY FUSE U/L

314008	8 amp.	.15
314010	10 amp.	.15
314012	12 amp.	.15
314015	15 amp.	.15
314020	20 amp.	.15

AEROVOX Latest Aerovox Items

DURANITE MOLDED TUBULAR CAPACITORS



Type P 88

Toughest capacitors ever offered critical operators of radio-electronic equipment. Not just another plastic tubular, DURANITE capacitors are entirely new — in design, impregnant, processing, and casing. New technique provides glove-fitting contact and seal throughout. No danger of voids.

DURANITE provides a permanent, non-varying, rock-hard casing. Smooth clean surface. DURANITE does not dry out, does not develop cracks or fissures. Pigtail leads firmly imbedded, won't pull out, won't work loose. Pull tests no longer are a problem. Wire will break before it can be loosened.

DURANITE capacitors are really moisture-proof. They stand up at high temperatures. Operation from sub-zero to over 212°F. Exposure to temperatures of 250°F will not impair life or performance. Temperature co-efficient of capacities similar to wax and oil capacitors. The new AEROLENE impregnant eliminates necessity of stocking and using both wax and oil capacitors. One impregnant does the work of both. DURANITE capacitors show no deterioration in stock, may be stored in advance of actual use, with corresponding economy and convenience. Smaller dimensions than the usual paper tubulars.

P 288 200 V.D.C.W. Cap. Mfd.	List Price	Net Price
.015	$0.25a	$0.15
.04	.30b	.18
*.047	.30b	.18
.05	.30b	.18
*.068	.35c	.21
.075	.35c	.21
.1	.35c	.21
.15	.40d	.24
*.33	.50e	.30
*.47	.60e	.36
.5	.60e	.36

P 488 400 V.D.C.W. Cap. Mfd.	List Price	Net Price
.006	$0.25a	$0.15
*.0068	.25a	.15
.0075	.25a	.15
.01	.25a	.15
.015	.25b	.15
.02	.25b	.15
*.022	.30b	.18
.025	.30b	.18
.03	.30b	.18
*.033	.30b	.18
.04	.30c	.18
*.047	.30c	.18
.05	.30c	.18
*.068	.35d	.21
.075	.35d	.21
.1	.35d	.21
.15	.40e	.24
*.22	.45e	.27
.25	.45e	.27

P 688 600 V.D.C.W. Cap. Mfd.	List Price	Net Price
.001	$0.25a	$0.15
.0015	.25a	.15
.002	.25a	.15
*.0022	.25a	.15
.003	.25a	.15
*.0033	.25a	.15
.004	.25a	.15
*.0047	.25a	.15
.005	.25a	.15
.006	.25b	.15
*.0068	.25b	.15
.0075	.30b	.18
.01	.30b	.18
.015	.30b	.18
.02	.30c	.18
*.022	.30c	.18
.025	.35c	.21
.03	.35d	.21
*.033	.35d	.21
.04	.35d	.21
*.047	.35d	.21
.05	.40d	.24
*.068	.40e	.24
.075	.45e	.27
.1	.45e	.27

P 1088 1000 V.D.C.W. Cap. Mfd.	List Price	Net Price
.001	$0.50a	$0.30
.0015	.50a	.30
.002	.50a	.30
*.0022	.50a	.30
.003	.50b	.30
*.0033	.50b	.30
.004	.50b	.30
*.0047	.50b	.30
.005	.50b	.30
.006	.50b	.30
*.0068	.50b	.30
.0075	.50b	.30
.01	.50b	.30
.015	.50c	.30
.02	.50d	.30
*.022	.50d	.30
.025	.50d	.30
.03	.50d	.30
*.033	.60d	.36
.04	.60e	.36
*.047	.60e	.36
.05	.60e	.36
*.068	.70e	.42

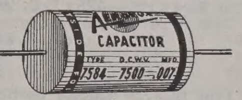
P 1688 1600 V.D.C.W. Cap. Mfd.	List Price	Net Price
.001	$0.55b	$0.33
.0015	.55b	.33
.002	.55b	.33
*.0022	.55b	.33
.003	.55b	.33
*.0033	.55b	.33
.004	.55b	.33
*.0047	.55c	.33
.005	.55c	.33
.006	.55c	.33
*.0068	.60c	.36
.0075	.60d	.36
.01	.60d	.36
.015	.60d	.36
.02	.60e	.36
*.022	.60e	.36
.025	.60e	.36
.03	.60e	.36
*.033	.65e	.39

TUBE SIZES

A — 1⅛" L x $\frac{11}{32}$" dia.
B — 1⅜" L x $\frac{13}{32}$" dia.
C — 1⅜" L x $\frac{15}{32}$" dia.
D — 1⅝" L x $\frac{17}{32}$" dia.
E — 2 " L x $\frac{21}{32}$" dia.

*Standard marking — Preferred number series — Color coding: Capacitance, tolerance and voltage — All others — standard marking — capacitance and voltage.

HIGH-VOLTAGE TUBULAR PAPER CAPACITORS OIL-IMPREGNATED WAX-SEALED



Type 84

These Type 84 capacitors, rated from 2500 to 10,000 volts D.C. Working, are designed to meet the elevated peaks and transients encountered in television and other cathode-ray tube applications, and to reduce the effects of corona.

This series of high-voltage, oil-impregnated units is an extension of the wax-impregnated, lower-voltage Type 84 line described on Page 9, rated up to 1600 volts d.c. working.

Although these high-voltage units are similar in general appearance — with impregnated capacitor sections encased in tubular paper jackets and supplied with tinned wire leads — they have an improved wax end-seal for longer life under the operating conditions to which they are subjected.

Type 84 is obtainable with a radial mounting band at no extra cost.

TYPE 2584—2500 VOLTS D.C. Working Cap. Mfd.	Size-Inches D. x L.	List Price	Net Price
.0001	⅜ x 1½	$ .95	$0.57
.00025	$\frac{7}{16}$ x 1½	.95	.57
.0005	½ x 1½	.95	.57
.001	$\frac{9}{16}$ x 1½	.95	.57
.003	$\frac{11}{16}$ x 1⅝	.95	.57
.005	$\frac{11}{16}$ x 1⅞	1.00	.60
.01	$\frac{13}{16}$ x 2	1.05	.63
.03	1 x 2⅝	1.10	.66
.05	1⅜ x 2⅝	1.20	.72

TYPE 3584—3500 VOLTS D.C. Working			
.0001	$\frac{7}{16}$ x 1⅝	$1.00	$0.60
.00025	½ x 1⅝	1.00	.60
.0005	$\frac{9}{16}$ x 1⅝	1.00	.60
.001	⅝ x 1⅝	1.00	.60
.003	$\frac{11}{16}$ x 2	1.00	.60
.005	$\frac{13}{16}$ x 2	1.05	.63
.01	1 x 2¼	1.10	.66
.03	1⅜ x 2⅝	1.20	.72

TYPE 5084—5000 VOLTS D.C. Working			
.0001	½ x 1¾	$1.05	$0.63
.00025	$\frac{9}{16}$ x 1¾	1.05	.63
.0005	$\frac{11}{16}$ x 1¾	1.05	.63
.001	$\frac{11}{16}$ x 2	1.05	.63
.003	$\frac{13}{16}$ x 2	1.05	.63
.005	1 x 2¼	1.10	.66
.01	$1\frac{3}{16}$ x 2⅝	1.15	.69

TYPE 7584—7500 VOLTS D.C. Working			
.0001	⅝ x 2	$1.10	$0.66
.00025	¾ x 2	1.10	.66
.0005	$\frac{13}{16}$ x 2	1.10	.66
.001	1 x 2⅛	1.10	.66
.003	$1\frac{3}{16}$ x 2⅝	1.15	.69
.005	$1\frac{3}{16}$ x 3⅛	1.15	.69

TYPE 10084—10,000 VOLTS D.C. Working			
.0001	$\frac{11}{16}$ x 2¼	$1.15	$0.69
.00025	⅞ x 2¼	1.15	.69
.0005	1 x 2⅝	1.15	.69
.001	$1\frac{1}{16}$ x 2⅝	1.15	.69
.003	1⅜ x 3	1.20	.72

HIGH VOLTAGE HERMETICALLY SEALED OIL-FILLED TUBULARS

4000
AEROVOX

Type 89

Type 89 capacitors are immersion-proof, oil-impregnated, oil filled units in handy space-saving tubular form. They are ideal for use in vibrator applications, coupling and by-pass functions in transmitters, high-voltage amplifiers, in r.f. by-pass circuits, radar, television, sonar, broadcast transmitters, interference eliminators for motors and generators, and in test equipment.

The oil-impregnated paper section is enclosed in a corrosion-proof metal case filled with oil and hermetically sealed against oil leakage or moisture penetration.

For voltages above 3500 to 6000 volts inclusive DCW, special terminals are used to provide the necessary creepage distance without increasing the length.

TYPE 2589M—2500 VOLTS D.C. Working Cap. Mfd.	Size-Inches D. x L.	List Price	Net Price
.0005	$\frac{13}{16}$ x $1\frac{9}{16}$	$1.35	$ .81
.001	$\frac{13}{16}$ x $1\frac{9}{16}$	1.35	.81
.005	$\frac{13}{16}$ x $1\frac{11}{16}$	1.35	.81
.01	$\frac{13}{16}$ x $1\frac{15}{16}$	1.35	.81
.02	$\frac{13}{16}$ x $2\frac{3}{16}$	1.50	.90
.03	$\frac{13}{16}$ x $2\frac{7}{16}$	1.60	.96
.05	$\frac{15}{16}$ x $2\frac{11}{16}$	1.75	1.05
.1	$1\frac{1}{16}$ x $3\frac{3}{16}$	2.40	1.44

TYPE 3089M—3000 VOLTS D.C. Working			
.0005	$\frac{15}{16}$ x $1\frac{11}{16}$	$1.50	$ .90
.001	$\frac{15}{16}$ x $1\frac{11}{16}$	1.50	.90
.005	$\frac{15}{16}$ x $1\frac{13}{16}$	1.50	.90
.01	$\frac{15}{16}$ x $1\frac{15}{16}$	1.50	.90
.02	$\frac{15}{16}$ x $2\frac{3}{16}$	1.65	.99
.03	$1\frac{1}{16}$ x $2\frac{7}{16}$	1.75	1.05
.05	$1\frac{1}{16}$ x $2\frac{11}{16}$	1.90	1.14
.1	$1\frac{7}{16}$ x $2\frac{15}{16}$	2.65	1.59

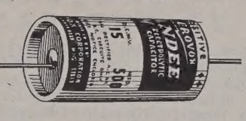
TYPE 3589M—3500 VOLTS D.C. Working			
.0005	$1\frac{1}{16}$ x $1\frac{13}{16}$	$1.75	$1.05
.001	$1\frac{1}{16}$ x $1\frac{13}{16}$	1.75	1.05
.005	$1\frac{1}{16}$ x $1\frac{15}{16}$	1.75	1.05
.01	$1\frac{1}{16}$ x $2\frac{3}{16}$	1.75	1.05
.02	$1\frac{1}{16}$ x $2\frac{7}{16}$	1.90	1.14
.03	$1\frac{1}{16}$ x $2\frac{11}{16}$	2.00	1.20
.05	$1\frac{1}{16}$ x $3\frac{7}{16}$	2.15	1.29
.1	$1\frac{7}{16}$ x $3\frac{7}{16}$	2.90	1.74

TYPE 4089M—4000 VOLTS D.C. Working			
.0005	$1\frac{1}{16}$ x $1\frac{13}{16}$	$2.00	$1.20
.001	$1\frac{1}{16}$ x $1\frac{13}{16}$	2.00	1.20
.005	$1\frac{1}{16}$ x $2\frac{1}{16}$	2.00	1.20
.01	$1\frac{1}{16}$ x $2\frac{7}{16}$	2.00	1.20
.02	$1\frac{1}{16}$ x $3\frac{3}{16}$	2.15	1.29
.03	$1\frac{7}{16}$ x $2\frac{11}{16}$	2.25	1.35
.05	$1\frac{7}{16}$ x $3\frac{7}{16}$	2.40	1.44
.1	$1\frac{7}{16}$ x $4\frac{15}{16}$	3.15	1.89

TYPE 5089M—5000 VOLTS D.C. Working			
.0005	$1\frac{1}{16}$ x $1\frac{13}{16}$	$2.25	$1.35
.001	$1\frac{1}{16}$ x $1\frac{13}{16}$	2.25	1.35
.005	$1\frac{1}{16}$ x $2\frac{3}{16}$	2.25	1.35
.01	$1\frac{1}{16}$ x $2\frac{11}{16}$	2.25	1.35
.02	$1\frac{7}{16}$ x $2\frac{11}{16}$	2.40	1.44
.03	$1\frac{7}{16}$ x $3\frac{3}{16}$	2.50	1.50
.05	$1\frac{7}{16}$ x $4\frac{3}{16}$	2.65	1.59

TYPE 6089M—6000 VOLTS D.C. Working			
.0005	$1\frac{1}{16}$ x $2\frac{1}{16}$	$2.50	$1.50
.001	$1\frac{1}{16}$ x $2\frac{3}{16}$	2.50	1.50
.005	$1\frac{1}{16}$ x $2\frac{11}{16}$	2.50	1.50
.01	$1\frac{1}{16}$ x $3\frac{7}{16}$	2.50	1.50
.02	$1\frac{7}{16}$ x $3\frac{3}{16}$	2.65	1.59
:03	$1\frac{7}{16}$ x $3\frac{15}{16}$	2.75	1.65
.05	$1\frac{7}{16}$ x $5\frac{3}{16}$	2.90	1.74

High-Capacitance Low-Voltage Capacitors in Miniature Tubular Aluminum Cases



Type PRS*

These high-capacitance low-voltage units of the Type PRS miniature tubular aluminum-cased line are especially suitable in electric fence control and similar applications.

They are compact units, tightly sealed, and provided with a vent which operates to relieve excessive gas pressure. An external wax-impregnated cardboard insulating tube is supplied.

Type PRS is available with either etched or plain foil, although it is normally constructed with etched foil — Type PRS-EP. High-purity aluminum is used throughout the internal construction to avoid corrosion which may be caused by contacts between dissimilar metals.

Radial or tangible mounting bands for rigidly mounting the capacitor can be supplied.

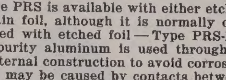
TYPE PRS 6—6v. D.C. Working Cap. Mfd.	Size-Inches	List Price	Net Price
100	$\frac{11}{16}$ x 1¼	$1.40	$ .84
250	$\frac{11}{16}$ x 1¾	1.55	.93
500	$\frac{13}{16}$ x 1¾	1.70	1.02
1000	$\frac{15}{16}$ x 2¼	2.25	1.35
1500	$1\frac{1}{16}$ x 2¼	3.00	1.80
2000	$1\frac{1}{16}$ x 2½	3.90	2.34

TYPE PRS 12—12v. D.C. Working			
100	$\frac{11}{16}$ x 1½	$1.55	$ .93
250	$\frac{13}{16}$ x 1¾	1.75	1.05
500	$\frac{15}{16}$ x 2¼	1.90	1.14
1000	$1\frac{1}{16}$ x 3¼	2.75	1.65

TYPE PRS 15—15v. D.C. Working			
100	$\frac{11}{16}$ x 1½	$1.70	$1.02
250	$\frac{13}{16}$ x 2¼	1.90	1.14
500	$\frac{15}{16}$ x 2¼	2.10	1.26

TYPE PRS 25—25v. D.C. Working			
100	$\frac{13}{16}$ x 1½	$1.20	$ .72
250	$\frac{15}{16}$ x 2¼	2.00	1.20
500	$1\frac{1}{16}$ x 2½	2.25	1.35

HIGH VOLTAGE TUBULAR ALUMINUM CAN ELECTROLYTICS



Type PRS*

Type PRS capacitors are tightly sealed tubular units in aluminum containers, with solid wire leads. These high-quality units are especially suitable for use in compact assemblies. The higher voltage ratings are intended to meet the stepped up potentials in certain radio and electronic circuits, particularly those using cathode-ray tubes such as oscillographs and television receivers.

Type PRS is normally supplied with etched foil but plain foil is available. PRS capacitors use high-purity aluminum throughout the internal construction to avoid corrosion which may be caused by contacts between dissimilar metals. The container is tightly sealed and is provided with a vent which operates to relieve excessive gas pressure

TYPE PRS 500 650 V. Surge Peak—500 V.D.C. Working Cap. Mfd.	Size-Inches	List Price	Net Price
8	$\frac{13}{16}$ x $3\frac{1}{16}$	$1.30	$ .78
10	$\frac{15}{16}$ x $3\frac{1}{16}$	1.50	.90
12	$\frac{15}{16}$ x $3\frac{1}{16}$	1.75	1.05
16	$1\frac{1}{16}$ x $3\frac{1}{16}$	2.00	1.20

TYPE PRS 600 750 V. Surge Peak—600 V.D.C. Working			
8	$\frac{15}{16}$ x $3\frac{1}{16}$	$2.75	$1.65
10	$\frac{15}{16}$ x $3\frac{1}{16}$	2.95	1.77
12	$1\frac{1}{16}$ x $3\frac{1}{16}$	3.10	1.86
16	$1\frac{1}{16}$ x $3\frac{9}{16}$	3.25	1.95

TYPE PRS 700 850 V. Surge Peak—700 V.D.C. Working			
8	$\frac{15}{16}$ x $3\frac{1}{16}$	$3.00	$1.80
10	$1\frac{1}{16}$ x $3\frac{1}{16}$	3.50	2.10
12	$1\frac{1}{16}$ x $3\frac{9}{16}$	3.75	2.25
16	$1\frac{1}{16}$ x $3\frac{9}{16}$	4.50	2.70

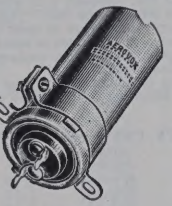
AEROVOX Electrolytic Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

UPRIGHT OR INVERTED MOUNTING CAPACITORS

TYPE E

These units are widely used in highest-quality radio, communications, electronic and similar types of apparatus. Type E capacitors are hermetically-sealed. Ring-type clamp provides rigid and convenient method of mounting unit inverted or upright, beneath, on, or through mounting surface. Available with single or multiple elements. Single unit has two terminals, dual unit has three terminals, and triple unit has four terminals. Cathode connections made through one terminal in cover.



TYPE E
Single Section
(2 terminals)

600v Surge Pk.—475v D.C. Work.
Type E475—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 2¼	$1.90	$1.14

525v Surge Pk.—450v D.C. Work.
Type E450—Single Section

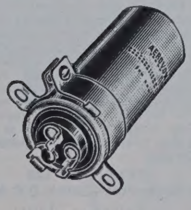
4	1⅜ x 2¼	$1.70	$1.02
8	1⅜ x 2¼	1.75	1.05
10	1⅜ x 2¼	2.00	1.20
12	1⅜ x 2¼	2.15	1.29
16	1⅜ x 2¼	2.40	1.44
20	1⅜ x 2¼	2.65	1.59
30	1⅜ x 2¼	3.00	1.80
40	1⅜ x 2¾	3.40	2.04
80	1⅜ x 4¼	6.00	3.60

75v Surge Pk.—50v D.C. Work.
Type E50—Single Section

10	1 x 1¾	$1.55	$0.93
25	1 x 1¾	1.65	.99

40v Surge Pk.—25v D.C. Work.
Type E25—Single Section

10	1 x 1¾	$1.50	$0.90
25	1 x 1¾	1.55	.93



TYPE E
Dual Element
(3 terminals)

525v Surge Pk.—450v D.C. Work.
Type E450—Dual Element

8-8	1⅜ x 2¼	$2.75	$1.65
8-16	1⅜ x 2¼	3.25	1.95
10-10	1⅜ x 2¼	3.00	1.80
12-12	1⅜ x 2¼	3.25	1.95
16-16	1⅜ x 2¾	3.50	2.10
20-20	1⅜ x 2¾	4.00	2.40

Type E450—Triple Element

8-8-8	1⅜ x 2¼	$4.25	$2.55
10-10-10	1⅜ x 2¼	5.00	3.00

INSULATED SCREW-MOUNTING CAPACITORS

TYPE G

These capacitors are highest quality hermetically-sealed aluminum can units, used in all quality electronic, radio and communications equipment. Constructed with threaded cover, provided with lock washer and hexagonal nut to provide simple means of mounting capacitor through hole in mounting surface. The capacitor may also be insulated from chassis by use of an insulating washer. Terminals are molded in cover. Single element units have two terminals; dual-element units have three terminals. Cathode connection in made through one terminal in the cover.

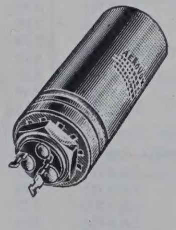
TYPE G
Single Element
(2 terminals)

600v Surge Pk.—475v D.C. Work.
Type G475—Single Element

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 2¼	$1.90	$1.14
8	1⅜ x 2¼	2.25	1.35

525v Surge Pk.—450v D.C. Work.
Type G450—Single Element

4	1⅜ x 2¼	$1.70	$1.02
8	1⅜ x 2¼	1.75	1.05
10	1⅜ x 2¼	2.00	1.20
12	1⅜ x 2¼	2.15	1.29
16	1⅜ x 2¼	2.40	1.44
20	1⅜ x 2¼	2.65	1.59
30	1⅜ x 2¼	3.00	1.80
40	1⅜ x 2¾	3.40	2.04
80	1⅜ x 4¼	6.00	3.60



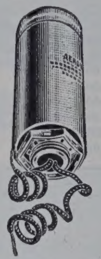
TYPE G
Dual Element
(3 terminals)

Type G450—Dual Element

8-8	1⅜ x 2¼	$2.75	$1.65
8-16	1⅜ x 2¼	3.25	1.95
10-10	1⅜ x 2¼	3.00	1.80
12-12	1⅜ x 2¼	3.25	1.95
16-16	1⅜ x 2¾	3.50	2.10
20-20	1⅜ x 2¾	4.00	2.40

SCREW-MOUNTING WIRE-LEAD CAPACITORS

TYPE GL



These inverted mounting, aluminum can capacitors are made in single, double and triple section units with two separate color-coded leads 3½" long brought out from each section. The threaded neck and palnut provide a simple means of mounting the unit through a hole in the mounting surface. *Suitable for replacement of wet electrolytics.

800v Surge Pk.—600v D.C. Work.
Type GL600—Single Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 4	$3.00	$1.80
8	1⅜ x 4½	4.00	2.40
16	1⅜ x 4½	5.00	3.00

600v Surge Pk.—475v D.C. Work.
Type GL475—Single Section

8*	1⅜ x 3	$2.25	$1.35
12*	1⅜ x 3	3.15	1.89
16*	1⅜ x 3	3.50	2.10

Type GL475—Double Section

8-8	1⅜ x 4	$3.65	$2.19

525v Surge Pk.—450v D.C. Work.
Type GL450—Single Section

4	1⅜ x 3	$1.70	$1.02
8	1⅜ x 3	1.75	1.05
10	1⅜ x 3	2.00	1.20
12	1⅜ x 3	2.15	1.29
16	1⅜ x 3	2.40	1.44
20	1⅜ x 3	2.65	1.59
30	1⅜ x 3	3.00	1.80
40	1⅜ x 3	3.40	2.04
80	1⅜ x 4	6.00	3.60

Type GL450—Double Section

8-8	1⅜ x 4	$2.75	$1.65
8-16	1⅜ x 4	3.25	1.95
10-10	1⅜ x 4	3.00	1.80
12-12	1⅜ x 4	3.25	1.95
16-16	1⅜ x 4	3.50	2.10
20-20	1⅜ x 4	4.00	2.40

Type GL450—Triple Section

8-8-8	1⅜ x 4	$4.25	$2.55
10-10-10	1⅜ x 4	5.00	3.00

MIDGET Screw-Mounting WIRE-LEAD CAPACITORS

TYPE GLS

Colored polarity-indicating flexible leads. Inverted screw-mounting. Two 3½-inch leads for each section. 1-inch diameter can and short length make for more compact assemblies, while retaining generous proportions for hard service. Otherwise, similar to Type GL.

525v Surge Pk.—450v D.C. Work.
Type GLS450—Singie Section

Cap. Mfds.	Can Size-Ins. Dia.-High	List Price	Net Price
4	1 x 2 3/16	$1.70	$1.02
8	1 x 2 11/16	1.75	1.05
12	1 x 3¼	2.15	1.29
16	1 x 3¼	2.40	1.44

Type GLS450—Double Section

8-8	1⅜ x 3	$2.75	$1.65

300v Surge Pk.—250v D.C. Work.
Type GLS250—Single Section

4	1 x 2 3/16	$1.55	$0.93
8	1 x 2 11/16	1.60	.96
12	1 x 2 11/16	1.75	1.05
16	1 x 3¼	1.85	1.11

CLEAT-MOUNTING METAL-CAN CAPACITORS

TYPE PRVC

Aerovox-originated type. Replaces other electrolytics requiring mounting hole in chassis. Installed in a jiffy by center screw and metal cleat. Separate sections, two leads each section. Coded leads.

Type PRVC 600—Single Section
600v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 4	$2.60	$1.56
8	1½ x 4	3.45	2.07
16	1⅜ x 4¾	4.20	2.52

Type PRVC 475—Single & Double
475v D.C. Working

8	1⅜ x 3	$1.95	$1.17
12	1⅜ x 3	2.60	1.56
16	1⅜ x 3	3.00	1.80
8-8	1⅜ x 4	3.30	1.98

Type PRVC 450—Single Section
450v D.C. Working

4	1⅜ x 3	$1.40	$0.84
8	1⅜ x 3	1.45	.87
10	1⅜ x 3	1.60	.96
12	1⅜ x 3	1.75	1.05
16	1⅜ x 3	1.95	1.17
20	1⅜ x 3	2.15	1.29
30	1⅜ x 3	2.40	1.44
40	1⅜ x 3	2.80	1.68
80	1⅜ x 4	4.85	2.91

Type PRVC 450—Double Section

8-8	1⅜ x 4	$2.50	$1.50
8-16	1⅜ x 4	2.95	1.77
10-10	1⅜ x 4	2.70	1.62
12-12	1⅜ x 4	2.95	1.77
16-16	1½ x 4	3.35	2.01
20-20	1½ x 4	3.75	2.25

Type PRVC 450—Triple Section

8-8-8	1½ x 4	$3.50	$2.10
10-10-10	1½ x 4	4.00	2.40

HIGH-CAPACITY LOW-VOLTAGE CAPACITORS

TYPE HCLV

These high-capacity low-voltage units are used in electric fence control and other applications requiring very high capacitance values at very low voltages. These capacitors are supplied with an outer insulating tube and mounting ring. Sizes given below are over the outside tube.

Type HCLV12—12v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
500	1 7/16 x 3	$2.75	$1.65
1000	1 7/16 x 3½	2.90	1.74
2000	1 7/16 x 4½	4.80	2.88
3000	2 1/16 x 4½	6.00	3.60
4000	2 1/16 x 4½	7.10	4.26

Type HCLV18—18v D.C. Working

500	1 7/16 x 3	$3.40	$2.04
1000	1 7/16 x 4½	4.00	2.40
2000	1 7/16 x 4½	6.20	3.72
4000	2 9/16 x 4½	8.75	5.25

Type HCLV25—25v D.C. Working

500	1 7/16 x 3	$4.00	$2.40
1000	1 7/16 x 4½	4.85	2.91
2000	2 1/16 x 3½	7.20	4.32
3000	2 9/16 x 4½	8.55	5.13
4000	2 9/16 x 4½	9.85	5.91

Type HCLV50—50v D.C. Working

1000	2 1/16 x 4½	$7.00	$4.20
2000	2 9/16 x 4½	9.10	5.46

AEROVOX Electrolytic Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

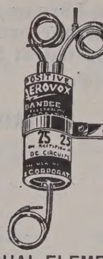
DANDEES

Miniature Tubular Aluminum Can DRY ELECTROLYTICS

TYPE PRS

AEROVOX
DANDEE

SINGLE-SECTION
Two Leads



DUAL-ELEMENT
Three Leads

Tightly sealed aluminum-can dry electrolytics for use where money- and space-saving considerations are paramount. Smallest proportions consistent with full-rated capacity and voltage, operating under normal-duty conditions.

Excellent for crowded assemblies, DANDEES are favorites for use in midget sets, AC-DC sets, autoradios, etc. Also many servicing jobs where low cost is important.

Electrically insulated with special waxed paper jacket. Ends spun over can rim, eliminating possibility of shorts if leads are bent close to unit. Generous length tinned wire leads. DANDEES are thoroughly aged, ready for immediate use. Each unit is thoroughly tested. Individually packed with guarantee slip. Dual-element units have three leads (common negative).

SINGLE-SECTION UNITS

Type PRS 450
525v Surge Pk.—450v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	11/16 x 1½	$0.90	$0.54
8	13/16 x 1½	.95	.57
10	13/16 x 1¾	1.35	.63
12	15/16 x 1½	1.15	.69
16	15/16 x 1¾	1.35	.81
20	1 1/16 x 1¾	1.50	.90
30	1 1/16 x 2¼	1.65	.99
40	1 1/16 x 2½	2.00	1.20

Type PRS 350
400v Surge Pk.—350v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	11/16 x 1½	$0.85	$0.51
8	13/16 x 1½	.90	.54
12	13/16 x 1¾	1.10	.66
16	13/16 x 1¾	1.25	.75
24	15/16 x 1¾	1.35	.81

Type PRS 250
300v Surge Pk.—250v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	11/16 x 1¼	$0.80	$0.48
8	11/16 x 1½	.85	.51
12	11/16 x 1¾	1.00	.60
16	13/16 x 1½	1.10	.66
20	13/16 x 1½	1.20	.72
40	13/16 x 2¼	1.45	.87

Type PRS 150
200v Surge Pk.—150v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	9/16 x 1¼	$0.75	$0.45
8	11/16 x 1¼	.80	.48
12	11/16 x 1¼	.85	.51
16	11/16 x 1½	.90	.54
20	11/16 x 1¾	.90	.54
24	11/16 x 1¾	.95	.57
30	13/16 x 1½	1.00	.60
40	13/16 x 1¾	1.10	.66
50	15/16 x 1¾	1.20	.72
100	15/16 x 2¼	1.70	1.02

Type PRS 50
75v Surge Pk.—50v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10	9/16 x 1¼	$0.80	$0.48
25	11/16 x 1¼	.90	.54
50	11/16 x 1¾	1.05	.63
100	13/16 x 1¾	1.50	.90

Type PRS 25
40v Surge Pk.—25v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10	9/16 x 1¼	$0.75	$0.45
25	9/16 x 1¼	.85	.51
50	11/16 x 1½	1.00	.60
100	13/16 x 1½	1.20	.72

*Two leads at one end. Supplied with mounting bracket.

DUAL-ELEMENT UNITS

Type PRS 450
525v Surge Pk.—450v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	13/16 x 2¼	$1.70	$1.02
8-16	15/16 x 2¼	2.00	1.20
16-16	1 1/16 x 2¼	1.85	1.11
20-20	1 1/16 x 3¼	2.40	1.44

Type PRS 200
250v Surge Pk.—200v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	11/16 x 1¾	$1.25	$0.75
8-16	11/16 x 2¼	1.30	.78
16-16	13/16 x 1¾	1.50	.90

Type PRS 150
200v Surge Pk.—150v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	11/16 x 1¾	$1.15	$0.69
8-16	11/16 x 2¼	1.20	.72
20-20	13/16 x 1¾	1.30	.78
20-40	15/16 x 1¾	1.50	.90
30-40	15/16 x 2¼	1.30	.78
40-40	15/16 x 2¼	1.70	1.02
50-30	15/16 x 2¼	1.70	1.02
100-100	1 1/16 x 3¼	2.55	1.53

Type PRS 50
75v Surge Pk.—50v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10-10	11/16 x 1½	$1.15	$0.69

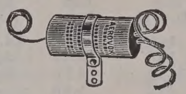
Type PRS 25
40v. Surge Pk.—25v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10-10	11/16 x 1¼	$1.05	$0.63

TUBULAR CARDBOARD CONTAINER CAPACITORS

TYPES PRS-A and PRS-B in Wax-Sealed Cardboard Tubes

PRS-A is multiple-element, common-cathode concentrically-wound, with insulated positive leads at one end, and common negative at other. **PRS-B**, separate-section dual units with separate positive and negative leads for each section. Both types supplied with riveted mounting straps.



TYPE PRS-A

Multiple-Element Concentrically-Wound Units with 3 or 4 Leads (One Lead Common)

Type PRS-A 450
525v Surge Pk.—450v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8*	1 x 2⅝	$1.70	$1.02
8-16	1 x 2⅞	2.00	1.20
10-10	1 x 2⅞	1.85	1.11
16-16	1 x 3¼	2.30	1.38
20-20	1⅛ x 3¼	2.40	1.44
30-30	1⅜ x 2¾	3.05	1.83
40-20	1⅜ x 2¾	3.40	2.04
40-40	1⅜ x 3¼	3.75	2.35

Type PRS-A 250
300v Surge Pk.—250v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-16	¾ x 3	$1.60	$0.96
10-10	¾ x 2¾	1.50	.90
16-16	13/16 x 3	1.70	1.02
20-20	13/16 x 3¼	1.80	1.08

Type PRS-A 200
250v Surge Pk.—200v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	¾ x 2⅝	$1.25	$0.75
8-16	13/16 x 2⅜	1.30	.78
16-16	⅞ x 2⅜	1.50	.90
30-30	⅞ x 2¾	1.75	1.05

Type PRS-A 150
200v Surge Pk.—150v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	11/16 x 2⅜	$1.15	$0.69
8-16	¾ x 2⅜	1.20	.72
20-20	13/16 x 2½	1.30	.78
20-30	⅞ x 2⅝	1.35	.81
20-40	⅞ x 2¾	1.50	.90
30-30	⅞ x 2¾	1.50	.90
30-40	15/16 x 2¾	1.60	.96
30-50*	1 x 2⅞	1.70	1.02
40-40	1 x 2⅞	1.70	1.02
40-80	1⅛ x 2¾	2.00	1.20
50-50	1 x 3¼	1.85	1.11

Type PRS-A 50
75v Surge Pk.—50v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10-10	⅝ x 2⅝	$1.15	$0.69

Type PRS-A 25
40v Surge Pk.—25v D.C. Work.

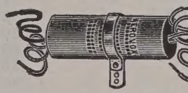
Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
10-10	⅝ x 2⅜	$1.05	$0.63

PRS-A Multiples
(Common Negative)

Type	Cap. Mfd. ×D.C.W.V.	Size D.&H.		
PRS-A-64D20A	30-20x150 +100x25	1x2¾	List Price $2.20	**Net Price $1.32**
PRS-A-86D4A	40-30x150 +20x25	1x2 11/16	List Price $2.05	**Net Price $1.23**
PRS-A-106D20A	50-30x150 +100x25	1x3¼	List Price $2.40	**Net Price $1.44**

PRS-A Multiples (Continued)

Type	Cap. Mfd. ×D.C.W.V.	Size D.&H.		
PRS-A-1010D4A	50-50x150 +20x25	1x3¼	List Price $2.25	**Net Price $1.35**
PRS-A 444D	20-20-20 x150	15/16x2½	List Price $2.00	**Net Price $1.20**
PRS-A 642D	30-20-10 x150	15/16x2½	List Price $2.00	**Net Price $1.20**
PRS-A 844D	40-20-20 x150	15/16x2¾	List Price $2.10	**Net Price $1.26**
PRS-A 864D	40-30-20 x150	1x2¾	List Price $2.15	**Net Price $1.29**
PRS-A 888D	40-40-40 x150	1x3	List Price $2.40	**Net Price $1.46**
PRS-A 1062D	50-30-10 x150	1x2¾	List Price $2.25	**Net Price $1.35**
PRS-A 1064D	50-30-10 x150	1x2¾	List Price $2.50	**Net Price $1.50**
PRS-A 1684D	80-40-20 x150	1x3¼	List Price $2.65	**Net Price $1.59**



TYPE PRS-B

Dual-Section Capacitors with 4 Leads (Separate Sections)

Type PRS-B 450
525v Surge Pk.—450v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	1 x 3	$2.10	$1.26
8-16	1⅛ x 3½	2.50	1.50
16-16	1⅜ x 3½	3.15	1.89

Type PRS-B 250
300v Surge Pk.—250v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-16	1 x 2½	$2.25	$1.35
16-16	1 x 3	2.55	1.53

Type PRS-B 150
200v Surge Pk.—150v D.C. Work.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
20-20	1 x 2½	$2.00	$1.20
20-40	1 x 3	2.35	1.41

* These units are suitable television replacements and will meet the requirements specified for the original equipment as described in the Howard Sam's Fotofact Folders and Redbook.

AEROVOX Electrolytic Capacitors

IF IT'S MARKED 'AEROVOX' IT'S A QUALITY CAPACITOR

AEROVOX
DRY ELECTROLYTIC
CAPACITOR
AF44J4A

TYPE AF TWIST-PRONG BASE CAPACITORS

These capacitors are tightly sealed round aluminum can uits. They are mounted by means of prongs which extend through the mounting surface and are twisted to hold the unit in place. These are high-quality units especially suitable in compact assemblies where space is limited All connections, except the cathode, are made through terminals in the cover. The cathode is connected to the container. Base prongs slip into fibre or metal elliptic washer that is riveted or eyeletted on chassis, and are bent over. Fibre washer provides insulated can; metal elliptic washer, grounded can. **Metal or fibre washer supplied at 5c each net.** The terminal lugs slip through holes in washers for soldered connections.

SINGLE ELEMENT UNITS

Type	Cap. Mfds. x D.C.W.V.	Size D. x H.	List Price	Net Price
AF600R	3000x10	1x3	$4.50	$2.70
AF200P	1000x15	1x3	3.25	1.95
AF400P	2000x15	1⅜x3	4.70	2.82
AF5A	25x25	1x2	1.05	.63
AF8A	40x25	¾x2	1.10	.66
AF20A	100x25	¾x2	1.45	.87
AF100A	500x25	1x2½	2.45	1.47
AF200A	1000x25	1⅜x2	3.55	2.13
AF30B	150x50	¾x2½	2.45	1.74
AF100B	500x50	1⅜x2½	3.55	2.13
AF5D	25x150	1x2	1.20	.72
AF6D	30x150	1x2	1.25	.75
AF8D	40x150	1x2	1.35	.81
AF10D	50x150	1x2	1.45	.87
AF20D	100x150	1x2½	1.95	1.17
AF8E	40x200	1x2	1.50	.90
AF4F	20x250	1x2	1.45	.87
AF6F	30x250	¾x2½	1.55	.93
AF8F	40x250	1x2	1.70	1.02
AF12F	60x250	1x2½	2.05	1.23
*AF3G	15x300	1x2	1.40	.84
AF6G	30x300	1x2	1.65	.99
AF10G	50x300	1x2½	1.95	1.17
AF25G	125x300	1⅜x3	3.20	1.92
AF10H	50x350	1x3	2.05	1.23
AF25H	125x350	1⅜x3	3.55	2.13
AF2I	10x400	¾x2	1.25	.75
AF4I	20x400	1x2	1.65	.99
AF16I	80x400	1⅜x2½	2.95	1.97
*AF2J	10x450	1x2	1.30	.78
AF3J	15x450	1x2	1.55	.93
*AF4J	20x450	1x2	1.75	1.05
AF6J	30x450	1x2½	1.90	1.14
*AF8J	40x450	1x3	2.25	1.35
AF10J	50x450	1x3	2.85	1.45
*AF16J	80x450	1⅜x3	3.85	2.31
AF2W	10x525	1x2	1.75	1.05

DUAL ELEMENT UNITS

Type	Cap. Mfds. x D.C.W.V.	Size D. x H.	List Price	Net Price
AF88A	40-40x25	1x2	1.50	.90
AF1010B	50-50x50	1x2	1.70	1.02
AF44D	20-20x150	1x2	1.55	.93
AF63D	30-15x150	1x2	1.60	.96
AF66D	30-30x150	1x2	1.75	1.05
AF84D	40-20x150	1x2	1.75	1.05
*AF88D	40-40x150	1x2½	1.95	1.17
AF106D	50-30x150	1x2	1.95	1.17
AF1010D	50-50x150	1x2½	2.10	1.26
AF1212D	60-60x150	1x3	2.25	1.35
AF22F	10-10x250	1x2	1.75	1.05
*AF44F	20-20x250	1x2	2.05	1.23
AF88F	40-40x250	1x3	2.30	1.38
AF22G	10-10x300	1x2	1.80	1.08
AF33G	15-15x300	1x2	1.95	1.17
AF4G4A	20x300x20x25	1x2	1.85	1.11
AF6G6H	30x300x30x350	1x3	2.60	1.56
AF64H	30-20x350	1x3	2.50	1.50
AF33I	15-15x400	1x2½	2.30	1.38
AF162I	80-10x400	1⅜x3	4.00	2.40
*AF22J	10-10x450	1x2	2.10	1.26
AF32J	15-10x450	1x2½	2.35	1.41
AF42J	20-10x450	1x3	2.65	1.59
*AF44J	20-20x450	1x3	2.65	1.59
AF66J	30-30x450	1⅜x2	3.25	1.95
*AF88J	40-40x450	1⅜x3	3.65	2.19
AF164J	80-20x450	1⅜x3½	4.50	2.70

* These units are suitable television replacements and will meet the requirements specified for the original equipment as described in the Howard Sam's Fotofact Folders and Redbook.

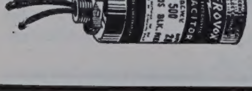
TRIPLE ELEMENT UNITS

Type	Cap. Mfds. x D.C.W.V.	Size D. x H.	List Price	Net Price
AF444A	20-20-20x25	1x2	$2.00	$1.38
AF666B	30-30-30x50	1x2	2.30	1.38
AF266D	10-30-30x150	1x2	2.30	1.38
AF444D	20-20-20x150	1x2	2.30	1.38
AF64D20S	30-20x150+100x6	1x2	2.65	1.59
AF66D4A	30-30x150+20x25	1x2	2.25	1.35
AF844D	40-20-20x150	1x2½	2.40	1.44
*AF888D	40-40-40x150	1x3	2.60	1.56
AF44D4A	20-20x150+20x25	1x2	2.20	1.32
AF44D40A	20-20x150+200x25	1x3	2.65	1.59
AF64D4A	30-20x150+20x25	1x2	2.20	1.32
AF84D4A	40-20x150+20x25	1x2	2.30	1.38
AF84D20A	40-20x150+100x25	1x3	3.00	1.80
AF86D4A	40-30x150+20x25	1x2½	2.35	1.41
AF88D4A	40-40x150+20x25	1x2½	2.40	1.44
AF106D20A	50-30x150+100x25	1x3	3.10	1.86
AF1010D4A	50-50x150+20x25	1x3	2.55	1.53
AF233F	10-15-15x250	1x2	2.50	1.50
AF336F	10-15-30x250	1x2	2.65	1.59
AF844F	40-20-20x250	1x3	3.00	1.80
AF33F4A	15-15x250+20x25	1x2	2.45	1.47
AF43F4A	20-15x250+20x25	1x2	2.45	1.47
AF66F4A	30-30x250+20x25	1x2½	2.70	1.62
AF24F6H	10-20x250+30x350	1x3	2.80	1.68
AF222G	10-10-10x300	1x2	2.40	1.44
AF44G4A	20-20x300+20x25	1x2	2.60	1.56
AF83G4A	40-15x300+20x25	1x2½	2.80	1.68
AF22H4A	10-10x350+20x25	1x2	2.30	1.38
AF33H4A	15-15x350+20x25	1x2½	2.55	1.53
AF42H4A	20-10x350+20x25	1x2½	2.45	1.47
AF32H4A	15-10x350+20x25	1x2	2.40	1.44
AF64H4A	30-20x350+20x25	1x3	2.80	1.68
AF222I	10-10-10x400	1x2½	2.50	1.50
AF33I8A	15-15x400+40x25	1x2½	2.70	1.62
AF44I4A	20-20x400+20x25	1x3	2.80	1.68
AF222J	10-10-10x450	1x3	2.50	1.50
AF333J	15-15-15x450	1x3	3.00	1.80
*AF444J	20-20-20x450	1⅜x2½	3.45	2.07
AF22J2A	10-10x450+10x25	1x2	2.30	1.38
*AF22J4A	10-10x450+20x25	1x2½	2.35	1.41
AF24J4A	10-20x450+20x25	1x3	2.55	1.53
AF33J4A	15-15x450+20x25	1x3	2.70	1.62
AF43J4A	20-15x450+20x25	1x3	2.80	1.68
*AF44J4A	20-20x450+20x25	1x3	2.95	1.92
AF66J4A	30-30x450+20x25	1⅜x2½	3.15	1.89
*AF88J4A	40-40x450+20x25	1⅜x3	4.00	2.40
AF2J2H4A	10x450+10x350+20x25	1x2	2.30	1.38
AF82J16D	40-10x450+80x150	1⅜x2½	3.00	1.80
AF4J32G	20x450+15-10x300	1x3	2.85	1.71
AF3J4H4F	15x450+20x350 +20x250	1⅜x2	2.95	1.97
AF33J2G	15-15x450x10x300	1x3	2.80	1.68
AF31J3H	15-5x450+15x350	1x3	2.50	1.50
AF82J2H	40-10x450+10x350	1⅜x2	3.00	1.80

QUADRUPLE ELEMENT UNITS

Type	Cap. Mfds. x D.C.W.V.	Size D. x H.	List Price	Net Price
AF444D4A	20-20-20x150+20x25	1⅜x2	2.85	1.71
AF666D8A	30-30-30x150+40x25	1⅜x2	3.05	1.83
AF886D4A	40-40-30x150+20x25	1⅜x2	3.10	1.86
AF101010D4A	50-50-50x150+20x25	1⅜x2	3.40	2.04
AF842E4A	40-20-10x200+20x25	1⅜x2	3.15	1.89
AF222G4A	10-10-10x300+20x25	1⅜x2	2.95	1.97
AF884G4A	40x350+40-20x300 +30x25	1⅜x3	3.95	2.37
AF421H4A	20-10-5x350+20x25	1⅜x2	3.05	1.83
AF44I4A	20-20-20x400+20x25	1⅜x2½	3.80	2.28
AF4J33H4A	20x450+15-15x350 +20x25	1⅜x2	3.60	2.16
*AF2222J	10-10-10-10x450	1⅜x2	3.25	1.95
*AF4444J	20-20-20-20x450	1⅜x2½	4.50	2.70
AF222J5A	10-10-10x450+25x25	1⅜x2	3.05	1.83
AF444J4A	20-20-20x450+20x25	1⅜x2½	4.00	2.40
AF44J66G	20-20x450+30-30x300	1⅜x3	4.35	3.61
*AF862J4A	40-30-10x450+20-25	1⅜x3	4.15	3.49

TYPE WR REPLACEMENTS FOR WET ELECTROLYTICS



Cat. No.	Cap., Mfd.	Replacement for	W.V.D.C.	Size, Inches Diam. x Height	List Price	Net Price
WR 10	10	4 to 12 mfd.	450	1⅜ x 3	$1.45	$0.87
WR 20	20	16 to 20 mfd.	450	1⅜ x 3	2.25	1.35
WR 30	30	26 to 30 mfd.	450	1⅜ x 3	2.60	1.56
WR 40	40	30 to 40 mfd.	450	1⅜ x 3	2.90	1.74

Net

AEROVOX Electrolytic Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

TYPE AEP PLUG-IN ELECTROLYTIC CAPACITORS

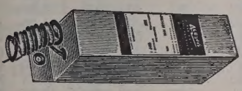
Quick change dry electrolytics. Facilitate testing and replacement in equipment where continuity of service is important. Install merely by plugging into standard octal socket. Unit can be inserted **only the right way.** Key of octal base fits octal socket. Ultra-compact due to use of etched foil for higher capacities in the small can sizes. Aluminum internal construction. Non-corrosive due to use of similar metals throughout. Fully vented for safety.

Type	Cap. Mfds. x D.C.W.V.	Size D. x H.	List Price	Net Price
	SINGLE-ELEMENT UNITS			
AEP5A	25x25	1 5/32x2½	$2.10	$1.26
AEP4D	20x150	1 5/32x2½	2.40	1.44
AEP8D	40x150	1 5/32x2½	2.70	1.62
AEP2J	10x450	1 5/32x2½	2.60	1.56
AEP3J	15x450	1 5/32x2½	3.10	1.86
AEP4J	20x450	1 5/32x2½	3.50	2.10
AEP6J	30x450	1 5/32x2½	3.80	2.28
AFP8J	40x450	1 5/32x2½	4.50	2.70
AEP16J	80x450	1⅜x3½	7.70	4.62
AEP2L	10x600	1⅜x4¼	3.75	2.25

Type	Cap. Mfds. x D.C.W.V.	Size D. x H.	List Price	Net Price
	DUAL-ELEMENT UNITS			
AEP44D	20-20x150	1 5/32x2½	$3.10	$1.86
AEP88D	40-40x150	1 5/32x2½	3.90	2.34
AEP22J	10-10x450	1 5/32x2½	4.20	2.52
AEP44J	20-20x450	1⅜x2½	5.30	3.18
	TRIPLE-ELEMENT UNITS			
AEP444D	20-20-20x150	1 5/32x2½	$4.60	$2.76
AEP88D4A	40-40x150+20x25	1 5/32x2½	4.80	2.88
AEP222J	10-10-10x450	1 5/32x2½	5.00	3.00
AEP22J4A	10-10x450+20x25	1 5/32x2½	4.70	2.82
AEP44J4A	20-20x450+20x25	1⅜x2½	5.90	3.54
	QUADRUPLE-ELEMENT UNITS			
AEPG444D4A	20-20-20x150+20x25*	1⅜x2½	$5.70	$3.42
AEPG444J4A	20-20-20x450+20x25*	1⅜x3	8.00	4.80

*Ground lug provided for cathode connection.

PAPER-WOUND REPLACEMENTS FOR ELECTROLYTICS



TYPE PWP

TYPE PWC

High-grade paper sections in standard inverted screw mounting aluminum can (PWC) or cardboard case (PWP) similar in appearance to electrolytics. Used as replacements for standard electrolytics indicated; applications subjected to high AC component or ripple particularly in first stage of filter circuit; or where excessive surges are encountered. No polarity to be observed. Actual capacity indicated in each case. Capacity is less than electrolytic being replaced but will be found adequate in most filter circuits since filtering capacity in electrolytics is more than generous. PWP has cardboard mounting flanges; PWC similar to the inverted dry electrolytic types.

800v. Surge Pk.-600v. D.C. Work. Type PWC600

Repl'g. Mfds.	Act. Mfds.	Size-Ins D. L.	List Price	Net Price
4	2	1⅜x4¼	$2.10	$1.26
8	2.75	1⅜x4¼	3.50	2.10
8-8	1.75-1.75	1½x4½	4.30	2.58

Type PWP600

Repl'g. Mfds.	Act. Mfds.	Size-Ins	List Price	Net Price
4	2	4⅛x1⅜x 15/16	$2.00	$1.20
8	3	4⅛x1⅝x1⅛	3.25	1.95

CLEAT-MOUNTING CARDBOARD TYPE PRV

Aerovox-originated units. In cardboard tubes for economy. Replaces metal-can electrolytics requiring mounting hole in chassis. Separate sections. Coded leads.

Type PRV 600—Single Section 600v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 4	$2.25	$1.35
8	1⅜ x 4	2.95	1.77
16	1⅜ x 4	3.45	2.07

Type PRV 450—Single Section 450v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
4	1⅜ x 3	$1.10	$0.66
8	1⅜ x 3	1.15	.69
10	1⅜ x 3	1.25	.75
12	1⅜ x 3	1.35	.81
16	1⅜ x 3	1.55	.93
20	1⅜ x 3	1.70	1.02
30	1⅜ x 3	1.85	1.11
40	1⅜ x 3	2.20	1.32
80	1⅜ x 4	3.75	2.25

Type PRV 450—Double Section

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8	1⅜ x 4	$2.30	$1.38
8-16	1⅜ x 4	2.70	1.62
10-10	1⅜ x 4	2.45	1.47
12-12	1⅜ x 4	2.70	1.62
16-16	1⅜ x 4	3.20	1.92
20-20	1⅜ x 4¾	3.50	2.10

Type PRV 450—Triple Section

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
8-8-8	1⅜x4¾	$2.75	$1.65
10-10-10	1⅜x4¾	3.05	1.83

Type PRV 350—Double Section 350v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
16-16	1⅜ x 4	$3.00	$1.80

Type PRV 250—Double Section 250v D.C. Working

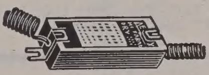
Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
16-16	1⅜ x 3	$2.50	$1.50

Type PRV 150—Double Section

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
20-20	1⅜ x 3	$2.20	$1.32
30-30	1⅜ x 3	2.80	1.68

SPACE-SAVER MIDGET CAPACITORS

TYPE PBS



Single Section

Double Section

Units encased in heavy cardboard containers, thoroughly impregnated and fully sealed. Two color-coded wire leads for each section; four leads, double section; six leads, triple section. Units may be mounted flat or upright; also, two or three units may be stacked by overlapping the metal flanges.

800v. Surge Pk.-600v. D.C. Work. Type PBS600—Single Section

Cap. Mfds.	Size-Ins. H.—W.—L.	List Price	Net Price
4	1 7/16x1⅛x2 7/16	$2.90	$1.74
8	1 7/16x1½x3⅛	3.25	1.95

525v. Surge Pk.-450v. D.C. Work. Type PBS450—Single Section

Cap. Mfds.	Size-Ins. H.—W.—L.	List Price	Net Price
2	½x ¾x2 7/16	$1.00	$0.60
4	9/16x1 x2 7/16	1.10	.66
6	11/16x1⅛x2 7/16	1.40	.84
8	11/16x1⅛x2 7/16	1.45	.87
10	11/16x1⅛x3 3/16	1.75	1.05
12	11/16x1⅛x3 3/16	2.00	1.20
16	1 11/16x1⅛x2 7/16	2.20	1.32

Type PBS450—Double Section

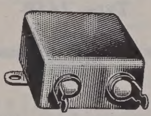
Cap. Mfds.	Size-Ins. H.—W.—L.	List Price	Net Price
8-8	1 7/16x1⅛x2 7/16	$2.25	$1.35
8-16	1¼x1½x3	2.90	1.74

Type PBS450—Triple Section

Cap. Mfds.	Size-Ins. H.—W.—L.	List Price	Net Price
8-8-8	1¼x1½x3	$3.35	$2.01

DRAWN-CASE "BATHTUB" ELECTROLYTICS

TYPE BT



Ideal for applications in compact equipment where space is at premium, and rigid mounting is necessary. Sturdy immersion-proof construction.

Type BT 500—500v D.C.W.

Cap. Mfd.	Size-Ins. L.—W.—H.	List Price	Net Price
4	2 x2 x1⅛	$4.70	$2.82
8	2 x2 x1⅛	4.85	2.91

Type BT 450—450v D.C.W.

Cap. Mfd.	Size-Ins. L.—W.—H.	List Price	Net Price
8	1¾x1 x1	$4.25	$2.55
12	1¾x1¼x1	4.75	2.85
16	2 x1¾x1	5.00	3.00

Type BT 350—350v D.C.W.

Cap. Mfd.	Size-Ins. L.—W.—H.	List Price	Net Price
8	1¾x1 x 15/16	$3.70	$2.22
12	1¾x1¼x1⅛	4.20	2.52
16	1¾x1¼x1⅛	4.40	2.64
20	1¾x1¼x1¼	4.60	2.76

Type BT 150—150v D.C.W.

Cap. Mfd.	Size-Ins. L.—W.—H.	List Price	Net Price
8	1¾x1 x 15/16	$2.75	$1.65
12	1¾x1 x 15/16	2.80	1.68
16	1¾x1 x 15/16	2.85	1.71
24	1¾x1 x 15/16	3.00	1.80
30	1¾x1 x1	3.10	1.86
40	1¾x1 x1	3.20	1.92

Type BT 50—50v D.C.W.

Cap. Mfd.	Size-Ins. L.—W.—H.	List Price	Net Price
10	1¾x1 x 15/16	$2.65	$1.59
25	1¾x1 x 15/16	2.75	1.65
50	1¾x1 x 15/16	3.00	1.80

Type BT 25—25v D.C.W.

Cap. Mfd.	Size-Ins. L.—W.—H.	List Price	Net Price
10	1¾x1 x 15/16	$2.60	$1.56
25	1¾x1 x 15/16	2.70	1.62
50	1¾x1 x 15/16	2.80	1.68

AEROVOX Mica Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

"POSTAGE-STAMP" MOLDED-IN-BAKELITE MICA CAPACITORS

Wide choice of designs, sizes, mountings, terminals offer the correct Aerovox unit for every application, as listed. Units built of selected mica and foil; molded bakelite casing impervious to moisture, heat, mechanical damage. Micrometer test for mica thickness maintains capacity values for long life. Capacity values indicated on units.

Type 1467

Compact, size $\frac{25}{32}$ in. square, provided with wire leads. 1000 volts D.C. Test — 500 volts D.C. Wkg.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0005	$0.25	**$0.15**	.004	$0.55	**$0.33**
.00075	.25	**.15**	.005	.60	**.36**
.001	.30	**.18**	.006	.75	**.45**
.0015	.30	**.18**	.007*	.90	**.54**
.002	.40	**.24**	.008*	1.00	**.60**
.0025	.45	**.27**	.009*	1.10	**.66**
.003	.50	**.30**	.01*	1.20	**.72**

Size 25/32" x 25/32" x 9/32" or (53/64" x 53/64" x 21/64" for units that have an asterisk [*]). Standard Tolerance ±20%; for ±10% add 10% to list prices; ±5% add 20% to list price; ±3% add 40% to list price; ±2% add 75% to list price.

Type 1468

Midget size $\frac{45}{64}$" x $\frac{29}{64}$" x $\frac{3}{16}$" provided with wire leads. 1000 volts D.C. Test — 500 volts D.C. Wkg.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.000001	$0.25	**$0.15**	.00015	$0.20	**$0.12**
.000005	.25	**.15**	.0002	.20	**.12**
.00001	.25	**.15**	.00025	.25	**.15**
.000025	.25	**.15**	.0003	.25	**.15**
.00004	.20	**.12**	.00035	.25	**.15**
.00005	.20	**.12**	.0004	.25	**.15**
.000075	.20	**.12**	.0005	.25	**.15**
.0001	.20	**.12**	.00075	.25	**.15**
			.001	.30	**.18**

Size 25/32" x 25/32" x 9/32". Standard Tolerance ±20%; for ±10% add 10% to list price; ±5% add 20% to list price; ±3% add 40% to list price; ±2% add 75% to list price.

Type 1478

With wire leads. Size $1\frac{1}{16}$" x $\frac{7}{16}$" x $\frac{3}{16}$". 1000 volts D.C. Test—500 volts D.C. Working.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0005	$0.30	**$0.18**	.0015	$0.45	**$0.27**
.00075	.30	**.18**	.002	.50	**.30**
.001	.40	**.24**			

Type 1441W

With wire leads. Size 1" x ⅝". 1000 volts D.C. Test—500 volts D.C. Working.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0005	$0.25	**$0.15**	.003	$0.50	**$0.30**
.00075	.25	**.15**	.004	.55	**.33**
.001	.30	**.18**	.005	.60	**.36**
.0015	.30	**.18**	.006	.75	**.45**
.002	.40	**.24**	.008*	1.00	**.60**
.0025	.45	**.27**	.01*	1.20	**.72**

*5/16" thick. All others 3/16" thick.

MOLDED-IN-BAKELITE MICA CAPACITORS

Type 1460

Popular type molded-in-bakelite mica capacitor. Size 1⅝" x ⅝". Two soldering lug terminals. 1000 volts D.C. Test—500 volts D.C. Working.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0001	$0.20	**$0.12**	00075	$0.25	**$0.15**
.00015	.20	**.12**	.001	.30	**.18**
.0002	.20	**.12**	.0015	.30	**.18**
.00025	.25	**.15**	.002	.40	**.24**
.0003	.25	**.15**	.0025	.45	**.27**
.00035	.25	**.15**	.003	.50	**.30**
.0004	.25	**.15**	.004*	.55	**.33**
.0005	.25	**.15**	.005*	.60	**.36**

*600v D.C. Test—300v D.C. Working; 9/32" thick, all others 17/64".

PORCELAIN-CASED MICA CAPACITORS

Types 1991-96

Ideal for those higher-frequency applications. Encased and hermetically-sealed in glazed porcelain case. Heavy-duty terminals. Power loss due to dielectric absorption reduced to a minimum. Units operate at full load without heating up. Dimensions: 3½" between mounting holes, 4" overall by 3" high.

Type 1991—2000v. Max. D.C.

Cap. Mfd.	List Price	Net Price	Cap Mfd.	List Price	Net Price
.02	$14.75	**$8.85**	.1	$18.50	**$11.10**

Type 1992—3500v. Max. D.C.

.001	$6.50	**$3.90**	.005	$10.50	**$6.30**
.0015	6.50	**3.90**	.01	16.00	**9.60**
.002	8.00	**4.80**	.02	16.00	**9.60**
.003	8.75	**5.25**	.05	18.50	**11.10**

Type 1993—5000v. Max. D.C.

.002	$8.75	**$5.25**	.005	$10.50	**$6.30**
.003	9.50	**5.70**	.01	15.25	**9.15**

Type 1994—7000v. Max. D.C.

.0005	$6.50	**$3.90**	.003	$10.25	**$6.15**
.001	7.25	**4.35**	.005	11.00	**6.60**
.0015	8.00	**4.80**	.01	15.25	**9.15**
.002	9.50	**5.70**			

Type 1995—10000v. Max. D.C.

.002	$10.25	**$6.15**	.005	$14.50	**$8.70**
.003	13.00	**7.80**			

Type 1996—12500v. Max. D.C.

.00005	$8.00	**$4.80**	.001	$8.00	**$4.80**
.0001	8.00	**4.80**	.0015	9.50	**5.70**
.00025	8.00	**4.80**	.002	11.00	**6.60**
.0005	8.00	**4.80**	.003	15.25	**9.15**

HIGH-VOLTAGE MOLDED-IN-BAKELITE MICA CAPACITORS

Type 1450

1000v D.C. Test–600v D.C. Work.

Intended for the more critical service of low-powered transmitting circuits, buffer stages, power amplifiers, and laboratory equipment, etc. Non-magnetic parts are used to reduce r.f. losses to minimum, and heavy terminals provide minimum r.f. and contact resistance. Intended for point-to-point wiring, being supported entirely by its soldered connections. 1¼" x 1¼". $\frac{5}{16}$" or ¾" thick (see below).

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.00025	$0.45	**$0.27**	.005	$0.70	**$0.42**
.0003	.45	**.27**	.006	.80	**.48**
.00035	.45	**.27**	.008	.90	**.54**
.0004	.45	**.27**	.01	1.00	**.60**
.0005	.45	**.27**	.015*	1.35	**.81**
.001	.50	**.30**	.02*	1.45	**.87**
.0015	.55	**.33**	.025*	1.75	**1.05**
.002	.55	**.33**	.03*†	2.05	**1.23**
.0025	.60	**.36**	.04*†	2.65	**1.59**
.003	.70	**.42**	.05*†	3.30	**1.98**
.004	.70	**.42**			

*600v D.C. Test—300v D.C. Working. †3/4" thick. All others 5/16".

Types 1455-57

Size 1¼" x $1\frac{25}{32}$" x $\frac{11}{32}$"

Types 1455-57, have insulated mounting holes, independent of soldering lugs, for connections. 1½" spacing between mounting hole centers. If $1\frac{5}{16}$" spacing is preferred specify Types 1445-47. Large meter-mounting brackets permitting use of this type of unit for shunting meter windings may be obtained at 45c added to list price. Specify by adding suffix (A) to type number. Small brackets are also available at 25c additional. Specify by suffix (E). Both brackets have universal slots for either mounting hole spacing. Standard tolerance ±20%; for ±10% add 10% to list price; ±5% add 20%; ±2% add 75%.

Type 1455

1000v D.C. Test–600v D.C. Work.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.00005	$0.70	**$0.42**	.0025	$0.90	**$0.54**
.0001	.70	**.42**	.003	1.00	**.60**
.00015	.70	**.42**	.004	1.00	**.60**
.0002	.70	**.42**	.005	1.00	**.60**
.00025	.70	**.42**	.006	1.20	**.72**
.0003	.70	**.42**	.008	1.40	**.84**
.00035	.70	**.42**	.01	1.60	**.96**
.0004	.70	**.42**	.015	1.80	**1.08**
.0005	.70	**.42**	.02	2.20	**1.32**
.001	.70	**.42**	.025	2.65	**1.59**
.0015	.70	**.42**	.03	2.95	**1.77**
.002	.80	**.48**			

Type 1456

2500v D.C. Test–1250v D.C. Work.

.00005	$1.00	**$0.60**	.0015	$1.60	**$0.96**
.0001	1.00	**.60**	.002	1.90	**1.14**
.00015	1.00	**.60**	.0025	2.00	**1.20**
.0002	1.00	**.60**	.003	2.10	**1.26**
00025	1.00	**.60**	.004	2.10	**1.26**
.0003	1.00	**.60**	.005	2.40	**1.44**
.00035	1.00	**.60**	.006	2.40	**1.44**
.0004	1.00	**.60**	.008	3.10	**1.86**
.0005	1.00	**.60**	.01	3.90	**2.34**
.001	1.25	**.75**			

Type 1457

5000v D.C. Test–2500v D.C. Work.

.00005	$1.25	**$0.75**	.0004	$1.65	**$0.99**
.000075	1.25	**.75**	.0005	1.70	**1.02**
.0001	1.25	**.75**	.001	2.05	**1.23**
.00015	1.30	**.78**	.0015	2.70	**1.62**
.0002	1.40	**.84**	.002	3.10	**1.86**
.00025	1.50	**.90**	.0025	3.45	**2.07**
.0003	1.55	**.93**	.003	3.80	**2.28**
.00035	1.60	**.96**			

Types 1650-54

Heaviest-duty molded in bakelite mica capacitors of the AEROVOX line. Provided with threaded holes taking the roundhead screw terminals. Also available with plain holes through which screws or rods may be slipped. Same price as 1650 series, but specify 1650A, etc. when latter is desired. $\frac{7}{16}$" or ¾" thick (see * below). Types 1650, 1651 and 1652 are supplied in brown bakelite. Types 1653L and 1654L are supplied only in low-loss (yellow) XM Bakelite. Standard tolerance ±20%; for ±10% add 10% to list price; ±5% add 20%; ±2% add 75%.

Type 1650

1000v D.C. Test–600v D.C. Work.
700v A.C. Test–350v A.C. Work.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.00005	$0.85	**$0.51**	.004	$1.20	**$0.72**
.0001	.85	**.51**	.005	1.20	**.72**
.00025	.85	**.51**	.006	1.40	**.84**
.0003	.85	**.51**	.008	1.65	**.99**
.00035	.85	**.51**	.01	1.95	**1.17**
.0004	.85	**.51**	.015	2.25	**1.35**
.0005	.85	**.51**	.02	2.60	**1.56**
.001	.85	**.51**	.025	3.20	**1.92**
.0015	.90	**.54**	.03	3.45	**2.07**
.002	.90	**.54**	.04*	4.50	**2.70**
.0025	1.00	**.60**	.05*	5.35	**3.21**
.003	1.20	**.72**	.06*	6.20	**3.72**

Type 1651

2500v D.C. Test–1250v D.C. Work.
1750v A.C. Test–875v A.C. Work.

.00005	$1.00	**$0.60**	.003	$2.20	**$1.32**
.0001	1.00	**.60**	.004	2.20	**1.32**
.00025	1.00	**.60**	.005	2.40	**1.44**
.0003	1.00	**.60**	.006	2.40	**1.44**
.00035	1.00	**.60**	.008	3.10	**1.86**
.0004	1.00	**.60**	.01	3.90	**2.34**
.0005	1.00	**.60**	.015	4.65	**2.79**
.001	1.25	**.75**	.02*	5.45	**3.27**
.0015	1.60	**.96**	.025*	6.10	**3.66**
.002	1.90	**1.14**	.03*	6.40	**3.84**
.0025	2.00	**1.20**			

Type 1652

5000v D.C. Test–2500v D.C. Work.
3500v A.C. Test–1750v A.C. Work.

.00005	$1.25	**$0.75**	.001	$2.05	**$1.23**
.000075	1.25	**.75**	.0015	2.60	**1.56**
.0001	1.25	**.75**	.002	3.10	**1.86**
.00015	1.30	**.78**	.0025	3.45	**2.07**
.0002	1.40	**.84**	.003	3.80	**2.28**
.00025	1.50	**.90**	.004	4.35	**2.61**
.0003	1.55	**.93**	.005	4.70	**2.82**
.00035	1.60	**.96**	.006	4.85	**2.91**
.0004	1.65	**.99**	.008*	5.30	**3.18**
.0005	1.70	**1.02**	.01*	5.70	**3.42**

Type 1653L

7500v D.C. Test–3750v D.C. Work.
5250v A.C. Test–2625v A.C. Work.

.00005	$2.65	**$1.59**	.0004	$4.70	**$2.82**
.000075	2.90	**1.74**	.0005	5.20	**3.12**
.0001	3.05	**1.83**	.001	6.15	**3.69**
.00015	3.30	**1.98**	.0015	8.10	**4.86**
.0002	3.45	**2.07**	.002	9.20	**5.52**
.00025	3.80	**2.28**	.0025	10.30	**6.18**
.0003	3.90	**2.34**	.003*	11.40	**6.84**
.00035	4.60	**2.76**			

Type 1654L

10000v D.C. Test–5000v D.C. Work.
7000v A.C. Test–3500v A.C. Work.

.00005	$3.00	**$1.80**	.0003	$5.70	**$3.42**
.000075	3.30	**1.98**	.00035	6.00	**3.60**
.0001	3.70	**2.22**	.0004	6.15	**3.69**
.00015	4.05	**2.43**	.0005	7.90	**4.74**
.0002	5.00	**3.00**	.001*	10.00	**6.00**
.00025	5.45	**3.27**			

*3/4" thick. All others 7/16".

AEROVOX Mica Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

SILVERED MICA CAPACITORS

For most critical applications where precise capacity values must be attained and maintained, AEROVOX silvered mica units are generally available. Encased in red molded XM bakelite. Similar in external appearance to standard bakelite molded mica units.

Unique construction. Only plus .0022 per degree F.—a remarkably low temperature coefficient. Excellent retrace characteristics. Practically no capacity drift with time. Exceptionally high "Q". Mechanically protected against physical damage and changes in electrical characteristics due to varying atmospheric conditions. Wax impregnated externally. Ideal for use in circuits where inductance and capacity product must remain constant under all operating conditions. Specifically designed for use in push-button tuning, oscillator padding circuits, fixed tuned circuits, and as capacitance standards, etc., where accuracy and stability are of prime importance.

Standard tolerance ±5%. For ±20% deduct 10% from price. For ±10% deduct 5%. For ±3% add 10%. For ±2% add 15%. For ±1% add 25%.

AEROVOX
PATENTED
MADE IN U.S.A.

TYPE 1464—1000v. D.C. TEST

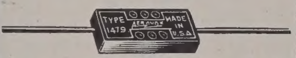
Size $\frac{25}{32}$ in. square. Provided with wire leads. *600v. D.C. test.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.00075	$0.90	$0.54	.002	$1.35	$0.81
.0008	.95	.57	.0025	1.80	1.08
.0009	1.00	.60	.003*	2.05	1.23
.001	1.10	.66	.004*	2.15	1.29
.0015	1.35	.81	.005*	2.25	1.35

TYPE 1469—1000v. D.C. TEST

Size $\frac{45}{64}''$ x $\frac{29}{64}''$. Provided with wire leads.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.000005	$0.55	$0.33	.00015	$0.45	$0.27
.00001	.40	.24	.0002	.45	.27
.000025	.40	.24	.00025	.45	.27
.00004	.40	.24	.0003	.55	.33
.00005	.40	.24	.00035	.60	.36
.00007	.40	.24	.0004	.65	.39
.000075	.40	.24	.0005	.70	.42
.0001	.40	.24			



TYPE 1479—1000v. D.C. TEST

Size $1\frac{1}{16}''$ x $\frac{7}{16}''$. Provided with wire leads.

Cap. Mfd.	List Price	Net Price	Cap. Mfd.	List Price	Net Price
.0001	$0.40	$0.24	.0005	$0.70	$0.42
.00015	.45	.27	.0007	.85	.51
.0002	.45	.27	.00075	.90	.54
.00025	.45	.27	.0008	.95	.57
.0003	.55	.33	.0009	1.00	.60
.00035	.60	.36	.001	1.10	.66
.0004	.65	.39			

Commercial Grade MICA TRANSMITTING CAPACITORS

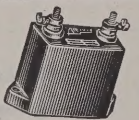
Extra-heavy-duty Capacitors for

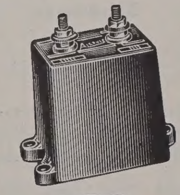
- **Commercial Communication Companies**
- **Broadcasters**
- **Builders of Quality Radio and Electronic Equipment**
- **Amateurs, Experimenters**

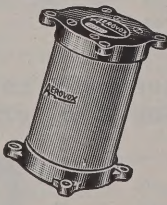
With these capacitors Aerovox is contributing its share towards narrowing still more the small remaining gap between professional and amateur radio practices.

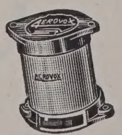
Due to the normally limited demand for these extra-heavy-duty mica capacitors, as well as the considerable number of capacitance and voltage ratings in which they are made, this line is made to special order. However, your Authorized Aerovox Jobber is now able to order these commercial-grade capacitors for you.

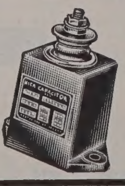
Consult your Aerovox Jobber for specifications and quotations.



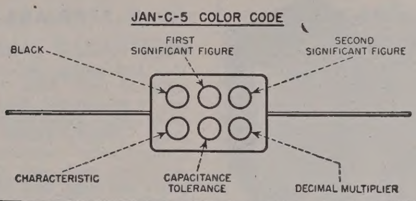








MICA CAPACITOR COLOR CODES



Color	Figure or Multiplier	Characteristic Letter	Tolerance	Color	Figure or Multiplier	Characteristic Letter	Tolerance
Black	0	A	20% (M)	Blue	6	G	....
Brown	1	B	....	Violet	7	..	....
Red	2	C	2% (G)	Gray	8	..	....
Orange	3	D	....	White	9	..	....
Yellow	4	E	....	Gold	.1	..	[illegible]
Green	5	F	....	Silver	.01	..	10% (K)

CHARACTERISTIC LETTERS

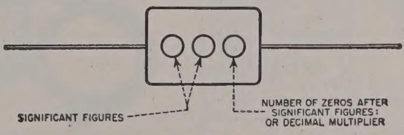
Characteristic	Q	Temperature Coefficient Parts/Million/deg. C	Maximum Capacitance Drift (F-6)	Verification of Characteristics by Production Test
A	Not specified	Not specified	Not specified	Not required
B	[As specified	Not specified	Not specified	Not required
C	in D-5c (1)]	—200 to +200	0.5 per cent	Not required
D	"	—100 to +100	0.2 per cent	Not required
E	"	0 to +100	0.05 per cent	Not required
F	"	0 to +50	0.025 per cent	Required
G	"	0 to —50	0.025 per cent	Required

Type No.	AEROVOX No. & Remarks	Type No.	AEROVOX No. & Remarks
CM20	1468, 1469	CM56	1652A thin (up to .0043 mfd., incl.)
CM25	1478, 1479	CM56	1651A thin (.0047 to .013 mfd., incl.)
CM30	1464, 1467	CM56	1650A thin (.015 to .003 mfd., incl.)
CM35	1464, 1467 (500 v. DCW up to .0062 mfd. incl.)	CM60	1652 thick (up to .012 mfd., incl.)
CM40	1441W or 1441 WR (500 v. DCW up to .0082 mfd. incl.)	CM60	1651 thick (.018 to .033 mfd., incl.)
CM45	1447 thin (up to .0018 mfd., incl.)	CM60	1650 thick (.036 to .047 mfd., incl.)
CM45	1446 thin (.002 to .0036 mfd., incl.)	CM61	1652A thick (up to .012 mfd., incl.)
CM45	1445 thin (.0039 to .01 mfd., incl.)	CM61	1651A thick (.018 to .033 mfd., incl.)
CM50	1447 thick (.002 to .0051 mfd., incl.)	CM61	1650A thick (.036 to .047 mfd., incl.)
CM50	1446 thick (.0056 to .011 mfd., incl.)	CM65	1570
CM50	1445 thick (.012 to .027 mfd., incl.)	CM70	1550
CM55	1652 thin (up to .0043 mfd., incl.)	CM75	1950
CM55	1651 thin (.0047 to .013 mfd., incl.)	CM80	1960
CM55	1650 thin (.015 to .033 mfd., incl.)	CM85	1970
		CM90	1980
		CM95	1940

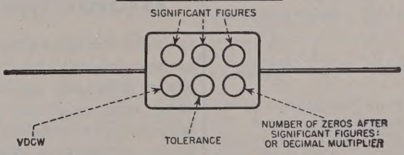
RMA COLOR CODE

THREE DOT RMA COLOR CODE

USED FOR 500 VDCW CAPACITORS WHOSE TOLERANCE IS GREATER THAN 10%.


SIGNIFICANT FIGURES
NUMBER OF ZEROS AFTER SIGNIFICANT FIGURES: OR DECIMAL MULTIPLIER

SIX DOT RMA COLOR CODE

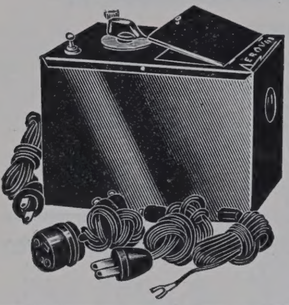

SIGNIFICANT FIGURES
VDCW
TOLERANCE
NUMBER OF ZEROS AFTER SIGNIFICANT FIGURES: OR DECIMAL MULTIPLIER

Color	Significant Figure, or No. of Zeros, or Decimal Multiplier	VDCW	Tolerance	Color	Significant Figure, or No. of Zeros, or Decimal Multiplier	VDCW	Tolerance
Black	0	....	....	Violet	7	700	7%
Brown	1	100	1%	Gray	8	800	8%
Red	2	200	2%	White	9	900	9%
Orange	3	300	3%	Gold	.1	1000	5%
Yellow	4	400	4%	Silver	.01	2000	10%
Green	5	500	5%	None	..	500	20%
Blue	6	600	6%				

AEROVOX Interference Filters and Auto-Radio CONDENSERS

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

AEROVOX INTERFERENCE FILTER SELECTOR



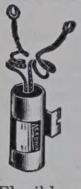
TYPE ANL-37

Plugs between interfering device and outlet. Selector switch adjusted until noise is eliminated or minimized. Dial indicates which type filter to use. Handsome, sturdy metal cabinet. Compartment contains necessary test leads and attachment plugs and clips. Size 5½ x 5½ x 8 inches.

TYPE ANL-37

Dealers Net Price............$17.50

AEROVOX Type IN-23

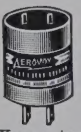


For elimination of interference caused by neon lamps or fractional horsepower motors. Mounting bracket for attaching to neon fixture (one eliminator needed for each fixture) or for attaching to frame of motor. Flexible leads for connecting across motors such as in hairdriers, fans, mixers, etc. .5-.5 mfd. 1 x 2⅛ in.

TYPE IN-23

List Price $1.25 **Net Price $0.75**

AEROVOX Type IN-27

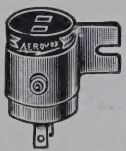


Simple, inexpensive noise filter. Inserted between set and outlet when interference is slight. Also used with appliance causing low-intensity interference. Keeps troublesome noises out of house wiring and power line. Size 1⅜ x 1½ inches.

TYPE IN-27

List Price $1.50 **Net Price $0.90**

AEROVOX Type IN-28

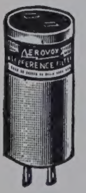


Intended for cases where ground is considerable distance from point of application. Most efficient when mounted directly on interfering device by bracket. Size 1⅜ x 2 inches.

TYPE IN-28

List Price $2.00 **Net Price $1.20**

AEROVOX Type IN-29

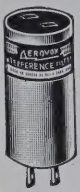


Provides additional filtering action over IN-27 and IN-28. Especially effective for local sources of interference of variable character but strong intensity. Very effective for electric razor and other vibrating devices. Plugs between device and line. Size 1⅜ x 3 inches.

TYPE IN-29

List Price $1.75 **Net Price $1.05**

AEROVOX Type IN-30

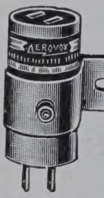


Similar to IN-29 but with additional inductance. Handles more severe interference. Plugs between set and outlet, or preferably between noisy appliance and outlet. Size 1⅜ x 3 inches.

TYPE IN-30

List Price $2.50 **Net Price $1.50**

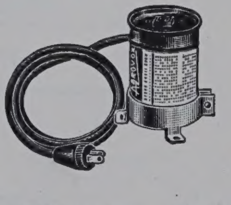
AEROVOX Type IN-31



Plugs in between attachment cord and electric outlet, either of set or preferably at appliance. Additional inductance for better filtering. Works best mounted by bracket directly on interfering appliance. Size 1⅜ x 3 inches.

TYPE IN-31

List Price $3.00 **Net Price $1.80**



AEROVOX Type IN-42

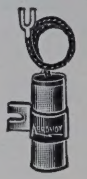
Designed for use in the more serious cases of radio interference from power lines and appliances. Provided with inductance as well as capacitance for thorough filtering action. Plugs into electric outlet. Radio set or interfering device plugs into receptacle of the filter. Recommended for use between interfering device and power line. Size 2½" x 3¾". Provided with mounting ring. Rated at 6 amps. for 110-220v. A.C..

TYPE IN-42

List Price $7.50 **Net Price $4.50**

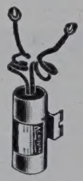
AUTO-RADIO CONDENSERS

SUPPRESSOR CONDENSERS



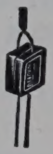
Type	Cap. Mfd.	List Price	Net Price
1120	1.0	$0.90	$0.54
1140	0.5	.65	.39

Dual-Section SUPPRESSOR CONDENSERS



Type	Cap. Mfd.	List Price	Net Price
1141	.5-.5	$1.25	$0.75

MOTOROLA Replacement Condenser



For Models 65 and 70

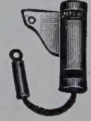
(Part No. 3321)

Consists of two Aerovox Type 1466 Mica Capacitors rated at .0008 mfd., 2500 volts D.C. Test.

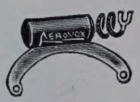
List Price (complete)........$0.65

Net Price $0.39

SUPPRESSOR CONDENSERS FOR FORD AUTO RADIOS



Type	Cap. Mfd.	List Price	Net Price
1144	.5	$0.65	$0.39

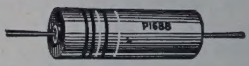


For 1936 Models

Type	Cap. Mfd.	List Price	Net Price
1150	.5	$0.85	$0.51

TUBULAR VIBRATOR CONDENSERS

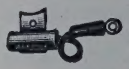
Aerolene Impregnated



Type	Cap. Mfd.	List Price	Net Price
1688	.005	$0.55	$0.33
1688	.006	.55	.33
1688	.01	.60	.36
1688	.02	.60	.36

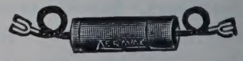
GAS GAUGE FILTER CONDENSER

Type 1143-G



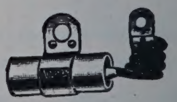
Cap. Mfd.	List Price	Net Price
.05	$0.65	$0.39

AMMETER CONDENSERS



Type	Cap. Mfd.	List Price	Net Price
1160	.5	$0.65	$0.39

OIL GAUGE FILTER CONDENSER



Type 1142-O

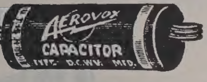
Cap. Mfd.	List Price	Net Price
.25	$0.60	$0.36

AEROVOX

Paper Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

TUBULAR PAPER CAPACITORS



Type 84

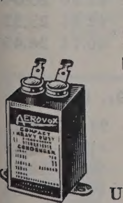
Aerovox cartridge capacitors are especially desirable for use where high grade units are required at low cost. They are compact, non-inductively wound and sealed in **wax impregnated paper tubes with wax filled ends** for longer life and protection against moisture.

Types and D.C.W. Voltages

	Type 484 400v.		Type 684 600v.	
Cap. Mfds.	List Price	Sug. Resale Price	List Price	Sug. Resale Price
.001	$0.23	$0.14	$0.23	$0.14
.002	.23	.14	.23	.14
.003	.23	.14	.23	.14
.004	.23	.14	.23	.14
.005	.23	.14	.23	.14
.006	.23	.14	.23	.14
.0075	.23	.14	.27	.16
.01	.23	.14	.27	.16
.015	.23	.14	.27	.16
.02	.23	.14	.27	.16
.025	.27	.16	.32	.19
.03	.27	.16	.32	.19
.05	.27	.16	.36	.22
.06	.32	.19	.36	.22
.075	.32	.19	.41	.25
.1	.32	.19	.41	.25
.15	.36	.22	.45	.27
.2	.36	.22	.50	.30
.25	.41	.25	.50	.30
.5	.54	.32	.72	.43
1.0	.81	.49	1.13	.68

	Type 1084 1000v.		Type 1684 1600v.	
Cap. Mfds.	List Price	Sug. Resale Price	List Price	Sug. Resale Price
.001	$0.45	$0.27	$0.50	$0.30
.002	.45	.27	.50	.30
.003	.45	.27	.50	.30
.004	.45	.27	.50	.30
.005	.45	.27	.50	.30
.006	.45	.27	.50	.30
.0075	.45	.27	.54	.32
.01	.45	.27	.54	.32
.015	.45	.27	.54	.32
.02	.45	.27	.54	.32
.025	.45	.27	.54	.32
.03	.45	.27	.63	.38
.05	.54	.32	.68	.41
.06	.54	.32	.72	.43
.075	.63	.38	.81	.49
.1	.68	.41		
.15	.81	.49		
.2	.90	.54		
.25	1.04	.62		

METAL-CASED Ultra-Compact PAPER CAPACITORS



Type 80

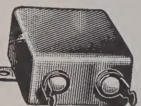
Ultra-compact heavy-duty capacitors. Wax-impregnated, wax-filled. Used as replacements in sound equipment, high power radio receivers, electronic devices, and communication equipment. Housed in a rust-proof container with soldering terminals conveniently located.

Type 1080—1000v. D.C. Work.

Cap, Mfds.	Size-Ins. D. W. L.	List Price	Net Price
.5	$\frac{11}{16}$x1¼x2	$2.25	$1.35
1.0	1¼x1¼x2	3.15	1.89
2.0	2½x1¼x2	4.85	2.91
4.0	2⅜x2$\frac{7}{16}$x2	7.85	4.71

DRAWN-CASE OIL FILLED "HYVOL" CAPACITORS

TYPE 30



For applications requiring a compact superior-grade oil-impregnated, oil-filled capacitor. Non-inductive paper sections encased in a one-piece drawn metal case with soldered bottom plate for hermetic seal. Absolutely immersion-proof terminal assembly. Meets severe operating conditions encountered in aircraft, police, broadcast, p.a., and other types of communications equipment.

TYPE 430-400 V.D.C.W.

Cap. Mfds.	L x W x H	List Price	Net Price
.05	1¾x1 x ¾	$1.75	$1.05
.1	1¾x1 x ¾	2.00	1.20
.25	1¾x1 x $\frac{13}{16}$	2.25	1.35
.5	1¾x1 x ⅞	2.40	1.44
.75	2$\frac{1}{16}$x1¼x ¾	2.70	1.62
1.0	2 x1¾x $\frac{13}{16}$	2.85	1.71
2.0	2 x2 x1⅛	3.60	2.16
.05-.05	1¾x1 x $\frac{13}{16}$	2.75	1.65
.1-.1	1¾x1 x $\frac{13}{16}$	3.00	1.80
.25-.25	1¾x1¼x ⅞	3.25	1.95
.5-.5	2 x1¾x $\frac{13}{16}$	3.75	2.25
1.0-1.0	2 x2 x1⅛	4.50	2.70
.05-.05-.05	1¾x1 x $\frac{13}{16}$	3.50	2.10
.1-.1-.1	1¾x1 x ⅞	3.65	2.19
.25-.25-.25	2 x1¾x ⅞	4.00	2.40

Type 630—600v D.C. Working

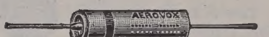
.05	1¾x1 x ¾	$2.60	$1.56
.1	1¾x1 x ¾	2.65	1.59
.25	1¾x1 x $\frac{13}{16}$	2.80	1.68
.5	1¾x1 x ⅞	3.00	1.80
.75	2$\frac{1}{16}$x1¼x ⅞	3.20	1.92
1.0	2 x1¾x ⅞	3.40	2.04
2.0	2 x2 x1$\frac{3}{16}$	4.55	2.73
.05-.05	1¾x1 x $\frac{13}{16}$	3.30	1.98
.1-.1	1¾x1 x $\frac{13}{16}$	3.35	2.01
.25-.25	1¾x1¼x ⅞	3.40	2.04
.5-.5	2 x1¾x ⅞	3.90	2.34
1.0-1.0	2 x2 x1$\frac{3}{16}$	4.80	2.88
.05-.05-.05	1¾x1 x $\frac{13}{16}$	3.70	2.22
.1-.1-.1	1¾x1 x $\frac{15}{16}$	3.80	2.28
.25-.25-.25	2 x1¾x ⅞	4.30	2.58

Type 1030—1000v D.C. Working

.05	1¾x1 x ¾	$2.75	$1.65
.1	1¾x1 x ¾	2.85	1.71
.25	1¾x1 x $\frac{13}{16}$	2.95	1.77
.5	2$\frac{1}{16}$x1¼x ⅞	3.20	1.92
.75	2 x1¾x ⅞	3.80	2.28
1.0	2 x1¾x 1	4.00	2.40
.05-.05	1¾x1 x $\frac{13}{16}$	3.50	2.10
.1-.1	1¾x1 x $\frac{13}{16}$	3.60	2.16
.25-.25	2$\frac{1}{16}$x1¼x ⅞	3.80	2.28
.5-.5	2 x1¾x 1	4.95	2.97
.05-.05-.05	1¾x1 x $\frac{13}{16}$	3.85	2.31
.1-.1-.1	1¾x1¼x ⅞	4.15	2.49
.25-.25-.25	2 x2 x1	5.00	3.00

MIDGET TUBULAR METAL-CASED "HYVOL" CAPACITORS

Type 38



These units are hermetically-sealed and are exceptionally compact. Originally designed as alternates for mica capacitors but have since become a standard item in the Aerovox oil-filled capacitor line. Not only used as replacements in existing equipment, but are especially suitable for newly-designed equipment particularly where allowable weight of the finished assembly and allotted space is at a minimum. Despite unusual ultra-small size for oil-impregnated, oil-filled capacitors, constructional and electrical characteristics meet many of the exacting conditions to which molded-in-bakelite mica capacitors are normally subjected. Type 38 units are normally supplied with case insulated, and are provided with outer insulating tube.

Type 338T—300v D.C. Working

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
.001	$\frac{5}{16}$ x 1$\frac{3}{16}$	$0.85	$0.51
.002	$\frac{5}{16}$ x 1$\frac{3}{16}$	.85	.51
.003	$\frac{5}{16}$ x 1$\frac{3}{16}$	.85	.51
.005	$\frac{5}{16}$ x 1$\frac{3}{16}$	.85	.51
.006	$\frac{5}{16}$ x 1$\frac{3}{16}$	.85	.51
.0075	$\frac{5}{16}$ x 1$\frac{3}{16}$	.85	.51
.01	$\frac{5}{16}$ x 1$\frac{3}{16}$	.85	.51

Type 538T-—500v D.C. Working

.001	$\frac{5}{16}$ x 1$\frac{3}{16}$	$0.95	$0.57
.002	$\frac{5}{16}$ x 1$\frac{3}{16}$	.95	.57
.003	$\frac{5}{16}$ x 1$\frac{3}{16}$	.95	.57
.005	$\frac{5}{16}$ x 1$\frac{3}{16}$	.95	.57
.006	$\frac{7}{16}$ x 1$\frac{3}{16}$	.95	.57
.0075	$\frac{7}{16}$ x 1$\frac{3}{16}$	.95	.57
.01	$\frac{7}{16}$ x 1$\frac{3}{16}$	.95	.57

Type 638T—600v D.C. Working

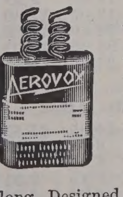
.001	$\frac{7}{16}$ x 1$\frac{3}{16}$	$0.95	$0.57
.002	$\frac{7}{16}$ x 1$\frac{3}{16}$	.95	.57
.003	$\frac{7}{16}$ x 1$\frac{3}{16}$	.95	.57
.005	$\frac{7}{16}$ x 1$\frac{3}{16}$	.95	.57
.006	$\frac{7}{16}$ x 1$\frac{3}{16}$	.95	.57
.0075	$\frac{7}{16}$ x 1$\frac{3}{16}$	.95	.57
.01	$\frac{7}{16}$ x 1$\frac{3}{16}$	.95	.57

Type 838T—800v D.C. Working

.001	$\frac{7}{16}$ x 1$\frac{3}{16}$	$1.05	$0.63
.002	$\frac{7}{16}$ x 1$\frac{3}{16}$	1.05	.63
.003	$\frac{7}{16}$ x 1$\frac{3}{16}$	1.05	.63
.005	$\frac{7}{16}$ x 1$\frac{3}{16}$	1.05	.63

UNCASED PAPER CAPACITORS

Type UC



Non-inductively wound high grade, ultra-compact, uncased sections, neatly shaped and wrapped in black varnished paper with ends sealed with pitch and provided with insulated wire leads, eight inches long. Designed for replacement use in filter block repair work.

TYPE UC200-200 V.D.C.W.

Cap. Mfd.	Size-Ins. L. x W. x D.	List Price	Net Price
.1	2 x ¾x ¼	$0.65	$0.39
.25	2 x1 x $\frac{5}{16}$	.70	.42
.5	2 x1 x ½	.75	.45
1.0	2 x1⅜x $\frac{11}{16}$	1.00	.60

TYPE UC400-400V.D.C.W.

.1	2 x ⅞x ¼	$0.75	$0.45
.25	2 x1 x ⅜	.80	.48
.5	2 x1$\frac{5}{16}$ x $\frac{9}{16}$	.85	.51
1.0	2 x1⅞x $\frac{11}{16}$	1.15	.69
2.0	3¼x1⅞x ⅞	1.80	1.08
4.0	4⅜x1⅞x1⅛	3.00	1.80

TYPE UC600-600 V.D.C.W.

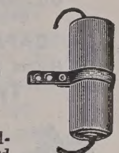
.25	2 x1⅛x $\frac{9}{16}$	$0.90	$0.54
.5	2 x1$\frac{9}{16}$ x $\frac{13}{16}$	1.05	.63
1.0	3¼x1⅞x $\frac{11}{16}$	1.40	.84
2.0	3¼x1⅞x1$\frac{5}{16}$	2.10	1.26
4.0	4⅜x1⅞x1⅞	3.80	2.28

TYPE UC1000-1000 V.D.C.W.

.5	4⅜x1⅞x $\frac{11}{16}$	$1.55	$0.93
1.0	4⅜x1⅞x1	2.30	1.38
2.0	4⅜x2¼x1⅞	3.80	2.28

TUBULAR CAPACITORS OIL-IMPREGNATED OIL-FILLED

Type 89



Immersion-proof, oil-impregnated, oil-filled units in handy, space-saving tubular form. Ideal for use in vibrator applications, coupling and by-pass functions in transmitters, high-voltage amplifiers, in r.f. by-pass circuits, interference eliminators for motors and generators, and in test equipment. Fully sealed against oil leakage or moisture penetration. Case is insulated, not connected to the capacitor section. Mounting strap and outer insulating tube are supplied.

Types and D.C.W. Voltages

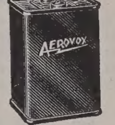
	489-400		689-600	
Cap. Mfd.	List Price	Net Price	Price List	Price Net
.015	$0.95b	$0.57	$1.00c	$0.60
.02	1.00b	.60	1.05c	.63
.03	1.05c	.63	1.10c	.66
.04	1.05c	.63	1.10c	.66
.05	1.05c	.63	1.10d	.66
.075	1.10d	.66	1.20f	.72
.1	1.15d	.69	1.25f	.75
.25	1.45f	.87	1.70h	1.02
.5	1.70k	1.02		
	1089-1000		2089-2000	
.006	$1.10a	$0.66	$1.25e	$0.75
.0075	1.10b	.66	1.25e	.75
.01	1.10c	.66	1.25e	.75
.015	1.20c	.72	1.30f	.78
.02	1.20c	.72	1.35g	.81
.03	1.20d	.72	1.40g	.84
.04	1.20d	.72	1.40g	.84
.05	1.30d	.78	1.45g	.87
.075	1.40f	.84		
.1	1.50f	.90		

Sizes—Type 89

a—½ x 1$\frac{7}{16}$
b—½ x 1$\frac{11}{16}$
c—$\frac{11}{16}$ x 1$\frac{11}{16}$
d—$\frac{11}{16}$ x 2$\frac{3}{16}$
e—$\frac{13}{16}$ x 1$\frac{11}{16}$
f—$\frac{13}{16}$ x 2$\frac{3}{16}$
g—$\frac{13}{16}$ x 2$\frac{9}{16}$
h—$\frac{15}{16}$ x 2$\frac{3}{16}$
k—1$\frac{1}{16}$ x 2$\frac{3}{16}$

COMPACT ENERGY-STORAGE CAPACITORS

TYPE PX



For high-speed flash photography, capacitor discharge welding, flash signaling equipment, pulsing and other energy storage uses requiring extremely high currents during short discharge periods. Compact, minimum weight, solder lug terminals, terne plate containers.

V.D.C. PEAK	Nominal Cap. Mfd.	Type No.	List Price	Net Price
	22.5 WATT SECONDS			
1500	20	PX10D1	$14.00	$ 9.80
	50.0 WATT SECONDS			
2000	28	PX14D3	$20.00	$14.00
	75.0 WATT SECONDS			
2500	24	PX14D2	$20.00	$14.00
3000	16	PX18D1	23.00	16.10
	100.0 WATT SECONDS			
2500	30	PX15D1B	$34.00	$23.80
4000	12.5	PX20D1	22.00	15.40

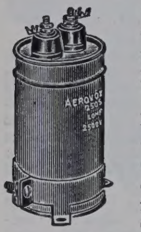
PX10D1 dimensions 2½"x3¾"x4⅝"
PX15D1B dimensions 4$\frac{9}{16}$"x3¾"x6½".
ALL OTHERS 4$\frac{9}{16}$"x3¾"x4⅝" high.

Paper Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

AEROVOX "HYVOL"
OIL-IMPREGNATED OIL-FILLED CAPACITORS
In Round Aluminum Cans

Type 05



Convenient round can, provided with ring mounting. High-voltage pillar terminals. Hermetically sealed in leak-proof containers. Very conservative ratings for continuous operation.

Type 605-600.v D.C.W.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
1	2 x 2¾	$3.80	$2.28
2	2 x 2¾	4.95	2.97
4	2 x 3¾	6.85	4.11

Type 1005-1000v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
1	2 x 3¾	$4.20	$2.52
2	2 x 4¼	5.70	3.42
4	2½ x 4¾	7.25	4.35

Type 1505-1500v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
1	2 x 3¾	$5.30	$3.18
2	2 x 4¾	7.25	4.35
4	2½ x 4¾	9.50	5.70

Type 2005-2000v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
1	2 x 4¾	$6.85	$4.11
2	2 x 5¼	7.60	4.56

Type 2505-2500v. D.C.W.

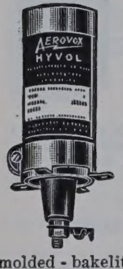
Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
1	2½ x 4¾	$9.15	$5.49
2	2½ x 5¼	15.00	9.00

Type 3005-3000v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
1	2½ x 4¾	$13.75	$8.25
2	3 x 5¼	16.75	10.05

AEROVOX "HYVOL"
VERTICAL-MOUNTING HIGH-VOLTAGE CAPACITORS

Type 14



Particularly applicable for use in high-voltage filter circuits such as cathode-ray tube power supplies, high-voltage by-pass circuits in transmitters and high-powered public address equipment. Type 14 units are made in the standard 1⅜" diameter. Grounded can, with one-piece immersion - proof molded - bakelite pillar insulator which provides maximum spacing between live terminal and can. Mounting ring furnished for upright or inverted mounting.

Type 2014-2000v. D.C.W.

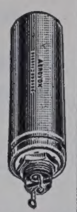
Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
.01	1⅜ x 2¼	$6.00	$3.60
.05	1⅜ x 2¼	6.65	3.99
.1	1⅜ x 2¾	7.00	4.20
.25	1⅜ x 3¼	7.60	4.56

Type 3014-3000v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-High	List Price	Net Price
.01	1⅜ x 2¼	$7.50	$4.50
.05	1⅜ x 2¼	8.00	4.80
.1	1⅜ x 2¾	8.50	5.10
.25	1⅜ x 3¾	9.50	5.70

AEROVOX "HYVOL"
OIL-IMPREGNATED OIL-FILLED CAPACITORS
In Round Aluminum Cans —Inverted Mounting

Type 10



This is an improved design, replacing the former single terminal type. This new design is physically interchangeable with the old. Ideal for crowded assemblies; a logical choice in filter circuits of power supplies, high-gain high-fidelity amplifiers, and small transmitters. Hermetically-sealed. Has one-piece molded bakelite terminal assembly. Both terminal lugs are insulated from container.

Type 610-600v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price
2	1½ x 3½	$4.15	$2.49
4	1½ x 5¼	5.70	3.42

Type 1010-1000v. D.C.W.

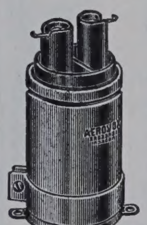
Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price
1	1½ x 2⅞	$8.80	$2.28
2	1½ x 4½	4.95	2.97

Type 1510-1500v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price
.5	1½ x 2⅞	$4.55	$2.73
1	1½ x 4½	4.95	2.97

AEROVOX "HYVOL"
VERTICAL-MOUNTING HIGH-VOLTAGE CAPACITORS OIL-IMPREGNATED OIL-FILLED

Type 12



This is an immersion - proof capacitor designed to meet high - voltage operating requirements. Suitable for such high - voltage circuit applications as in television, cathode-ray tube power supplies, high-voltage rectifiers, or, as a high - voltage by - pass capacitor. Recommended where long leakage path between terminals is required. Barrier in bakelite top increases insulation and creepage path between terminals. For certain applications, the ceramic insulators may be removed if desired. Supplied with adjustable mounting ring for vertical mounting.

Type 2012-2000v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price
1.0	2¼ x 3¾	$7.35	$4.41
2.0	2¼ x 5¼	9.10	5.46

Type 3012-3000v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price
.05	2¼ x 2¼	$9.50	$5.70
.1	2¼ x 2¼	10.00	6.00
.25	2¼ x 3¼	11.00	6.60
.5	2¼ x 3¾	12.00	7.20
1.0	2¼ x 5¼	15.25	9.15

Type 4012-4000v. D.C.W.

Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price
.05	2¼ x 2¾	$9.00	$5.40
.1	2¼ x 3¾	9.50	5.70
.25	2¼ x 5¼	10.50	6.30

Type 6012-6000v. D.C.W.

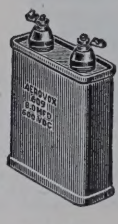
Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price
.03	2¼ x 2¾	$12.00	$7.20
.05	2¼ x 3¾	13.50	8.10
.1	2¼ x 4¾	16.50	9.90

Type 7512-7500v. D.C.W.

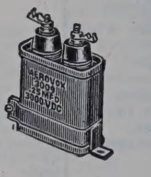
Cap. Mfds.	Size-Ins. Dia.-Hgt.	List Price	Net Price
.01	2¼ x 3¼	$12.00	$7.20
.02	2¼ x 3¼	13.00	7.80
.03	2¼ x 3¾	14.00	8.40
.05	2¼ x 4¼	15.50	9.30
.1	2¼ x 4¾	19.00	11.40

AEROVOX "HYVOL"
OIL-IMPREGNATED OIL-FILLED CAPACITORS
In Rectangular Metal Cans

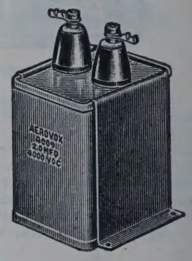
Type 09



Type 09
(Basic)



Type 09MB
(Mounting Bracket)



Type 09MS
(Strap Mounting)

Hermetically-sealed in sturdy can, leakproof and seepageproof. High tension pillar terminals fitted with locknuts and soldering lugs. Exceptionally compact dimensions for given capacity, working voltage—and safety factor due to use of "Hyvol." Intended for heavy-duty continuous service in transmitters, amplifiers, etc. Type MB bracket is normally supplied as standard equipment, unless otherwise specified, on all units having base sizes other than 3¾" x 3 3/16" and 3¾" x 4 9/16". Type MS is normally supplied as standard with these latter base sizes.

Type 609-600v. D.C.W.

Cap. Mfds.	Size-Ins. L. W. D.	List Price	Net Price
.5	2⅛x1 13/16x1 1/16	$4.15	$2.49
1.0	2⅛x1 13/16x1 1/16	5.30	3.18
2.0	2⅞x1 13/16x1 1/16	6.45	3.87
3.0	3⅞x1 13/16x1 1/16	7.60	4.56
4.0	3¼x2½x1 3/16	8.35	5.01
5.0	4⅛x2½x1 3/16	9.50	5.70
6.0	4⅝x2½x1 3/16	10.25	6.15
8.0	3⅞x3¾x1¼	12.15	7.29
10.0	4⅝x3¾x1¼	13.65	8.19
12.0	4¾x3¾x1½	15.20	9.12
15.0	4¾x3¾x1¾	16.80	10.08

Type 1009-1000v. D.C.W.

Cap. Mfds.	Size-Ins. L. W. D.	List Price	Net Price
.1	2 x1 13/16x1 1/16	$3.80	$2.28
.25	2⅛x1 13/16x1 1/16	4.15	2.49
.5	2⅛x1 13/16x1 1/16	4.55	2.73
1.0	2⅛x1 13/16x1 1/16	5.70	3.42
2.0	3⅞x1 13/16x1 1/16	7.60	4.56
3.0	3½x2½x1 3/16	8.60	5.16
4.0	4⅝x2½x1 3/16	9.50	5.70
5.0	3⅞x3¾x1¼	11.40	6.84
6.0	4¾x3¾x1¼	12.55	7.53
8.0	4¾x3¾x1¼	13.65	8.19
10.0	4⅝x3¾x1¾	15.20	9.12
12.0	3⅞x3¾x2¼	16.70	10.02
15.0	4¾x3¾x2½	18.25	10.95

Type 1509-1500v. D.C.W.

Cap. Mfds.	Size-Ins. L. W. D.	List Price	Net Price
.5	2⅞x1 13/16x1 1/16	$6.05	$3.63
1.0	4 x1 13/16x1 1/16	6.85	4.11
2.0	4⅛x2½x1 3/16	9.50	5.70
3.0	4¾x2½x1 3/16	11.40	6.84
4.0	4⅝x3¾x1¼	12.90	7.74
5.0	4¾x3¾x1¾	13.65	8.19
6.0	4¾x3¾x1¾	15.55	9.33
8.0	4¾x3¾x2½	19.00	11.40
10.0	4¾x3¾x3 3/16	22.80	13.68
12.0	4¾x3¾x3 3/16	25.05	15.03
15.0	4¾x3¾x4 9/16	27.35	16.41

Type 2009-2000v. D.C.W.

Cap. Mfds.	Size-Ins. L. W. D.	List Price	Net Price
.1	2 x1 13/16x1 1/16	$6.05	$3.63
.25	2⅛x1 13/16x1 1/16	6.45	3.87
.5	2⅞x1 13/16x1 1/16	6.85	4.11
1.0	3⅜x2½x1 3/16	8.35	5.01
2.0	4 x3¾x1¼	9.90	5.94
3.0	4¾x3¾x1¼	12.15	7.29
4.0	3⅞x3¾x2¼	13.65	8.19
5.0	4¾x3¾x2¼	15.20	9.12
6.0	4⅝x3¾x3 3/16	17.85	10.71
8.0	4⅝x3¾x3 3/16	22.80	13.68
10.0	4¾x3¾x4 9/16	28.10	16.86
12.0	5⅜x3¾x4 9/16	30.40	18.24
15.0	6½x3¾x4 9/16	36.70	22.02

Type 2509-2500v. D.C.W.

Mfds.	L. W. D.	Price	Price
Cap.	Size-Ins.	List	Net
.5	3½x2½x1 3/16	$10.65	$6.39
1.0	3¼x3¾x1¾	12.15	7.29
2.0	4⅝x3¾x1¾	19.75	11.85
4.0	4⅝x3¾x3 3/16	27.35	16.41
10.0	6⅜x3¾x4 9/16	68.35	41.01

Type 3009-3000v. D.C.W.

Mfds. Cap.	L. W. D. Size-Ins.	Price List	Price Net
.1	2x2½x1 3/16	$12.90	$7.74
.25	2½x2½x1 3/16	13.65	8.19
.5	3⅞x3½x1 3/16	15.20	9.12
1.0	3⅞x3¾x1¾	18.25	10.95
2.0	4⅛x3¾x3¾	22.80	13.68
4.0	4¾x3¾x4 9/16	33.40	20.04

Type 4009-4000v. D.C.W.

Mfds. Cap.	L. W. D. Size-Ins.	Price List	Price Net
.1	2¾x3¾x2¼	22.80	13.68
.25	2¾x3¾x2¼	24.30	14.58
.5	3⅞x3¾x2¼	27.35	16.41
1.0	5⅛x3¾x2¼	33.40	20.04
2.0	5⅛x3¾x4 9/16	42.55	25.53
4.0	8 x3¾x4 9/16	60.75	36.45

Type 5009-5000v. D.C.W.

Mfds. Cap.	L. W. D. Size-Ins.	Price List	Price Net
.1	2¾x3¾x2¼	24.35	14.61
.25	3⅜x3¾x2¼	27.55	16.53
.5	4¼x3¾x2¼	30.40	18.24
1.0	4⅜x3¾x4 9/16	38.00	22.80
2.0	6 x3¾x4 9/16	48.60	29.16

Type 6009-6000v. D.C.W.

Mfds. Cap.	L. W. D. Size-Ins.	Price List	Price Net
.1	3⅜x3¾x2¼	30.40	18.24
.25	4⅝x3¾x2¼	38.00	22.80
.5	4⅜x3¾x4 9/16	43.05	25.83
1.0	8 x3¾x4 9/16	75.95	45.57

Type 7509-7500v. D.C.W.

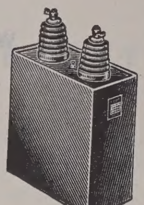
Mfds. Cap.	L. W. D. Size-Ins.	Price List	Price Net
.1	3⅞x3¾x2¼	43.05	25.83
.25	5⅛x3¾x2½	45.55	27.33
.5	5⅛x3¾x4 9/16	49.35	29.61

AEROVOX Paper Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

HIGH-VOLTAGE TRANSMITTER TYPE D.C. CAPACITORS

Type 20



6,000v. D.C. Work. to 50,000v. D.C. Work.

These capacitors meet the exacting requirements of radio transmitter service and other applications requiring high-voltage, heavy-duty, transmitter-type oil capacitors. Available in ratings from 6000 volts to 50,000 volts D.C. working. These are single-section or parallel-section capacitors. Type 20 units are critically checked to close standards of physical and electrical perfection. Capacitor sections consist of multi-layered capacitor tissues and high-purity aluminum foil, uniformly and accurately wound under critically-controlled tension, then vacuum-impregnated with Aerovox Hyvol to insure stability of full-rated capacitance, even at zero temperatures. Welded steel containers finished in non-corrosive, dark grey lacquer. Heavy-duty porcelain insulator assembly is cork-gasketed and pressure sealed to prevent leakage of oil or entrance of moisture at the terminals. Single-section units rated at 30 KV or less are normally supplied with capacitor section insulated from ground. Additional information on Type 20 units rated at 37,500 volts and 50,000 volts, as well as voltage-doubler units rated at 25,000 volts output is available on application.

All Type 20 units are built to special order—not carried in stock. Submit full application information when ordering.

Type 6020—6000v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
2.0	11x 8x4	$136.00	$ 82.00
4.0	11x12x4	167.00	100.00
5.0	11x12x4	189.00	113.00
6.0	13x12x4	212.00	127.00
10.0	13x12x6	265.00	159.00

Type 7520—7500v. D.C.W.

0.5	11x 8x4	$ 75.00	$ 45.00
1.0	11x 8x4	98.00	59.00
2.0	11x 8x4	151.00	91.00
4.0	13x12x4	227.00	136.00
6.0	13x12x6	273.00	164.00

Type 10020—10,000v. D.C.W.

1.0	11x 8x4	$197.00	$118.00
2.0	11x12x4	250.00	150.00
4.0	13x12x6	303.00	182.00
5.0	13x12x6	334.00	200.00

Type 12520—12,500v. D.C.W.

0.5	11x 8x4	$167.00	$100.00
1.0	11x12x4	212.00	127.00
2.0	13x12x6	265.00	159.00
5.0	15x12x9½	501.00	300.00

Type 15020—15,000v. D.C.W.

Cap. Mfds.	Case Size-Ins. H x W x D	List Price	Net Price
0.25	11x 8x4	$159.00	$ 95.00
0.5	11x12x4	189.00	113.00
1.0	13x12x4	265.00	159.00
2.0	15x12x9½	349.00	209.00
3.0	15x12x9½	478.00	287.00

Type 20020—20,000v. D.C.W.

0.25	11x 8x4	$189.00	$113.00
0.5	11x12x4	243.00	145.00
1.0	13x12x6	326.00	195.00
1.5	15x12x9½	440.00	264.00
2.0	15x12x9½	524.00	314.00
4.0	15x14x16	919.00	551.00

Type 25020—25,000v. D.C.W.

0.2	11x12x4	$197.00	$118.00
0.25	11x12x4	265.00	159.00
0.5	13x12x6	288.00	173.00
1.0	15x12x9½	432.00	259.00

Type 37520—37,500v. D.C.W.

(Information supplied on application.)

Type 50020—50,000v. D.C.W.

(Information supplied on application.)

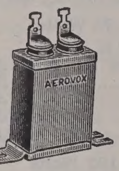
Type 12520 VD
25,000 Volts Output (12,500—12,500 Volts)—Dual Units

(Information supplied on application.)

COMPACT HERMETICALLY-SEALED OIL-IMPREGNATED, OIL-FILLED "HYVOL" CAPACITORS

Type 16T

(Terminals on Top)



Compact, oil-filled, hermetically-sealed units for use where least space and minimum weight are essential. Corrosion-proof metal container. Special immersion-proof terminals designed for equipment subjected to severe atmospheric and climatic conditions. Suitable for by-pass and filter applications in receivers and low-power transmitters.

Type 416T
400v. D.C. Working

Cap. Mfds.	H x W x D	List Price	Net Price
.01	1⅛x1$\frac{5}{16}$x$\frac{11}{16}$	$2.60	$1.56
.05	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.65	1.59
.1	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.85	1.71
.25	1$\frac{11}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.90	1.74
.5	1$\frac{15}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.95	1.77
1.0	2$\frac{1}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	3.30	1.98

Type 616T
600v. D.C. Working

.01	1⅛x1$\frac{5}{16}$x$\frac{11}{16}$	$2.65	$1.59
.05	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.80	1.68
.1	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.90	1.74
.25	1$\frac{11}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.95	1.77
.5	2$\frac{1}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	3.05	1.83
1.0	2$\frac{9}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	3.40	2.04

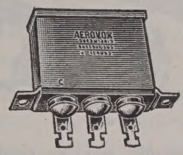
Type 1016T
1000v. D.C. Working

.01	1¼x1$\frac{5}{16}$x$\frac{11}{16}$	$2.80	$1.68
.05	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.85	1.71
.1	1$\frac{7}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	2.95	1.77
.25	1$\frac{11}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	3.05	1.86
.5	2$\frac{1}{16}$x1$\frac{5}{16}$x$\frac{11}{16}$	3.30	1.98

COMPACT HERMETICALLY-SEALED OIL-IMPREGNATED, OIL-FILLED "HYVOL" CAPACITORS

Type 18B

(Terminals on Bottom)



Compact, oil-filled, hermetically-sealed units. Type 18 is smaller in height and depth than Type 16. However, greater width makes Type 18 adaptable for applications where small-sized dual- and triple-section capacitors with three terminals are required. Otherwise, similar to Type 16 with respect to construction and application.

Type 418B
400v. D.C. Working

Single Section Units

Cap. Mfds.	H x W x D	List Price	Net Price
.05	1 x1¾x$\frac{9}{16}$	$2.85	$1.71
.1	1 x1¾x$\frac{9}{16}$	2.95	1.77
.25	1½x1¾x$\frac{9}{16}$	3.05	1.83
.5	1$\frac{11}{16}$x1¾x$\frac{9}{16}$	3.15	1.89
1.0	2 x1¾x$\frac{9}{16}$	3.50	2.10

Dual-Section Units

.05-.05	1 x1¾x$\frac{9}{16}$	$3.65	$2.19
.1-.1	1¼x1¾x$\frac{9}{16}$	3.75	2.25
.25-.25	1$\frac{11}{16}$x1¾x$\frac{9}{16}$	3.90	2.34
.5-.5	2 x1¾x$\frac{9}{16}$	4.25	2.55

Triple-Section Units

.05-.05-.05	1 x1¾x$\frac{9}{16}$	$4.50	$2.70
.1-.1-.1	1½x1¾x$\frac{9}{16}$	4.80	2.88
.25-.25-.25	2 x1¾x$\frac{9}{16}$	5.20	3.12

Type 618B
600v. D.C. Working

Single Section Units

.05	1 x1¾x$\frac{9}{16}$	$2.90	$1.74
.1	1 x1¾x$\frac{9}{16}$	3.05	1.83
.25	1½x1¾x$\frac{9}{16}$	3.15	1.89
.5	1$\frac{11}{16}$x1¾x$\frac{9}{16}$	3.35	2.01
1.0	2½x1¾x$\frac{9}{16}$	3.65	2.19

Dual-Section Units

.05-.05	1 x1¾x$\frac{9}{16}$	$3.80	$2.28
.1-.1	1½x1¾x$\frac{9}{16}$	3.90	2.34
.25-.25	1$\frac{11}{16}$x1¾x$\frac{9}{16}$	4.15	2.49
.5-.5	2¾x1¾x$\frac{9}{16}$	4.50	2.70

Triple-Section Units

.05-.05-.05	1⅜x1¾x$\frac{9}{16}$	$4.55	$2.73
.1-.1-.1	1⅝x1¾x$\frac{9}{16}$	4.95	2.97
.25-.25-.25	1$\frac{13}{16}$x1¾x$\frac{9}{16}$	5.30	3.18

Type 1018B
1000v. D.C. Working

Single Section Units

.05	1 x1¾x$\frac{9}{16}$	$3.05	$1.83
.1	1 x1¾x$\frac{9}{16}$	3.15	1.89
.25	1¾x1¾x$\frac{9}{16}$	3.30	1.98
.5	1$\frac{13}{16}$x1¾x$\frac{9}{16}$	3.50	2.10

Dual-Section Units

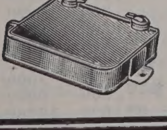
.05-.05	1⅛x1¾x$\frac{9}{16}$	$4.15	$2.49
.1-.1	1½x1¾x$\frac{9}{16}$	4.45	2.67
.25-.25	1$\frac{13}{16}$x1¾x$\frac{9}{16}$	4.55	2.73

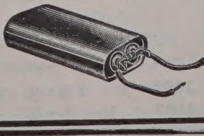
Triple-Section Units

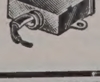
.05-.05-.05	1⅜x1¾x$\frac{9}{16}$	$4.95	$2.97
.1-.1-.1	2⅞x1¾x$\frac{9}{16}$	5.30	3.18

CUSTOM-BUILT PAPER CAPACITORS TO MEET YOUR SPECIAL NEEDS —

If your paper capacitor needs are most unusual, AEROVOX will work with you in designing and producing special types. With many basic types to draw upon—a wide choice of containers, terminals, mountings, sizes, etc.—we can quickly and economically produce out-of-the-ordinary capacitors to meet those extraordinary requirements. Address your inquiry to Aerovox Engineering Department, New Bedford, Mass.







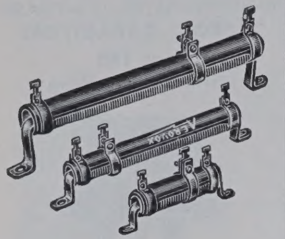
Copyright by U. C. P., Inc.

Net

AEROVOX Vitreous-Enameled and Carbon RESISTORS

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

"SLIDEOHM" Wire-Wound Vitreous-Enameled ADJUSTABLE RESISTORS



Adjustable resistors combining adjustment to any resistance value within unit's range, with positive, permanent, non-fluctuating qualities of wire-wound resistor. Each Slideohm Resistor is provided with horizontal mounting brackets and one adjustable contact slider.

Type 952—25 Watts

Size ⅝ x 2 inches

Ranges	List	Net
1-5000 .... each	$1.24	$0.74
6000-10,000	1.43	.85

Extra Slider Bands–13c ea., Net 7c

Type 954—50 Watts

Size ¾ x 4½ inches

Ranges	List	Net
5-5000 .... each	$1.95	$1.17
6000-25,000	2.15	1.29
30,000-50,000	2.47	1.48

Extra Slider Bands–13c ea., Net 7c

Type 956—75 Watts

Size ¾ x 6½ inches

Ranges	List	Net
5-5000 .... each	$2.54	$1.52
6000-25,000	2.86	1.71
30,000-50,000	3.25	1.95
60,000-70,000	3.58	2.14

Extra Slider Bands–20c ea., Net 12c

Type 957—100 Watts

Size 1⅛ x 6½ inches

Ranges	List	Net
5-5000 .... each	$2.86	$1.71
6000-25,000	3.25	1.95
30,000-50,000	3.58	2.14
60,000-75,000	3.90	2.34

Extra Slider Bands–20c ea., Net 12c

Type 958—200 Watts

Size 1⅛ x 10½ inches

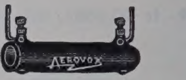
Ranges	List	Net
5-10,000 ...... each	$4.29	$2.57
15,000-100,000	5.01	3.00
125,000-150,000	5.33	3.19

Extra Slider Bands–20c ea., Net 12c

Type Resis. Ohms	952 25 Watts Cur. M.A.	954 50 Watts Cur. M.A.	956 75 Watts Cur. M.A.	957 100 Watts Cur. M.A.	958 200 Watts Cur. M.A.
1	5000				
3	2880				
5	2230	3160	3870	4470	6320
10	1580	2240	2740	3160	4470
15	1290		2240	2580	
20	1115				
25	1000	1410	1730	2000	2825
50	710	1000	1220	1410	2000
75	580	815	1000	1150	
100	500	705	865	1000	1400
150	410	575			
200	355	500	610		
250	315	445	550	680	900
300	290	405	500		
400	250	350	430		
500	225	315	385	445	630
750	180	260	315	365	
800		250	305		
850	170				
1000	160	225	275	315	450
1250	140	200	245		
1500	130	180	225	260	365
2000	110	160	195	225	315
2250	105	150			
2500	100	140	173	200	280
3000	90	130	158	180	260
3500	85	120	146	170	240
4000	80	110	137	160	225
4500	74	105	129	150	210
5000	70	100	122	140	200
6000	65	91	111	130	
7000	57	85	103		
7500	53		100	115	165
8000	50	79	97	110	
8500	47				
9000	44	75	91		
10,000	40	71	87	100	140
12,000		64			
15,000		58	71	80	115
20,000		48	61	70	100
25,000		40	55	60	90
30,000		33	50	50	82
35,000			43	43	71
40,000		25	37	37	62
50,000		20	30	30	50
60,000			25	25	42
70,000			21	21	
75,000				20	33
100,000					25
125,000					20
150,000					16

"PYROHM JUNIOR" Wire-Wound Vitreous-Enameled FIXED RESISTORS

Types 931 and 933



Compact, genuine wire-wound units. Covered with vitreous-enamel. Highest quality materials used throughout. Correctly designed. Note these features:

1. Crack-proof refractory tubing for the support. Adequate heat dissipation.

2. Quality resistance wire precisely space wound under tension.

3. Copper terminal band clamped to tubing. Wire ends wrapped about raised ear and brazed to same.

4. Heavy vitreous-enamel coating for permanent seal against moisture, oxidation and mechanical damage.

5. Pig-tail of stiff wire 2 in. long soldered to terminal band for positive, non-breakable connection.

Type 931—10 Watts

Size—Ins. $\frac{5}{16}$ x 1¾

Ranges	List	Net
1-10,000	$0.59	$0.35
12,000-50,000	.65	.39

30,000 to 50,000 ohms, rated at 5 watts.

Stock Resistance Ranges

1
2
3
4
5
7.5
10
12
15
20
25
30
35
40
50
75
100
125
150
175
200
250
300
350
400
450
500
600
650
700
750
800
850
900
1000
1100
1200
1250
1400
1500
1750
2000
2500
2750
3000
3500
4000
4500
5000
5500
6000
7000
7500
8000
8500
9000
10,000
12,000
12,500
13,500
14,300
15,000
16,000
17,500
18,000
20,000
22,500
25,000
30,000
35,000
40,000
45,000
50,000

Type 933—20 Watts

Size—Ins. $\frac{9}{16}$ x 2

Ranges	List	Net
1-15,000	$0.91	$0.59
20,000-50,000	1.11	.66
55,000-100,000	1.43	.85

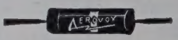
25,000-100,000 ohms rated at 7 watts.

Stock Resistance Ranges

1
3
5
10
15
25
50
75
100
150
175
200
250
300
350
400
500
650
700
750
800
850
1000
1200
1250
1500
1750
1850
2000
2250
2400
2500
2750
3000
3500
4000
4500
5000
6000
7000
7500
8000
10,000
12,500
13,000
15,000
20,000
25,000
30,000
35,000
40,000
45,000
50,000
55,000
60,000
65,000
70,000
75,000
80,000
85,000
90,000
95,000
100,000

INSULATED MOLDED CARBON RESISTORS

Types 1097 and 1098



Small, noiseless, vibration-proof. Crack-proof molded casing around molded carbon resistance element. Tinned copper pig-tail leads 2 in. long. Resists humidity effects. Ideal for AVC circuits, high-gain amplifiers. RMA color - coded; stamped with resistance value. Precision tested. Standard tolerance 10%. These types may come thru for some time in slightly larger sizes until complete changeover is achieved.

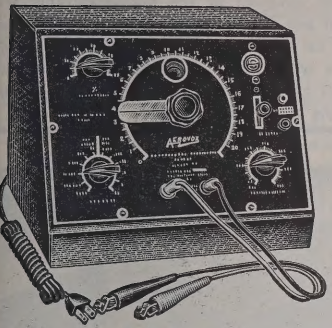
Types	Rating Watt	Size Ins.	List ea.	Net ea.
1098	1	1¼ x ⅝	$.17	$.10
1097	½	$\frac{5}{32}$ x ⅜	.13	.08

Stock Resistance Ranges—Ohms

10
15
20
25
30
40
50
60
75
100
120
150
200
250
300
350
400
450
500
600
750
800
900
1000
1250
1500
1750
2000
2250
2500
3000
3500
4000
5000
6000
7000
7500
8000
9000
10000
11000
12000
12500
13000
14000
15000
17500
20000
22500
25000
30000
35000
40000
50000
60000
65000
70000
75000
100000
125000
150000
175000
200000
250000
300000
400000
500000
600000
750000
1 Meg.
1½ Meg.
2 Meg.
2½ Meg.
3 Meg.
4 Meg.
5 Meg.
6 Meg.
7 Meg.
10 Meg.
20 Meg.

AEROVOX TEST INSTRUMENTS

AEROVOX CAPACITANCE AND RESISTANCE BRIDGE



Model No. 76
$44.75
Net, Each

AEROVOX MODEL 76 Resistance Capacitance Bridge is the new postwar general-utility instrument combining simplicity of operation, remarkable degree of accuracy, and modest price. Extreme ruggedness makes it equally suitable out on the job, in the shop, or in the laboratory.

Sloping panel 10″ x 6″. Aluminum, etched and anodized. Steel cabinet, black crackle finish. All readings taken from main 4″ dial. Same calibrated scale eliminates trouble and chances for errors in reading. Linear scale, also an exclusive feature, means no crowding at high end to make readings difficult and inaccurate. Both the resistance and the capacitance readings are covered by six overlapping ranges, as aginst two or three in usual service instruments, for maximum sensitivity and accuracy. Positive "magic eye" indicator.

Here is what Model 76 Bridge does: (1) Measures capacitance from 100 mmf. to 200 mfd. in six ranges. (2) Measures resistance from 10 ohms to 20 megohms in six ranges. (3) Measures power factor from 0 to 50%. (4) Provides D.S. polarizing potential for leakage measurements, from 0 to 600 V. D.C., continuously variable and calibrated in volts. (5) Checks leakage or insulation resistance.

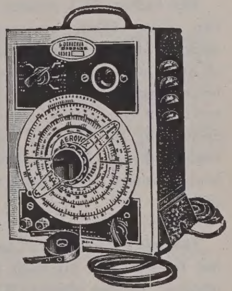
Instrument is provided with shockproof, color-coded test leads fitted with banana plugs for panel jacks, and with clips. Instructions. Measures 10″ x 7¾″ x 8¼″. Weight 8 lbs. 3 oz.

AEROVOX L-C CHECKER

★ This exclusive Aerovox development has no counterpart, much less an equal. Basically, it determines the effectiveness of any capacitance or inductance while actually connected in its circuit. Testing efficiency is greatly increased. Components may be tested singly or in combinations whereby to determine resonant frequency and effectiveness of given circuits. Circuit or systems may be adjusted by this checking means for proper operating efficiency. Certainly a "must" instrument for the radio worker.

HERE'S A PARTIAL LISTING OF WHAT THE AEROVOX L-C CHECKER DOES:

It checks capacitance of capacitors at radio frequencies without removing them from circuit. • It checks alignment of r.f. circuits; also tracking of super-het. oscillator. • It checks alignment of broad and narrow band i.f. amplifiers. • It checks the tuning of wave traps and of image-rejection circuits; frequency ranges of receivers; frequency ranges of signal generators; calibration of wave meter. • Identifies harmonics of frequency standard in precision frequency calibration of radio equipment. • It checks natural resonant points of r.f. chokes making sure they are beyond operating range. • It traces resonant absorption trouble in "all-wave" receiver circuits—locating dead spots, etc. • It locates resonant points in shorted windings (unused coils) in multi-range oscillators, etc. • Locates resonant frequency of r.f. coupling chokes, making certain of placement to secure enough gain balance over tuning range of r.f. stage • It checks natural period of antennae and transmission lines in order to have resonant peaks at certain frequencies. • It checks quartz crystals for frequency, false frequency, operation at harmonics, and for activity. • Checks FM i.f. transformers. • Checks alignment of FM i.f. channels. • Checks leakage of paper capacitors. And it checks many other functions when used with auxiliary equipment. This checker operates from AC or from DC 120 volts source. It has a frequency range from 100 KC to 44 MC as follows:



Model No. 96
$44.75
Net, Each

Range:	A — 75 — 225 KC	D —1.5 —5 MC
	B — 200 — 600 KC	E —4.5 —14.5 MC
	C — 550 — 1650 KC	F —13 —44 MC

Capacitance Range: .00025 mfds. — 1 mfd.

Inductance Range: 0 — 500 MH

Tube Complement: 6J5G, 25Z5, 6E5, VR105

Accuracy: Capacitance and Inductance ± 10%

Frequency Ranges A, B, C: ± 1%

Other Ranges: ± 2.5%

Dimensions: 10½ x 7½ x 5½

This new model L-C Checker has provisions for determining the insulation resistance of capacitors in addition to the measurements described in bulletin 995A.

Weight: (shipping) 6 lbs.

AEROVOX

Special-duty Capacitors

IF IT'S MARKED "AEROVOX" IT'S A QUALITY CAPACITOR

P. S.

● This is a postscript. This page contains several new Aerovox products recently introduced and not as yet cataloged. These special-duty capacitors are of particular interest to advanced radio workers, builders of special equipment, experimenters and engineers.

Other new products are being announced from time to time. Aerovox engineering is keeping abreast of the rapid advances of the radio-electronic art. Therefore, if you do not see what you need in these pages, tell us about your unusual needs. Aerovox either has a type already developed and in production, or will consider an entirely new type if warranted by the anticipated demand.

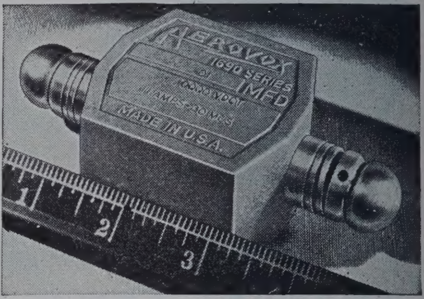
LOW-INDUCTANCE MICA CAPACITOR

AEROVOX SERIES 1690 is a molded-in-bakelite mica capacitor designed for exceptionally low loss operation at ultra high frequencies. External evidence of its efficiency is offered by the rounded hardware—round nuts, round washers and spherical lock nuts eliminating sharp edges and corners that cause corona losses. The use of fine threads for the terminal studs insures maximum contact and minimum r.f. resistance. Silver plating of all conducting members minimizes skin resistance. The body is of XM or yellow low-loss bakelite. Internally, the mica stack is designed for a straight-line path for high frequencies.

This type is several times larger than the conventional molded-in-bakelite transmitting micas. Body dimensions are 2⅜" wide x 2-3/16" deep x 1⅜" high, and 4¾" overall between rounded terminal tips.

Units are available in ratings up to 20,000 volts D.C. Test or 10,000 volts operating, and in capacitance values up to .001 mfd. at the highest voltage rating.

This type has been developed specifically for lower r.f. resistance and impedance, thereby providing increased KVA ratings for given size. Such units can be advantageously applied as blocking capacitors in transmission lines, as tank capacitors for high-frequency oscillators, as by-pass capacitors for ultra-high-frequency energy, and as coupling or by-pass capacitors in induction-heating circuits.



WATER-COOLED MICA CAPACITOR

AEROVOX SERIES 1780 water-cooled mica capacitor is available for extra-heavy duty service such as high-power transmitters and induction furnaces. The water-cooling feature boosts the KVA rating by a factor of five or more, or conversely, greatly reduces the bulk for given rating.

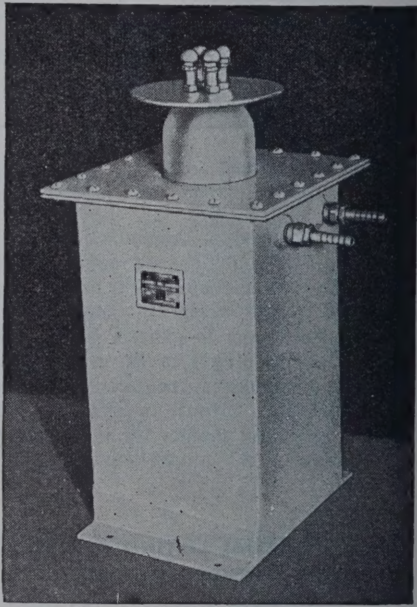
The higher KVA ratings are obtained in two ways: First, by exceptional design such as critical arrangement and location of mica sections; critical selection of materials; specially-plated parts; large cross-section of conductors; attention to details. Second, by the use of a water-cooling system so designed as to provide maximum heat transfer from capacitor to cooling coils.

The mica stacks are in an oil bath. Cooling coils in the oil bath provide for the efficient transfer of heat. What this cooling system means may be judged from the fact that a unit handling 200 KVA for air-cooled operations steps up to 1000 KVA with water-cooling.

The series-parallel mica stack is designed for uniform current distribution throughout. There is a large factor of safety. Silver-plated hardware minimizes skin resistance. Terminals are furnished with large radii of curvature to minimize and even eliminate corona. The steatite insulator is shaped to hold gradients below corona limits.

Heavy non-ferrous welded metal case, hermetically-sealed and grounded. Side-mounted nipples for connecting water-cooling hose. Sturdy mounting flanges. Provisions for making connections with high-current-capacity conductors. Four-stud terminal for low-loss connections.

Available in ratings up to 25,000 volts A.C. Test, and in capacitances up to .01 mfd.



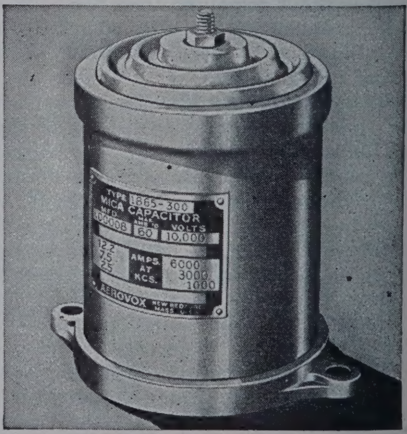
ULTRA-HIGH-FREQUENCY CAPACITORS

AEROVOX SERIES 1860 and 1865 are engineered and especially recommended for use in ultra-high-frequency radio equipment such as television and FM transmitter, as well as other miscellaneous applications in the u.h.f. field. In such applications they are readily adaptable for use as fixed-tuning capacitors, by-pass, blocking, coupling, neutralizing and antenna-series capacitors.

Losses are extremely low, due to the highly refined sulphur dielectric. Corona losses are avoided by the unique construction design, the grounded case and the terminal on each type.

Series 1860 (not illustrated) is the smaller unit in an aluminum can, intended more for the radio amateur and experimenter, and for low-cost assemblies. It has a suitably plated brass terminal mounted on a mica insulating plate. Available in four types: .0001 mfd., 10,000 v..; .000025 mfd., 10,000 v.; .00005, 5000 v.; .00005, 10,000 v. Voltage is Peak Working Volts.

Series 1865 (illustrated) is the larger unit, in a cast aluminum case with steatite insulator supporting the higher-voltage terminal. Available in capacitances from .00002 to .000125 mfd., at 10,000 v.



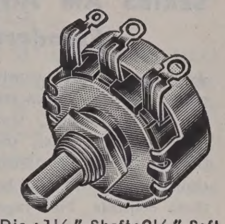
CLAROSTAT

SERIES "M" COMPOSITION-ELEMENT CONTROLS

★ Compactness—yet without sacrificing operating efficiency and long service life. Only 1⅛" dia. by $\frac{9}{16}$" deep (with switch, ⅞" deep).

Utilizes the exclusive Clarostat stabilized element, insuring the control's constancy in all weather and in all climates. Many years of painstaking research and experience are incorporated into the design of Clarostat Series "M" controls, assuring the user of the best results at all times.

The original Clarostat "Ad-A-Switch" feature makes it possible to adapt any of the Series "A" switches quickly to any M, AM, T and AT controls. Furthermore, for high-voltage television, oscillograph or other electronic circuits, the new Clarostat Series 60 High-Voltage Coupling Unit can be attached to all Clarostat controls (illustrated below) to assure safety at elevated voltages. The cost of this added feature is quite moderate. High-voltage couplers are installed at factory only.

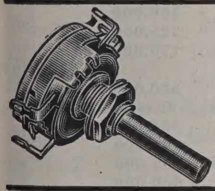


Dia.: 1⅛". Shaft: 2⅛". Soft metal. ⅜-32 brass bushing.

Cat. No.	Ohms	Curve	Suggested Use
M-5-S	500	S	Std. Pot.
M-8-S	1000	S	Std. Pot.
M-11-S	2000	S	Std. Pot.
M-15-S	3000	S	Std. Pot.
M-80-S	4000	S	Std. Pot.
M-19-S	5000	S	Std. Pot.
M-20-U	5000	U	Ant. & C — Bias
M-23-S	7500	S	Std. Pot.
M-27-S	10,000	S	Std. Pot.
M-29-U	10,000	U	Ant. & C — Bias
M-30-V	10,000	V	C Bias Rheo.
M-31-W	10,000	W	Sc. Grid & Phono.
M-81-Z	10,000	Z	Ant. Shunt
M-32-S	15,000	S	Std. Pot.
M-33-U	15,000	U	Ant. & C — Bias
M-34-V	15,000	V	C Bias Rheo.
M-35-W	15,000	W	Sc. Grid & Phono.
M-36-S	20,000	S	Std. Pot.
M-37-U	20,000	U	Ant. & C — Bias
M-40-S	25,000	S	Std. Pot.
M-41-W	25,000	W	Sc. Grid & Phono.
M-72-V	25,000	V	C Bias Rheo.
M-42-S	30,000	S	Std. Pot.
M-43-S	40,000	S	Std. Pot.
M-44-S	50,000	S	Std. Pot.
M-45-W	50,000	W	Sc. Grid & Phono.
M-46-Z	50,000	Z	Auto Grid & Tone
M-47-S	75,000	S	Std. Pot.
M-48-V	75,000	V	C Bias Rheo.
M-49-S	100,000	S	Std. Pot.
M-51-Z	100,000	Z	Audio & Tone
M-52-S	200,000	S	Std. Pot.
M-55-S	250,000	S	Std. Pot.
M-64-Z	250,000	Z	Audio & Tone
M-57-S	300,000	S	Std. Pot.
M-58-S	500,000	S	Std. Pot.
M-59-Y	500,000	Y	Audio Shunt
M-60-Z	500,000	Z	Audio & Tone
M-79-Z	750,000	Z	Audio & Tone
M-61-S	1,000,000	S	Std. Pot.
M-63-Z	1,000,000	Z	Audio & Tone
M-66-Z	2,000,000	Z	Tone & AVC
M-83-S	2,000,000	S	Audio & Tone
M-67-Z	3,000,000	Z	Tone & AVC
M-68-Z	4,000,000	Z	Tone & AVC
M-69-Z	5,000,000	Z	Tone & AVC
M-99-Z	10,000,000	Z	Tone & AVC

LIST PRICE $1.25

Standard Packing — 10 (ten) per carton



SERIES "T" TAPPED CONTROLS

With the Original Ad-A-Switch Feature

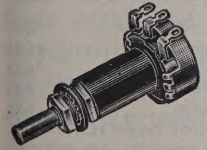
★ There are many circuits in which the use of a tapped control affords special functional operation not possible or attainable with any other type of control. These standard units listed herewith permit replacement of tapped units with the assurance that the total overall resistance value as well as the taps satisfactorily substitute for the original.

Cat. No.	Ohms	Tap No. 1	Tap No. 2	Tap No. 3
T-25	50,000		25,000	
T-38	200,000			100,000
T-39	250,000		25,000	
T-42	250,000		125,000	
T-43	250,000			50,000
T-44	250,000	60,000		125,000
T-45	250,000	30,000	60,000	
T-60	350,000		25,000	
T-69	350,000	75,000		
T-70	350,000		75,000	
T-78	500,000		100,000	
T-80	500,000			100,000
T-81	500,000	25,000		
T-82	500,000			200,000
T-88	500,000		50,000	
T-90	500,000		250,000	
T-92	500,000	100,000		300,000
T-98	1,000,000	250,000		
T-101	1,000,000		50,000	
T-102	1,000,000	100,000		500,000
T-103	1,000,000		100,000	
T-109	1,000,000		225,000	
T-110	1,000,000		170,000	
T-111	1,000,000			200,000
T-112	1,000,000		500,000	
T-95	1,500,000	250,000 @ 25% Rotation		500,000
T-125	1,500,000		350,000	
T-114	2,000,000		100,000	
T-115	2,000,000		500,000	
T-116	2,000,000		1,000,000	
T-118	2,000,000	20,000		
T-119	2,000,000		200,000	
T-120	2,000,000		400,000	
T-121	2,000,000	250,000		500,000
T-124	2,000,000	5,000 @ 25% Rotation		
T-126	2,000,000	200,000		400,000
T-129	2,000,000	15,000		
T-123	2,500,000	250,000		500,000
T-128	4,000,000		500,000	

LIST PRICE $1.85 (Without Switch)

For Power Switch, see Series SW listed below.

Standard Packing — 10 (ten) per carton



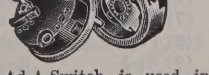
High-Voltage Coupler

Fitted to any Clarostat control, at factory, on special order.

Cat. No.		List Price
60-3-2	3,000 v.	$1.25
60-3-4	10,000 v.	1.85

THE ORIGINAL "AD-A-SWITCH" FEATURE FOR SERIES "M", "AM", "T" "AT" CONTROLS

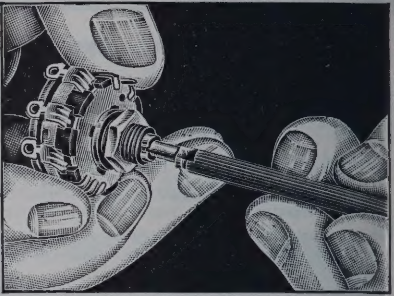
Cat. No.	Wiring	List Price
SW-A	Single-Pole Single-Throw	$0.60
SW-A1	Three-Way, No "Off" position S.P.D.T.	.75
SW-A2	Double-Pole, Single-Throw	.75
SW-A4	Four-wire (to control A, B and C voltages)	.75
SW-A5	S.P.S.T. (reverse action)	.75
SW-A6	S.P.S.T. with dummy lug	.75



Ad-A-Switch is used in place of usual dust-protection cover, and lugs bent over to hold it in place.

SERIES "AM" AND "AT" UNIVERSAL PICK-A-SHAFT CONTROLS

Standard and Tapped for Every Service Need



★ These universal controls are built to the same exacting specifications as Series "M" and "T". However, instead of having the usual integral shaft, these controls include the Clarostat "Pick-A-Shaft" feature whereby a choice of shafts may be used with any of these controls. This ingenious feature eliminates the stocking of special-shaft units. Instead, the Series "AM" or Series "AT" (tapped unit) takes the particular type of shaft desired by merely inserting such a shaft so that the spring washer snaps into the groove provided in the shaft.

One selected shaft furnished **FREE** with each Pick-A-Shaft control.

SERIES "AM" OR STANDARD PICK-A-SHAFT CONTROLS

Cat. No.	Ohms	Curve	Suggested Use
AM-5-S	500	S	Std. Pot.
AM-8-S	1,000	S	Std. Pot.
AM-11-S	2,000	S	Std. Pot.
M-15-S	3,000	S	Std. Pot.
AM-80-S	4,000	S	Std. Pot.
AM-19-S	5,000	S	Std. Pot.
AM-20-U	5,000	U	Ant. & C — Bias
AM-23-S	7,500	S	Std. Pot.
AM-27-S	10,000	S	Std. Pot.
AM-29-U	10,000	U	Ant. & C — Bias
AM-30-V	10,000	V	C Bias Rheo.
AM-31-W	10,000	W	Sc. Grid & Phono.
AM-81-Z	10,000	Z	Ant. Shunt
AM-32-S	15,000	S	Std. Pot.
AM-33-U	15,000	U	Ant. & C — Bias
AM-34-V	15,000	V	C Bias Rheo.
AM-35-W	15,000	W	Sc. Grid & Phono.
AM-36-S	20,000	S	Std. Pot.
AM-37-U	20,000	U	Ant. & C — Bias
AM-40-S	25,000	S	Std. Pot.
AM-41-W	25,000	W	Sc. Grid & Phono.
AM-72-V	25,000	V	C Bias Rheo.
AM-42-S	30,000	S	Std. Pot.
AM-43-S	40,000	S	Std. Pot.
AM-44-S	50,000	S	Std. Pot.
AM-45-W	50,000	W	Sc. Grid & Phono.
AM-46-Z	50,000	Z	Audio & Tone
AM-47-S	75,000	S	Std. Pot.
AM-48-V	75,000	V	C Bias Rheo.
AM-49-S	100,000	S	Std. Pot.
AM-51-Z	100,000	Z	Audio & Tone
AM-52-S	200,000	S	Std. Pot.
AM-55-S	250,000	S	Std. Pot.
AM-64-Z	250,000	Z	Audio & Tone
AM-57-S	300,000	S	Std. Pot.
AM-58-S	500,000	S	Std. Pot.
AM-59-Y	500,000	Y	Audio Shunt
AM-60-Z	500,000	Z	Audio & Tone
AM-79-Z	750,000	Z	Audio & Tone
AM-61-S	1,000,000	S	Std. Pot.
AM-63-Z	1,000,000	Z	Audio & Tone
AM-83-S	2,000,000	S	Audio & Tone
AM-66-Z	2,000,000	Z	Tone & AVC
AM-67-Z	3,000,000	Z	Tone & AVC
AM-68-Z	4,000,000	Z	Tone & AVC
AM-69-Z	5,000,000	Z	Tone & AVC
AM-99-Z	10,000,000	Z	Tone & AVC

LIST PRICE **$1.25** (Without Switch)

SERIES "AT" OR TAPPED PICK-A-SHAFT CONTROLS

Cat. No.	Ohms	Tap No. 1	Tap No. 2	Tap. No.3
AT-25	50,000		25,000	
AT-38	200,000			100,000
AT-39	250,000		25,000	
AT-42	250,000		125,000	
AT-43	250,000			50,000
AT-44	250,000	60,000		125,000
AT-45	250,000	30,000	60,000	
AT-60	350,000		25,000	
AT-69	350,000	75,000		
AT-70	350,000		75,000	
AT-78	500,000		100,000	
AT-80	500,000			100,000
AT-81	500,000	25,000		
AT-82	500,000			200,000
AT-88	500,000		50,000	
AT-90	500,000		250,000	
AT-92	500,000	100,000		300,000
AT-98	1,000,000	250,000		
AT-101	1,000,000		50,000	
AT-102	1,000,000	100,000		500,000
AT-103	1,000,000		100,000	
AT-109	1,000,000		225,000	
AT-110	1,000,000		170,000	
AT-111	1,000,000			200,000
AT-112	1,000,000		500,000	
AT-95	1,500,000	250,000 @ 25% Rotation		500,000
AT-125	1,500,000		350,000	
AT-114	2,000,000		100,000	
AT-115	2,000,000		500,000	
AT-116	2,000,000		1,000,000	
AT-118	2,000,000	20,000		
AT-119	2,000,000		200,000	
AT-120	2,000,000		400,000	
AT-121	2,000,000	250,000		500,000
AT-124	2,000,000	5,000 @ 25% Rotation		
AT-126	2,000,000	200,000		400,000
AT-129	2,000,000	15,000		
AT-123	2,500,000	250,000		500,000
AT-128	4,000,000		500,000	

LIST PRICE **$1.85** (Without Switch)

Standard Packing—10 (ten) per carton.
For Power Switch, see Series "SW" listings on Page R-1.

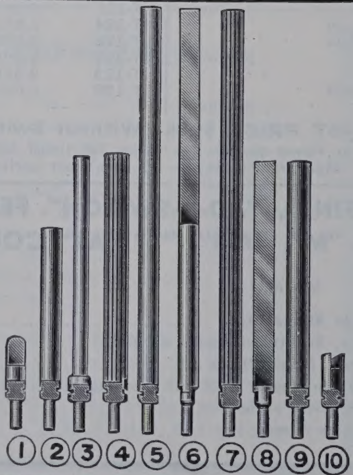
Choice of Pick-A-Shafts

★ A choice of Pick-A-Shafts (shown at right) covers all requirements, as follows:

Cat No.	Description
(1) SS-3/8" length	(Male) to take female fitting
(2) RS-2	Round shaft, 2" long
(3) RS-3/16" diam.	Round shaft, 3" long
(4) KSS-3	Knurled, split shaft 3" lg.
(5) RS-5	Round shaft, 5" long
(6) FS-5	Flatted shaft, 5" long
(7) KSS-5	Knurled, split shaft, 5" lg.
(8) FS-3	Flatted shaft, 3" long
(9) RS-3	Round Shaft, 3" long
(10) DFS-½	Double flatted Philco Type ½" long

List price of each shaft $0.30

One selected shaft furnished **FREE** with each Pick-A-Shaft control.



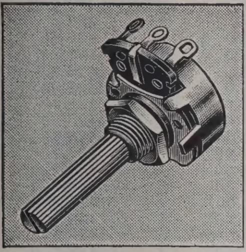
PICK-A-SHAFT SLIP DRIVE CONTROL (Clutch Type)

Available with your choice of Pick-A-Shaft

Cat. No.	Resistance	List
SD- 64-Z	250,000	$1.25
SD- 60-Z	500,000	1.25
SD- 63-Z	1,000,000	1.25
SD- 66-Z	2,000,000	1.25
SD- 42	250,000 Tapped 125,000	1.85
SD- 78	500,000 " 100,000	1.85
SD- 98	1,000,000 " 250,000	1.85
SD-115	2,000,000 " 500,000	1.85

CLAROSTAT

MIDGET (15/16" dia.) CONTROLS



★ Yes, sir — Clarostat has it first — the smaller, handier $\frac{15}{16}$" control for tight spots. And it's a beauty. Note the trim lines. Nothing sacrificed by way of electrical and mechanical sturdiness and dependability. This is an entirely NEW control, developed from scratch, to meet the need of a more compact control of standard performance. Dimensions: $\frac{15}{16}$" diameter x 29/64" deep. With switch, 49/64" deep. ¼" long, ⅜-32 threaded bushing. Knurled shaft 1" long beyond bushing. Switch units attached at factory.

Cat. No.	Resistance	Taper	Cat. No. with Switch	LIST PRICE (no switch)	LIST PRICE (with switch)
15/16-64-Z	250,000 ohms	Audio	15/16-S-64-Z	$1.25	$1.85
15/16-60-Z	500,000 ohms	Audio	15/16-S-60-Z	1.25	1.85
15/16-63-Z	1,000,000 ohms	Audio	15/16-S-63-Z	1.25	1.85
15/16-66-Z	2,000,000 ohms	Audio	15/16-S-66-Z	1.25	1.85

Standard packing 10 (ten) per carton.

DUAL SERIES DC CONTROLS

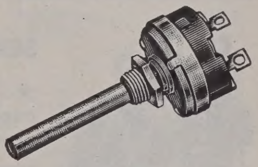
★ The Series DC controls are dual units — two controls of the same resistance values and tapers, connected in tandem for joint operation.

Cat. No.	Panel Unit	Rear Unit
DC-34-S	10,000-S	25,000-S
DC-23-S	10,000-S	50,000-S
DC- 5-S	50,000-S	50,000-S
DC- 6-Z	100,000-Z	100,000-Z
DC-29-S	250,000-S	250,000-S
DC- 8-Z	250,000-Z	250,000-Z
DC-10-Z	500,000-Z	500,000-Z
DC-11-Z	1,000,000-Z	1,000,000-Z

LIST PRICE $3.10

Standard packing—Individual carton

ROTARY SWITCHES



★ Compact, positive contact, bakelite molded and Underwriters' approved. Rated 1 Amp. 250 volt; 3 Amp. 125 volt. The physical dimensions of the switch are as follows:

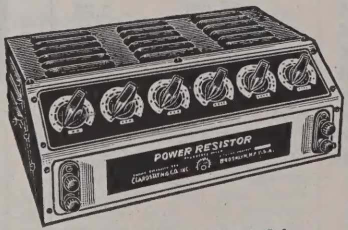
Diameter 1$\frac{3}{32}$", body depth $\frac{9}{16}$", lug protrusion ¼", locking projection on a $\frac{17}{32}$" radius, rotation for actuation 30 degrees.

All standard stock numbers have ⅜" bushing, 1½" length shaft, and one locking projection.

Cat. No.	Switch Description	List Price
8590	Single Pole Single Throw	$0.60
8591	Single Pole Bussing Lug	.75
8592	Double Pole Single Throw	.75
8593	Single Pole Double Throw	.75
8594	Single Pole Reversed Action	.75
8595	Four Wire Single Throw	.75

Standard packing 10 (ten) per carton.

POWER RESISTOR DECADE BOX



NET PRICE **$90.00***

★ A "Must" for Every Laboratory. Power resistance measurements under actual load conditions. Just imagine being able to obtain ANY VALUE OF RESISTANCE from 1 ohm to 999,999 ohms IN STEPS OF ONE OHM, and at a POWER RATING OF 225 WATTS using a maximum of 1000 volts DC (660 volts AC)!

Intended primarily for laboratory use and development engineering. Simplifies and expedites the selection of correct resistance values for given circuits and functions. These instruments are in daily use in laboratories, engineering offices, plants, maintenance and service departments, and in schools.

Finish: Heavy-gauge metal case finished in frosted gray wrinkle, with etched black-and-aluminum front panel.

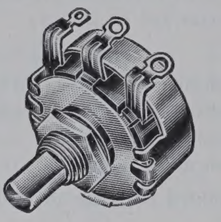
Dimensions: 13 in. long; 8½ in. deep; 5¾ in. high. Weight, 11 lbs.

Suggested Uses: Resistance determination. Load Resistance. Meter Multiplier. Calibrating Meters. Providing any desired ohmage as a universal power resistor.

CLAROSTAT

SERIES 43 MIDGET WIRE-WOUND CONTROLS

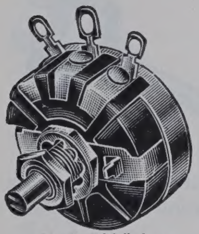
★ A space-saving control of the wire-wound type. Similar in mechanical details and dimensions to the composition-element Series M control (page R-1). Precision-wound alloy wire on bakelite strip. Rotor sweeps over inside face of winding. Special lubricant for minimized frictional drag and wear. Molded bakelite casing—high resistance to leakage. Protective metal cover (as shown in illustration). Only 1⅛″ dia. Body Depth, $\frac{9}{16}$″; ⅞″ deep with switch. ⅜″ bushing. Shaft 1½″ long. All switches permanently attached at factory.



Resistance Ohms	Current-carrying Capacity in Ma.	Type No. Without Switch	Type No. With Switch
5	630	43-5	43S-5
10	450	43-10	43S-10
20	320	43-20	43S-20
25	280	43-25	43S-25
30	260	43-30	43S-30
40	225	43-40	43S-40
50	200	43-50	43S-50
75	165	43-75	43S-75
100	140	43-100	43S-100
150	115	43-150	43S-150
200	100	43-200	43S-200
300	90	43-300	43S-300
400	70	43-400	43S-400
500	65	43-500	43S-500
750	55	43-750	43S-750
1,000	45	43-1000	43S-1000
2,000	31	43-2000	43S-2000
3,000	26	43-3000	43S-3000
4,000	22	43-4000	43S-4000
5,000	20	43-5000	43S-5000
7,500	16	43-7500	43S-7500
10,000	14	43-10000	43S-10000

LIST PRICE **$1.25**. With switch **$1.85**
Standard packing — 10 (ten) per carton.

SERIES 58 WIRE-WOUND CONTROLS



Shaft 1½″ long.
⅜″ bushing.

★ Sturdy and reliable in construction yet capable of use for delicate control work, Series 58 Controls are without equal. Noiseless in operation, these units are standard equipment in laboratories, fine instruments, electronic equipment, and especially in the control rooms of radio stations and networks.

The switch is located to operate at extreme counter-clockwise rotation of the shaft. Moving element is insulated from mounting bushing and shaft, and is tested at 500 volts A.C. There is no danger of accidental shock or short-circuit.

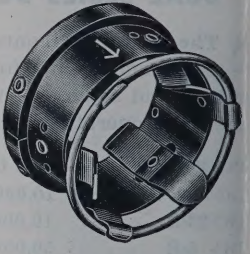
Cat. No.	Resistance in Ohms	List Price
58-1	1	$1.25
58-2	2	1.25
58-4	4	1.25
58-6	6	1.25
58-10	10	1.25
58-15	15	1.25
58-20	20	1.25
58-25	25	1.25
58-30	30	1.25
58-40	40	1.25
58-50	50	1.25
58-60	60	1.25
58-75	75	1.25
58-100	100	1.25
58-200	200	1.25
58-300	300	1.25
58-400	400	1.25
58-500	500	1.25
58-750	750	1.25
58-1000	1000	1.25
58-2000	2000	1.25
58-3000	3000	1.25
58-5000	5000	1.25
58-7500	7500	1.25
58-10K	10,000	1.25
58-15K	15,000	1.25
58-20K	20,000	1.25
58-25K	25,000	1.60
58-30K	30,000	1.60
58-40K	40,000	1.60
58-50K	50,000	2.25
10-75K*	75,000	3.50
10-100K*	100,000	3.50

If power switch is desired, the type of switch must be specified (See page R-1). Order as 58S and add to list the price of switch selected. The S.P.S.T. switch is supplied as standard where no type is specified. All switches are permanently fastened to the control at the factory.

Standard packing — 10 (ten) per carton.

* These units are 1″ in depth and are the Clarostat Series 10.

BEAM BENDER



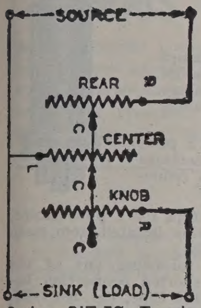
★ Simplicity and economy mark use of the Clarostat Beam Bender in connection with television cathode-ray tubes requiring some external means of controlling loose ions. Entirely self-contained. Applied without tools. Three spring fingers provide frictional yet adjustable fit on neck of usual 10″ tube. Permanent ring magnets provide magnetic flux proportional to required beam-bending function in the tube. Individually packaged. Cat. No. TV-1 — List Price **$3.00**

HAN-D-KIT No. 5

CLAROSTAT
does it again!
GIANT VALUE
HAN-D-KIT
No. 5
CLAROSTAT
HAN-D-KIT
NO 5

★ Most replacements for least parts stock! Fastest moving items. No duds. Every item a "must" in everyday servicing. Neatly packed in handsome green steel box with hinged top. Handy as filing cabinet, strong box, odds-and-ends box, etc. Contains 6 ballast tubes; 12 volume controls; 4 AD-A-Switches; 5 Greenohms; Dural Hand-D-Wrench; Authorized Service plaque; Data. A $30.15 value for only:
Kit No. 5 .... **$15.07 Net Cost***

CLAROSTAT



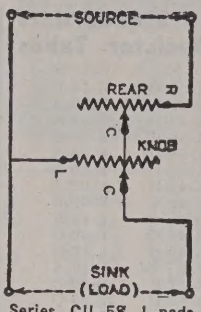
Series CIT-58 T-pads are connected as here shown.

CONSTANT IMPEDANCE CONTROLS

★ Self-compensating volume controls or attenuators known as L-pads and T-pads are essential in eliminating the distortion that arises from the mismatching of impedances in broadcast transmission, sound recording or public address systems. With Clarostat constant-impedance L-pads and T-pads the input and output impedances of associated equipment in a circuit can be kept within the limits of a constant required value.

These pads have a continuous range from 0.5 to 30 decibels attenuation in 90% of rotation, the last 10% affording infinite attenuation. Employable at either the source or the load in a circuit (see diagrams) these units are readily one-hole mounted. They afford a wide range of uses as mixers, faders, multiple-speaker controls, etc. Such controls can be used as individual volume controls for multiple-speaker systems, without affecting or changing the source impedance.

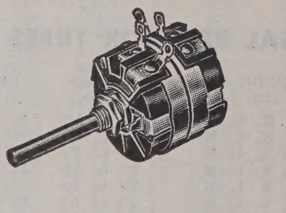
These units are rated at 2½ watts when used on DC or constant frequency signals. However, they have successfully been used up to 10 watts on audio circuits.



Series CIL-58 L-pads are connected as here shown.

SERIES CIT
Wire-Wound T-Pads

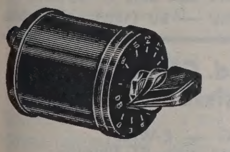
Cat. No.	Resistance in Ohms	List Price
CIT-6	6	$4.25
CIT-8	8	4.25
CIT-15	15	4.25
CIT-50	50	4.25
CIT-100	100	4.25
CIT-200	200	4.25
CIT-250	250	4.25
CIT-500	500	4.25
CIT-600	600	4.25
CIT-1000	1000	4.25
CIT-2000	2000	4.25



SERIES CIL
Wire-Wound L-Pads

Cat. No.	Resistance in Ohms	List Price
CIL-6	6	$3.75
CIL-8	8	3.75
CIL-15	15	3.75
CIL-50	50	3.75
CIL-100	100	3.75
CIL-200	200	3.75
CIL-250	250	3.75
CIL-500	500	3.75
CIL-600	600	3.75
CIL-1000	1000	3.75
CIL-2000	2000	3.75

CONSTANT IMPEDANCE OUTPUT ATTENUATORS



db steps are 3, 6, 9, 12, 15, 18, 21, 24 and 30. Absolutely noiseless and distortionless in operation.

★ Developed to meet the need for a constant-impedance attenuator capable of handling considerable power without measurable insertion loss, Series CIB attenuators provide linear attenuation with ample power-handling capacity.

These units are rated at 10 watts when used on DC or constant frequency signals. However, they have successfully been used up to 30 watts on audio circuits.

Compact, capable of safely handling the rated wattages at any setting of the dial, these units are recommended as an output level control for power amplifiers or as an input attenuator for individual or group speakers in a public address system. Linear attenuation is provided in steps of 3 decibels up to 30, with final step to infinity.

Unit is furnished in black baked-enamel metal casing, 2″ in diameter by 2¾″ long, equipped with dial plate and bar knob. Not available with power switch. One-hole mounting ⅜″ diameter bushing. Shaft 1″ long.

Series CIB—10 Watts

Cat. No.	Resistance in Ohms
CIB-6	6
CIB-8	8
CIB-15	15
CIB-50	50
CIB-200	200
CIB-250	250
CIB-500	500
CIB-600	600

Net Price $6.50*

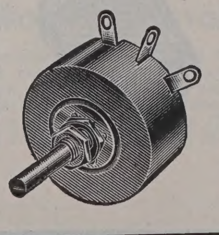
Series PW-25—25 Watt

at. No.	Total Resis. Ohms	Max. Cur. at Total Res. Amps.	Max. Cur. Up to ⅓ Res. Amps.	List Price
W-25-1	1	5.000	7.500	$5.85
W-25-2	2	3.536	5.304	5.20
W-25-3	3	2.887	4.330	5.20
W-25-6	6	2.041	3.062	5.20
W-25-8	8	1.768	2.652	5.20
W-25-10	10	1.581	2.372	5.20
W-25-15	15	1.291	1.936	5.20
W-25-25	25	1.000	1.500	5.20
W-25-35	35	.845	1.268	5.20
W-25-50	50	.707	1.061	5.20
W-25-75	75	.577	.866	5.20
W-25-100	100	.500	.750	5.20
W-25-125	125	.447	.671	5.20
W-25-175	175	.378	.567	5.20
W-25-250	250	.316	.474	5.20
W-25-350	350	.267	.401	5.20
W-25-500	500	.224	.335	5.20
W-25-750	750	.183	.274	5.20
W-25-1000	1000	.158	.237	5.85
W-25-1500	1500	.129	.194	5.85
W-25-2500	2500	.100	.150	5.85
W-25-3500	3500	.085	.127	6.20

Standard Packing—Individual Carton

POWER RHEOSTATS

★Exceptionally rugged. Trouble-free design. Withstand severe overloading without smoking, burning, charring. Element imbedded in cold-setting cement. Resistance winding supported on insulated metal core for maximum heat conduction and radiation, even at partial rotation settings. Single-hole mounting. Adjustable locking pin firmly anchors unit against bodily rotation. Shaft and bushing insulated from current-carrying arm for safety. 25 and 50 watt sizes.



Series PW-50—50 Watt

Cat. No.	Total Resis. Ohms	Max. Cur. at Total Res. Amps.	Max. Cur. Up to ⅓ Res. Amps.	List Price
PW-50-0.5	0.5	10.000	15.000	$6.50
PW-50-1	1	7.071	10.607	6.50
PW-50-2	2	5.000	7.500	6.50
PW-50-4	4	3.536	5.304	5.85
PW-50-6	6	2.887	4.330	5.85
PW-50-8	8	2.500	3.750	5.85
PW-50-12	12	2.041	3.062	5.85
PW-50-16	16	1.768	2.652	5.85
PW-50-22	22	1.508	2.261	5.85
PW-50-35	35	1.195	1.793	5.85
PW-50-50	50	1.000	1.500	5.85
PW-50-80	80	.791	1.186	5.85
PW-50-125	125	.632	.949	5.85
PW-50-150	150	.577	.866	5.85
PW-50-225	225	.471	.707	5.85
PW-50-300	300	.408	.612	5.85
PW-50-500	500	.316	.474	5.85
PW-50-800	800	.250	.375	6.20
PW-50-1000	1000	.224	.335	6.20
PW-50-1600	1600	.177	.265	6.20
PW-50-2500	2500	.141	.212	6.20
PW-50-3500	3500	.120	.179	6.50
PW-50-5000	5000	.100	.150	6.50

Standard Packing—Individual Carton

(* Net)

CLAROSTAT

TUBE-TYPE WIRE-WOUND RESISTORS

Standard Resistor Tubes

Cat. No.	Cat. No.
BK-29-B	K-74-B
BK-29-D	K-80-B
BK-32-D	K-82-B
BK-36-B	K-86-B
BK-36-D	K-90-A
BK-36-H	K-90-B
BK-42-B	K-92-A
BK-42-C	K-92-B
BK-49-B	L-42-B
BK-49-C	L-42-C
BK-55-B	L-42-D
BK-67-BJ	L-49-A
BL-42-B	L-49-B
BL-42-D	L-49-C
BM-49-B	L-49-D
BM-55-B	L-49-H
K-26J-218	L-55-B
K-36-D	L-55-CJ
K-42-A	L-55-C
K-42-AJ	L-55-CPR
K-42-B	L-55-D
K-42-C	M-30-H
K-42-D	M-42-B
K-49-A	M-49-B
K-49-B	M-55-B
K-49-C	M-55-H
K-49-D	M-80-B
K-49-H	M-86892-9
K-55-A	10-610
K-55-B	100-37
K-55-C	100-70
K-55-CPR	100-76
K-55-D	100-77
K-55-H	100-79
K-67-A	115-78
K-67-B	5459
K-67-BJ	28602
K-72-B	43X106

List Price..........$1.00

Standard Packing —
10 per carton

★ Clarostat developed and pioneered the tube-type resistor for voltage-reducing purposes and for supplying needed voltage for pilot lamp operation in AC-DC receivers. Strictly non-inflammable, with the resistance element wound on a mica form firmly secured in the metal tube and connected with the base prongs, the Clarostat construction is notably superior to others.

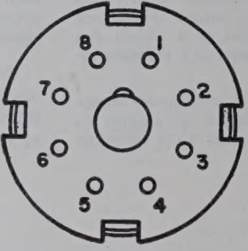
To simplify servicing of receivers using tube-type resistors, Clarostat has selected the most popular values for so-called Universal numbers serving most replacement needs. Standard resistor tubes of the most popular types are also listed below.

In connection with listings, the following nomenclature applies: Prefixes: K denotes 6.3 volt 150 ma. No. 40 pilot lamp.

L denotes 6.3 volt 250 ma. No. 46 pilot lamp.

M denotes 6.3 volt 200 ma. No. 51 pilot lamp.

The numeral indicates total voltage drop across resistance unit.



Suffixes designate:
A—No pilot lamp taps.
B—1 pilot lamp tap for 1 lamp.
C —1 pilot lamp tap for 2 lamps.
D —2 pilot lamp taps for 2 lamps.
E —3 pilot lamp taps for 3 lamps.
E1—1 pilot lamp tap for 3 lamps.
F —1 pilot lamp tap for 1 lamp.
G —1 pilot lamp tap for 2 pilot lamps. (Tapped sections isolated from main reducing body.)
H —2 pilot lamp taps for 2 pilot lamps. (Tapped section isolated from main reducing body.)

The letter "J" following any of the suffixes denotes a shorted connection between 2 prongs of the tube, i.e., K-67-BJ, the short is located between Nos. 3 and 4 prongs.

Care must be exercised when replacing any tube whose number ends in "J", as the shorted pins are not always as in above example. Some are betwen Nos. 6 and 7 prongs, and others between 5 and 3.

When replacing any plug-in resistor tube with a Clarostat Universal type, note prongs missing on replaced tube and cut off corresponding prongs on the Universal Replacement tube.

The numeral indicates total voltage drop across resistance unit.

UNIVERSAL RESISTOR TUBES

Universal Tube No.	Replaces AC-DC Tubes Beginning with Letters	Having Numbers From	Ending in Letter
10*23-A	BK, BL, K, L, M	10 to 23	A, B, C, D
10*23-E	BK, BL, K, L, M	10 to 23	E
10*23-F	BK, BL, K, L, M	10 to 23	F, G, H
23*55-A	BK, BL, K, L, M	23 to 55	A, B, C, D
23*55-E	BK, BL, K, L, M	23 to 55	E
23*55-F	BK, BL, K, L, M	23 to 55	F, G, H
60*92-A	BK, BL, K, L, M	60 to 92	A, B, C, D
60*92-E	BK, BL, K, L, M	60 to 92	E
60*92-F	BK, BL, K, L, M	60 to 92	F, G, H
92*105-A	BK, BL, K, L, M	92 to 105	A, B, C, D

List Price..............................$1.50

Standard Packing — 10 (ten) per carton

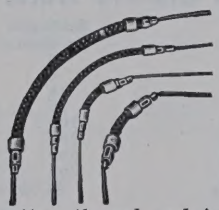
TELEVISION BALLASTS

*17A470303 for Motorola Television **Set No. VT-71. List Price $3.00**

397021 for Emerson Television **Set No. 571-606. List Price $3.00

★ This Emerson ballast tube is used as a protective resistor and any internal failure in the circuit may cause this unit to burn out and therefore this unit is expendable.

Standard Packing — 10 (ten) per carton



GLASOHMS*

Glass-Insulated Flexible Resistors

★ This is a new development in resistors which has found instant acceptance in widespread applications.

Glasohms consist of a wire winding on a fibreglass core, with a covering of braided fibre-glass, Each strand of glass is no thicker than usual cotton thread and just as flexible, so that the complete units can be bent or twisted and even knotted without breakage or weakening. Clarostat is the only manufacturer of Glasohms. These units are ideal for resistance boxes, attenuators, voltage-dividers, multipliers, step-by-step rheostats, and for use in point-to-point wiring jobs. Handy, inexpensive and very durable, these units can withstand heavy overloads without damage. There is nothing in them to burn or char. Glasohms are also suitable for use as miniature heating elements serving in hair curlers, immersion heaters, soldering irons, electrically-heated ovens for crystal oscillators, etc., especially in longer lengths obtained on special orders.

*Registered trade-mark.

Standard Glasohm Resistors

TYPE FYG — 2-WATT
1″ Fabric Length with 2″ Pigtails
⅛″ dia. core. RMA Color-coded

Cat. No.	Ohms	Cat. No.	Ohms
FYG5	5	FYG350	350
FYG10	10	FYG375	375
FYG15	15	FYG400	400
FYG25	25	FYG500	500
FYG35	35	FYG600	600
FYG40	40	FYG700	700
FYG50	50	FYG750	750
FYG60	60	FYG800	800
FYG75	75	FYG850	850
FYG100	100	FYG900	900
FYG125	125	FYG1000	1000
FYG150	150	FYG1250	1250
FYG200	200	FYG1500	1500
FYG225	225	FYG1600	1600
FYG250	250	FGY1750	1750
FGY300	300	FYG2000	2000

List Price........................$0.30

Standard Packing—10 (ten) per carton

AUTOMATIC LINE VOLTAGE REGULATORS

★ To maintain constant line voltage and thus prevent burning out the tubes of a radio receiver or other tube-using device, this handy unit, operating effectively on 110-volt A.C. or D.C. by simply plugging into the usual socket or outlet, safeguards against line voltage surges or increases even up to 140 volts. At the normal 110-volt, the resistance of the unit is low and the voltage drop across it is negligible. However, as the line voltage increases the resistance of the unit increases proportionately, with a constant increase in voltage drop across it. This automatic voltage control or ballast action insures a steady, practically constant and always safe operating potential.

Dimensions are 1¾″ dia. x 1¾″ long.
Prongs ⅝″ long.

Type No.	Rating Watts	For Use With Sets Consuming	No. of Tubes Used
O	50	Up to 60 watts	4
A	100	60 to 100 watts	5, 6, 7
B	150	100 to 150 watts	8, 9, 10
C	200	150 to 200 watts	11, 12
D	250	200 to 250 watts	2 Type 50
E*	100	60 to 100 watts	

*Note: For use with 220-volt receivers

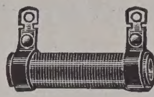
List Price $1.75

Standard Packing — 10 (ten) per carton

CLAROSTAT

FAMOUS GREENOHMS — WIRE-WOUND FIXED POWER RESISTORS

★ The toughest power resistors made. Will dissipate heat without change in resistance value. Will withstand heavy overloads, humidity, high-heat, and severe heat shock (frequent on-and-off operation). Due to the exclusive CLAROSTAT inorganic-cement coating, these resistors can be given the toughest assignments and will come through with flying colors. Greenohms are found in the finest electrical, radio and industrial assemblies — in equipment that must stand up — for functions where failure cannot be tolerated.



SERIES PR-5-F—5-WATT

Dimensions: $\frac{5}{16}$" dia. x 1" long.

The baby member of the famous Clarostat Greenohm family. Available in standard resistance values from 1 ohm to 7500 ohms (See exact values in listings for Series AC-10-F up to 7500).

All ohmages ....List Price $0.50
Standard Packing — 10 (ten) per carton.

Series AC-10-F—10-Watt

Dimensions: $\frac{5}{16}$" dia. x 1¾" long

Ohms	Ohms	Ohms	Ohms
1	125	1200	10000
2	150	1250	11000
3	200	1500	12000
4	225	1750	12500
5	250	2000	13500
7.5	300	2250	14500
10	350	2500	15000
12	400	3000	16000
15	450	3500	17500
20	500	4000	18000
25	600	4500	20000
30	700	5000	22500
35	750	6000	25000
40	800	7000	30000
50	900	7500	35000
75	1000	8000	40000
100	1100	8500	50000

All ohmages — List Price $0.55
Standard Packing — 10 (ten) per carton

Series AC-20-K—20-Watt

Dimensions: $\frac{9}{16}$" dia. x 2" long

Ohms	Ohms	Ohms	Ohms
1	800	6000	65000
5	850	7000	70000
10	1000	7500	75000
25	1200	8000	80000
50	1250	9000	85000
75	1500	10000	90000
100	1750	12500	95000
150	1850	15000	100000
200	2000	20000	
250	2250	25000	
300	2500	30000	
350	2750	35000	
400	3000	40000	
500	3500	45000	
650	4000	50000	
700	4500	55000	
750	5000	60000	

LIST PRICE:
1 to 15,000 ohms....$0.65
20,000 to 50,000 ohms.... .85
55,000 to 100,000 ohms.... 1.10
Standard Packing — 5 (five) per carton

Series A-25-K—25-Watt

Dimensions: $\frac{9}{16}$" dia. x 2½" long

Ohms	Ohms	Ohms	Ohms	Ohms
1	150	2250	10000	75000
2	200	2500	12000	80000
3	250	3000	15000	85000
5	300	3500	20000	90000
7.5	400	4000	25000	100000
10	500	4500	30000	
15	750	5000	35000	
20	800	6000	40000	
25	1000	7000	45000	
50	1250	7500	50000	
75	1500	8000	60000	
100	2000	9000	70000	

LIST PRICES:
1 to 5000 ohms $0.75
6000 to 15000 ohms .... .85
20000 to 50000 ohms 1.00
60000 ohms 1.15
70000 ohms 1.25
75000 ohms 1.30
80000 ohms 1.35
85000 ohms 1.50
90000 ohms 1.60
100000 ohms 1.75

Supplied with Mounting Brackets at No Extra Cost
Standard Packing — Individually Boxed

Series K-40-N—40-Watt

Dimensions: ¾" dia. x 3½" long

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms
5	125	1000	7500	35000	125000
10	150	1500	8500	40000	150000
15	200	2000	10000	50000	175000
20	250	2500	12500	60000	200000
25	300	3000	15000	70000	
50	400	4000	20000	80000	
75	500	5000	25000	90000	
100	750	6000	30000	100000	

LIST PRICES:
5 to 5000 ohms $0.90
6000 to 25000 ohms 1.00
30000 to 100000 ohms 1.20
125000 to 150000 ohms 1.40
175000 ohms 1.50
200000 ohms 1.60

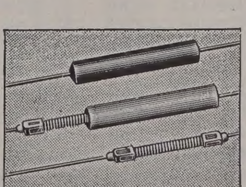
Supplied with Mounting Brackets at No Extra Cost
Standard Packing—Individually Boxed

Ohms	Series K-50-N ¾" dia. x 4½" l. 50-watt	Series K-80-N ¾" dia. x 6½" l. 80-watt	Series K-100-W 1⅛" dia. x 6½" l. 115-watt	Series K-160-W 1⅛" dia. x 8½" l. 160-watt	Series K-200-W 1⅛" dia. x 10½" l. 200-watt
5	$1.10	$1.25	$1.75	$2.25	$2.50
10	1.10	1.25	1.75	2.25	2.50
25	1.10	1.25	1.75	2.25	2.50
50	1.10	1.25	1.75	2.25	2.50
75	1.10	1.25	1.75	2.25	2.50
100	1.10	1.25	1.75	2.25	2.50
150	1.10	1.25	1.75	2.25	2.50
200	1.10	1.25	1.75	2.25	2.50
250	1.10	1.25	1.75	2.25	2.50
300	1.10	1.25	1.75	2.25	2.50
400	1.10	1.25	1.75	2.25	2.50
500	1.10	1.25	1.75	2.25	2.50
750	1.10	1.25	1.75	2.25	2.50
1,000	1.10	1.25	1.75	2.25	2.50
1,250	1.10	1.25	1.75	2.25	2.50
1,500	1.10	1.25	1.75	2.25	2.50
2,000	1.10	1.25	1.75	2.25	2.50
2,250	1.10	1.25	1.75	2.25	2.50
2,500	1.10	1.25	1.75	2.25	2.50
3,000	1.10	1.25	1.85	2.25	2.50
3,500	1.10	1.25	1.85	2.25	2.50
4,000	1.10	1.25	1.85	2.25	2.50
4,500	1.10	1.25	1.95	2.25	2.50
5,000	1.10	1.25	1.95	2.25	2.50
6,000	1.35	1.50	1.95	2.25	2.50
7,500	1.35	1.50	1.95	2.25	2.50
8,000	1.35	1.50	1.95	2.25	2.50
9,000	1.35	1.50	1.95	2.25	2.50
10,000	1.35	1.50	1.95	2.25	2.50
12,000	1.35	1.50	1.95	2.30	2.75
12,500	1.35	1.50	1.95	2.35	2.85
15,000	1.35	1.50	1.95	2.65	3.00
20,000	1.35	1.50	1.95	2.65	3.00
25,000	1.35	1.50	1.95	2.65	3.00
30,000	1.70	1.75	2.50	2.65	3.00
35,000	1.70	1.75	2.50	2.65	3.00
40,000	1.70	1.75	2.50	2.65	3.00
50,000	1.70	1.75	2.50	2.65	3.00
60,000	1.70	2.00	2.75	3.00	3.00
70,000	1.70	2.00	2.75	3.00	3.00
75,000	1.70	2.00	2.75	3.00	3.00
80,000	1.70	2.10	2.85	3.00	3.00
100,000	1.70	2.25	3.00	3.00	3.00
125,000	2.00		3.10	3.20	3.75
150,000	2.25		3.25	3.50	3.75
175,000	2.25		3.35		
200,000	3.00		3.75		

All resistors furnished with mounting brackets at no extra cost. Standard Packing — Individually Boxed.

GREENOHM JR. WIRE-WOUND RESISTORS

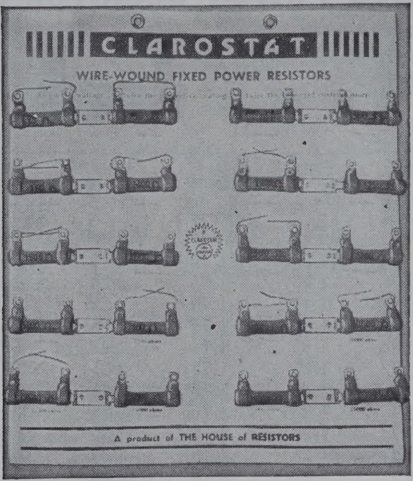
★ Handy, inexpensive, ceramic-cased midget wire-wound resistors for tight spots, especially with point-to-point wiring. These tiny resistors take the place of more cumbersome and costlier bracket-mounted units. This "junior" version of the well-known Greenohm power resistors features a wire winding on fibre-glass core, 1½" axial pigtail leads, and a steatite protective casing sealed with exclusive Greenohm cold-setting inorganic cement. This resistor will not blister, crack, or change shape. Type C7GJ, 1¾" long by $\frac{5}{16}$" dia., rated at 7 watts. Smaller Type C4GJ, 1" long by $\frac{5}{16}$" dia., rated at 4 watts. In characteristic Greenohm green, with printed values on casing.



Cat. No.		List Price
Type C7GJ	(1 to 5000 ohms)	$0.55
Type C4GJ	(1 to 1000 ohms)	.55

CLAROSTAT

FAMOUS GREENOHMS - WIRE-WOUND ADJUSTABLE POWER RESISTORS

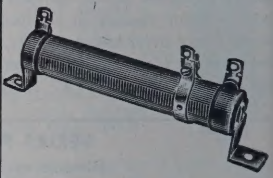

CLAROSTAT
WIRE-WOUND FIXED POWER RESISTORS
A product of THE HOUSE of RESISTORS

★ These power resistors feature the exclusive Clarostat inorganic cement coating and are similar in rugged construction to the fixed types on page R-7, except for the bared section of the winding contacted at any ohmage by the adjustable slider band. This band is permanently locked in place at the required resistance value by simply tightening a screw.

GREENOHM KIT

★ Here's a simple means of keeping 20 of the most popular 10-watt power resistors always at your finger-tips. Each Greenohm is held by metal clip on the wall chart. Slide off unit and value appears on wall chart, for handy reordering.

Cat. No. GK-1..........LIST PRICE **$11.00**



DIMENSIONS

★ Fixed and Adjustable Greenohms are of the same dimensions, wattage for wattage, as follows:

Rating	Dia.		Lgth.
10-watt	5/16″	x	1¾″
20-watt	9/16″	x	2″
25-watt	9/16″	x	2½″
40-watt	¾″	x	3½″
50-watt	¾″	x	4½″
80-watt	¾″	x	6½″
100-watt	1⅛″	x	6½″
160-watt	1⅛″	x	8½″
200-watt	1⅛″	x	10½″

SERIES AC-10-FA—10-WATT

Dimensions: 5/16″ dia. x 1¾″ long

Ohms	Ohms	Ohms	Ohms
1	100	1000	6000
2	150	1250	7000
3	200	1500	7500
5	250	2000	8000
7.5	300	2250	8500
10	350	2500	9000
15	400	3000	10000
20	500	3500	
25	600	4000	
50	750	4500	
75	800	5000	

LIST PRICE: All Sizes: $0.85

Standard Packing — 10 (ten) per carton

SERIES A-25-KA—25-WATT

Dimensions: 9/16″ dia. x 2½″ long

Ohms	Ohms	Ohms	Ohms
1	100	1500	7500
2	150	2000	8000
3	200	2250	9000
5	250	2500	10000
7.5	300	3000	12000
10	400	3500	15000
15	500	4000	20000
20	750	4500	25000
25	800	5000	50000
50	1000	6000	
75	1250	7000	

LIST PRICES:

1 to 5000 ohms	$0.95
6000 to 15000 ohms	1.10
20000 to 25000 ohms	1.25
50000 ohms	1.50

Supplied with Mounting Brackets at No Extra Cost.

Extra Slider Bands............$0.10 each

Standard Packing — Individually Boxed

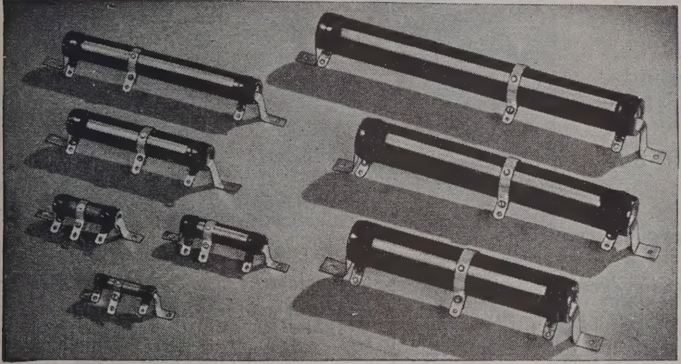
Ohms	Series **K-50-NA** ¾″ dia. x 4½″ l. **50-watt**	Series **K-80-NA** ¾″ dia. x 6½″ l. **80-watt**	Series **K-100-WA** 1⅛″ dia. x 6½″ l. **115-watt**	Series **K-160-WA** 1⅛″ dia. x 8½″ l. **160-watt**	Series **K-200-WA** 1⅛″ dia. x 10½″ l. **200-watt**
5	$1.50	$1.75	$2.00	$2.50	$3.00
10	1.50	1.75	2.00	2.50	3.00
15	1.50	1.75	2.00	2.50	3.00
20	1.50	1.75	2.00	2.50	3.00
25	1.50	1.75	2.00	2.50	3.00
50	1.50	1.75	2.00	2.50	3.00
75	1.50	1.75	2.00	2.50	3.00
100	1.50	1.75	2.00	2.50	3.00
150	1.50	1.75	2.00	2.50	3.00
200	1.50	1.75	2.00	2.50	3.00
250	1.50	1.75	2.00	2.50	3.00
300	1.50	1.75	2.00	2.50	3.00
400	1.50	1.75	2.00	2.50	3.00
500	1.50	1.75	2.00	2.50	3.00
750	1.50	1.75	2.00	2.50	3.00
1,000	1.50	1.75	2.00	2.50	3.00
1,250	1.50	1.75	2.00	2.50	3.00
1,500	1.50	1.75	2.00	2.50	3.00
2,000	1.50	1.75	2.00	2.50	3.00
2,500	1.50	1.75	2.00	2.50	3.00
3,500	1.50	1.75	2.00	2.50	3.00
4,000	1.50	1.75	2.00	2.50	3.00
4,500	1.50	1.75	2.25	2.50	3.00

Ohms	Series **K-50-NA** ¾″ dia. x 4½″ l. **50-watt**	Series **K-80-NA** ¾″ dia. x 6½″ l. **80-watt**	Series **K-100-WA** 1⅛″ dia. x 6½″ l. **115-watt**	Series **K-160-WA** 1⅛″ dia. x 8½″ l. **160-watt**	Series **K-200-WA** 1⅛″ dia. x 10½″ l. **200-watt**
5,000	$1.50	$1.75	$2.25	$2.65	$3.25
6,000	1.75	2.00	2.25	2.65	3.25
7,000	1.75	2.00	2.25	2.65	3.25
7,500	1.75	2.00	2.25	2.65	3.25
8,000	1.75	2.00	2.25	2.65	3.25
9,000	1.75	2.00	2.25	2.65	3.25
10,000	1.75	2.00	2.25	2.65	3.25
12,000	1.75	2.00	2.25	2.90	3.50
15,000	1.75	2.00	2.25	3.25	3.75
20,000	1.75	2.00	2.25	3.25	3.75
25,000	1.75	2.00	2.85	3.25	3.75
30,000	2.00	2.25	2.85	3.25	3.75
35,000	2.00	2.25	2.85	3.25	3.75
40,000	2.00	2.25	2.85	3.25	3.75
45,000	2.00	2.25	2.85	3.25	3.75
50,000	2.00	2.25	3.00	3.25	3.75
60,000	2.50	2.50	3.00	3.75	3.75
75,000	2.50	2.50	3.15	3.75	3.75
80,000	2.50	2.50	3.15	3.75	3.75
100,000	2.50	2.50	3.65	3.75	3.75
125,000			4.00	4.25	
150,000			4.25	4.25	

All resistors furnished with mounting brackets at no extra cost.
Standard Packing — Indiviually Boxed.

LECTROHM *Vitreous Enameled* RESISTORS

Quality—Accuracy—Dependability—Long Life



WIRE WOUND ADJUSTABLE TYPES

The same high quality and construction are used for LECTROHM Adjustable Resistors as are incorporated in LECTROHM fixed units.

These resistors are used for replacing voltage dividers in radio receivers, for radio transmitter power supply, and for general experimental work.

TYPE 1¾EV—10-WATT

DIMENSIONS .... $\frac{5}{16}$″ x $\frac{3}{16}$″ x 1¾″
TERMINALS ....Lug Type
MAXIMUM RESISTANCE........10,000 ohms
MOUNTING BRACKET ....Centers 2¼″

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	3150	$0.98	750	115	$0.98
2	2230	.98	800	111	.98
3	1825	.98	1000	100	.98
5	1415	.98	1250	89	.98
7.5	1155	.98	1500	79	.98
10	1000	.98	2000	69	.98
15	815	.98	2250	64	.98
20	707	.98	2500	61	.98
25	630	.98	3000	56	.98
50	447	.98	3500	51	.98
75	365	.98	4000	47	.98
100	315	.98	4500	44	.98
150	258	.98	5000	40	.98
200	223	.98	6000	36	.98
250	200	.98	7000	33	.98
300	182	.98	7500	32	.98
350	169	.98	8000	31	.98
400	158	.98	8500	30	.98
500	141	.98	10000	24	.98
600	129	.98			

TYPE 2SV—25-WATT

DIMENSIONS ....$\frac{9}{16}$″ x $\frac{5}{16}$″ x 2″
TERMINALS ....Solder Lug
MAXIMUM RESISTANCE..........25,000 ohms
MOUNTING BRACKET............Centers 2⅞″

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	5000	$1.24	1000	158	$1.24
3	2890	1.24	1250	141	1.24
5	2240	1.24	1500	129	1.24
10	1580	1.24	2000	112	1.24
15	1290	1.24	2500	100	1.24
25	1000	1.24	3000	91	1.24
50	707	1.24	3500	84	1.24
75	575	1.24	4000	79	1.24
100	500	1.24	5000	71	1.24
150	400	1.24	6000	64	1.43
200	353	1.24	7500	57	1.43
250	316	1.24	10000	50	1.43
300	288	1.24	12000	44	1.43
400	250	1.24	15000	26	1.43
500	224	1.24	20000	22	1.56
750	182	1.24	25000	20	1.56

TYPE 4½MV—50-WATT

DIMENSIONS...................¾″ x ½″ x 4½″
TERMINALS...............................Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET...........Centers 5½″

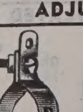
Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	3160	$1.95	3000	129	$1.95
10	2230	1.95	4000	112	1.95
25	1410	1.95	5000	100	1.95
50	1000	1.95	7500	81	2.15
75	816	1.95	10000	70	2.15
100	707	1.95	12000	64	2.15
150	577	1.95	15000	57	2.15
200	500	1.95	20000	50	2.15
250	447	1.95	25000	44	2.15
300	408	1.95	30000	41	2.47
400	354	1.95	40000	35	2.47
500	316	1.95	50000	20	2.47
750	258	1.95	60000	18	2.86
1000	224	1.95	75000	17	2.86
1500	182	1.95	80000	16	2.86
2000	158	1.95	100000	14	2.86
2500	141	1.95			

TYPE 6½MV—80-WATT

DIMENSIONS...................¾″ x ½″ x 6½″
TERMINALS...............................Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET...........Centers 7½″

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
10	2830	$2.54	3500	152	$2.54
15	2310	2.54	5000	126	2.54
25	1790	2.54	7500	103	2.86
50	1265	2.54	10000	89	2.86
100	894	2.54	15000	73	2.86
250	566	2.54	20000	63	2.86
300	517	2.54	25000	57	2.86
400	495	2.54	30000	51	3.25
500	400	2.54	40000	44	3.25
750	327	2.54	50000	25	3.25
1000	283	2.54	60000	23	3.58
1500	231	2.54	75000	21	3.58
2000	200	2.54	80000	20	3.58
2500	179	2.54	100000	18	3.58

ADJUSTABLE LUGS



Screw-Driver Type

Diameter of Resistor	List Price
⅜″	$0.13
⅝″	.13
⅞″	.20
1¼″	.20

TYPE 6½KV—100-WATT

DIMENSIONS................1⅛″ x ¾″ x 6½″
TERMINALS...............................Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET............Centers 7½″

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
50	1413	$2.86	15000	81	$3.25
100	1000	2.86	20000	70	3.25
500	447	2.86	25000	63	3.25
1000	316	2.86	30000	57	3.58
2000	223	2.86	35000	53	3.58
3000	182	2.86	40000	50	3.58
4000	158	2.86	50000	44	3.58
5000	141	2.86	75000	23	3.90
7500	115	3.25	100000	20	3.90
10000	100	3.25			

TYPE 8½KV—160-WATT

DIMENSIONS..................1⅛″ x ¾″ x 8½″
TERMINALS............................. Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET............Centers 9½″

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	5660	$3.58	10000	126	$3.58
10	4000	3.58	15000	103	4.16
25	2530	3.58	20000	89	4.16
50	1788	3.58	25000	80	4.16
100	1266	3.58	30000	73	4.16
500	566	3.58	40000	55	4.16
1000	400	3.58	50000	43	4.16
2500	253	3.58	75000	27	4.55
5000	179	3.58	100000	18	4.55

TYPE 10½KV—200-WATT

DIMENSIONS................1⅛″ x ¾″ x 10½″
TERMINALS...............................Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET..........Centers 11½″

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
50	2000	$4.29	10000	141	$4.29
100	1414	4.29	20000	100	5.00
500	632	4.29	25000	89	5.00
1000	447	4.29	30000	81	5.00
1500	361	4.29	50000	63	5.00
2000	316	4.29	75000	51	5.00
2500	283	4.29	100000	28	5.00
5000	200	4.29			

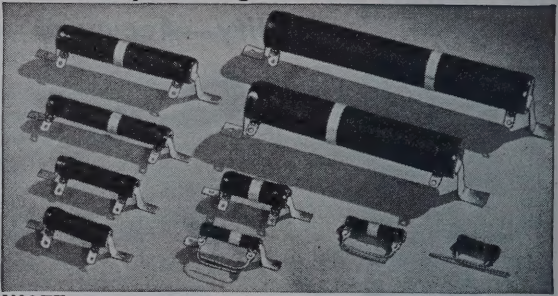
Mounting brackets and one band are furnished with all adjustable types.

LECTROHM *Vitreous Enameled* RESISTORS

Quality—Accuracy—Dependability—Long Life

WIRE WOUND—FIXED TYPES

LECTROHM Resistors are manufactured from the highest quality materials obtainable and are rated according to R.M.A. standards. LECTROHM Resistors are rugged—dependable — accurate — quality components that will give long trouble-free service. (Mounting brackets available for 20, 50, 80, 100, 160 and 200 watt units.)



TYPE 1¼L—5-WATT

DIMENSIONS..................¼" $\frac{5}{32}$" x 1¼"
TERMINALS..........................Pig Tail
MAXIMUM RESISTANCE.........10,000 ohms
No Mounting Brackets

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	2240	$0.52	300	129	$0.52
2	1580	.52	350	119	.52
3	1290	.52	400	111	.52
4	1110	.52	500	100	.52
5	1000	.52	600	91	.52
10	707	.52	700	84	.52
15	575	.52	750	81	.52
20	500	.52	800	79	.52
25	447	.52	900	74	.52
30	408	.52	1000	70	.52
35	374	.52	1100	64	.52
40	346	.52	1200	60	.52
50	316	.52	1250	59	.52
75	258	.52	1500	54	.52
100	222	.52	1750	50	.52
125	200	.52	2000	44	.52
150	182	.52	2500	40	.52
200	158	.52	3000	36	.52
225	149	.52	4000	31	.52
250	141	.52	5000	28	.52

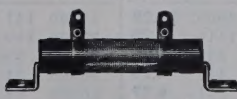
TYPE 1¾—10-WATT

DIMENSIONS...............$\frac{5}{16}$" x $\frac{3}{16}$" x 1¼"
TERMINALS..........................Pig Tail
MAXIMUM RESISTANCE.........40,000 ohms
No Mounting Brackets

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
1	3150	$0.59	1500	79	$0.59
2	2230	.59	1750	74	.59
3	1825	.59	2000	69	.59
5	1415	.59	2250	64	.59
7.5	1155	.59	2500	61	.59
10	1000	.59	3000	56	.59
15	815	.59	3500	51	.59
20	707	.59	4000	47	.59
25	630	.59	4500	44	.59
50	447	.59	5000	40	.59
75	365	.59	6000	36	.59
100	315	.59	7000	33	.59
150	258	.59	7500	32	.59
200	223	.59	8000	31	.59
250	200	.59	8500	30	.59
300	182	.59	10000	24	.59
350	169	.59	12000	20	.65
400	158	.59	12500	20	.65
500	141	.59	15000	18	.65
600	129	.59	17500	17	.65
700	119	.59	18000	16	.65
750	115	.59	20000	15	.65
800	111	.59	22500	15	.65
900	105	.59	25000	14	.65
1000	100	.59	30000	8	.65
1200	91	.59	40000	7	.65
1250	89	.59			

LECTROHM
R. F. PLATE CHOKES

(1000 Milliamps.)



Type	RFC-1	RFC-2	RFC-3	RFC-4
Amateur Band Meters	5	10 & 20	20 & 40	20, 40 80 & 160
Microhenries	5.4	35	95	220
D. C. Ohms	0.85	2	5	9
Lgth. Overall	1¾"	3"	6"	6½"
Diameter	¼"	$\frac{9}{16}$"	$\frac{9}{16}$"	¾"
List Price	$0.33	$1.04	$1.56	$2.15

TYPE 2R—20-WATT

DIMENSIONS..................½" x $\frac{5}{16}$" x 2"
TERMINALS ....Solder Lug
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET............Centers 2⅞"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	2000	$0.91	1100	134	$0.91
10	1414	.91	1250	126	.91
15	1153	.91	1500	115	.91
20	1000	.91	2000	100	.91
25	894	.91	2500	89	.91
40	707	.91	3000	81	.91
50	633	.91	4000	70	.91
60	574	.91	5000	63	.91
75	517	.91	6000	57	.91
100	448	.91	7000	53	.91
125	400	.91	7500	51	.91
150	365	.91	8000	50	.91
200	316	.91	10000	43	.91
250	283	.91	12500	39	.91
300	258	.91	15000	30	.91
350	238	.91	20000	24	1.11
400	223	.91	25000	21	1.11
500	200	.91	30000	21	1.11
600	182	.91	35000	18	1.11
700	169	.91	40000	17	1.11
750	163	.91	45000	13	1.11
800	158	.91	50000	11	1.11
1000	141	.91			

TYPE 4½M—50-WATT

DIMENSIONS................¾" x ½" x 4½"
TERMINALS..........................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET............Centers 5½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	3165	$1.56	6000	85	$1.82
10	2230	1.56	7000	78	1.82
25	1390	1.56	7500	77	1.82
50	1000	1.56	8000	75	1.82
100	700	1.56	10000	66	1.82
200	500	1.56	12000	63	1.82
250	440	1.56	12500	60	1.82
500	300	1.56	15000	56	1.82
750	250	1.56	20000	48	1.82
1000	215	1.56	25000	43	1.82
1500	175	1.56	30000	39	2.08
2000	155	1.56	40000	34	2.08
2500	135	1.56	50000	30	2.08
3000	120	1.56	60000	28	2.08
4000	105	1.56	75000	25	2.08
5000	95	1.56	100000	21	2.08

TYPE 6½M—80-WATT

DIMENSIONS...............¾" x ½" x 6½"
TERMINALS..........................Solder Lugs
MAXIMUM RESISTANCE........100,000 ohms
MOUNTING BRACKET............Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	4000	$2.04	5000	122	$2.04
10	2730	2.04	6000	112	2.41
25	1730	2.04	7500	100	2.41
50	1220	2.04	8000	98	2.41
100	865	2.04	10000	86	2.41
200	612	2.04	15000	70	2.41
250	545	2.04	20000	61	2.41
500	387	2.04	25000	55	2.41
750	316	2.04	30000	50	2.72
1000	274	2.04	50000	43	2.72
1500	223	2.04	50000	39	2.72
2000	193	2.04	60000	35	3.09
2500	173	2.04	75000	31	3.09
3000	158	2.04	100000	27	3.40
4000	137	2.04			

TYPE 6½K—100-WATT

DIMENSIONS...............1⅛" x ¾" x 6½"
TERMINALS..........................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET............Centers 7½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
25	2000	$2.15	3000	180	$2.15
50	1414	2.15	5000	140	2.15
75	1155	2.15	7500	115	2.54
100	1100	2.15	10000	100	2.54
150	815	2.15	15000	80	2.54
250	632	2.15	20000	70	2.54
500	447	2.15	25000	63	2.54
750	365	2.15	30000	58	2.86
1000	315	2.15	40000	50	2.86
1250	280	2.15	50000	44	2.86
1500	250	2.15	60000	41	3.25
2000	220	2.15	75000	36	3.25
2500	200	2.15	100,000	31	3.58

TYPE 8½K—160-WATT

DIMENSIONS...............1⅛" x ¾" x 8½"
TERMINALS..........................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET...........Centers 9½"

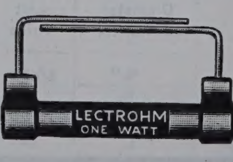
Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	5660	$2.86	4500	185	$2.86
10	4000	2.86	5000	180	2.86
25	2530	2.86	7500	145	2.86
50	1788	2.86	10000	125	2.86
75	1460	2.86	15000	105	3.45
100	1260	2.86	20000	90	3.45
200	900	2.86	25000	80	3.45
500	570	2.86	30000	67	3.45
1000	400	2.86	35000	57	3.45
1500	330	2.86	40000	50	3.45
2000	280	2.86	50000	40	3.45
2500	250	2.86	60000	33	3.90
3000	230	2.86	70000	28	3.90
3500	215	2.86	80000	25	3.90
4000	200	2.86	100000	20	3.90

TYPE 10½K—200-WATT

DIMENSIONS..............1⅛" x ¾" x 10½"
TERMINALS..........................Solder Lugs
MAXIMUM RESISTANCE.........100,000 ohms
MOUNTING BRACKET...........Centers 11½"

Res. Ohms	Max. M.A.	List Price	Res. Ohms	Max. M.A.	List Price
5	6310	$3.58	4500	210	$3.58
10	4470	3.58	5000	200	3.58
25	2830	3.58	7500	165	3.58
50	2000	3.58	10000	140	3.58
75	1635	3.58	15000	115	4.29
100	1400	3.58	20000	100	4.29
250	900	3.58	25000	90	4.29
500	630	3.58	30000	82	4.29
1000	450	3.58	35000	71	4.29
1500	365	3.58	40000	62	4.29
2000	315	3.58	50000	50	4.29
2500	280	3.58	60000	42	4.29
3000	260	3.58	75000	33	4.29
3500	240	3.58	100000	25	4.29
4000	225	3.58			

LECTROHM INSULATED WIRE-WOUND RESISTORS—1 WATT



Ohms	Max. Current Mills.	Ohms	Max. Current Mills.	Ohms	Max. Current Mills.	Ohms	Max. Current Mills.
100	100	750	36	2,500	20	9,000	10
125	89	800	35	3,000	18	10,000	10
150	81	900	33	3,500	16	12,500	9
200	70	1,000	31	4,000	15	15,000	8
250	63	1,100	30	4,500	14	16,000	7
300	57	1,200	28	5,000	14	17,500	7
350	53	1,250	28	6,000	12	18,000	7
400	50	1,500	25	7,000	11	20,000	7
500	44	1,750	23	7,500	11	22,500	6
600	40	2,000	22	8,000	11	25,000	6
700	37	2,250	21				

List Price, Each $0.33

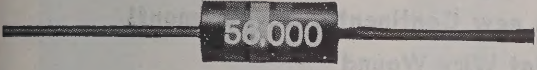
OMPOSITION RESISTORS

CONTINENTAL RADIO Certified COMPONENTS CARBON INC

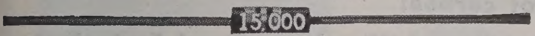
"CARBOMITE" M-TYPE RESISTORS

(Actual size as Illustrated)

M1-1 WATT



M2-2 WATT



M½-½ WATT

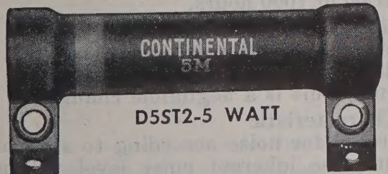
- **Meet JAN-R-11 Army-Navy Specification**
- **Low Noise Level; Low Voltage Coefficient**
- **Stamped With Value**
- **Extra Small Size**
- **High Insulation 1000 volt Breakdown**

Continental's New "CARBOMITE" bakelite insulated carbon composition resistors are now the standard of Electronic components used in the Radio and Electronic Industries. They meet all specifications of the joint Army-Navy-Jan-R-11 including the toughest of all tests the "Salt water immersion cycling." The "CARBOMITE" M type resistor consists of a solid molded carbon core, outer molded bakelite insulated shell and molded in leads. These resistors being well insulated can be mounted side by side or against any metal surface without shorting or grounding. They are recommended where space limits and insulating quality require a rugged reliable and small resistor capable of withstanding severe service. The lead wires are straight and are tinned with a tin composition heavy enough to give instant soldering with the touch of the heated soldering iron tip. The resistor values are easily identified by the bright non-rubbing off color code bands and the white ink stamped numbers of the value on the body of the resistor.

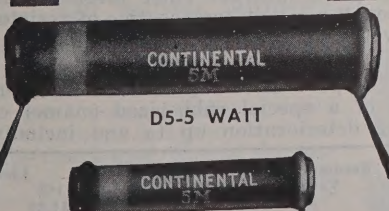
The M2-2 watt, M1-1 watt and the M½-½ watt are made in all the standard preferred RMA values as listed in the table below and are packed in quantities of 10 or 50 of each value to the box. Order in these quantities or multiples thereof.

Type	Size	List Price 5%	Tolerance 10%
M½	⅜" x $\frac{9}{64}$" Dia.	$0.33	$0.17
M1	$\frac{9}{16}$" x $\frac{7}{32}$" Dia.	.50	.25
M2	$\frac{11}{16}$" x $\frac{5}{16}$" Dia.	.66	.33

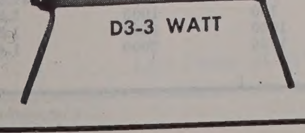
CONTINENTAL D-TYPE



D5ST2-5 WATT



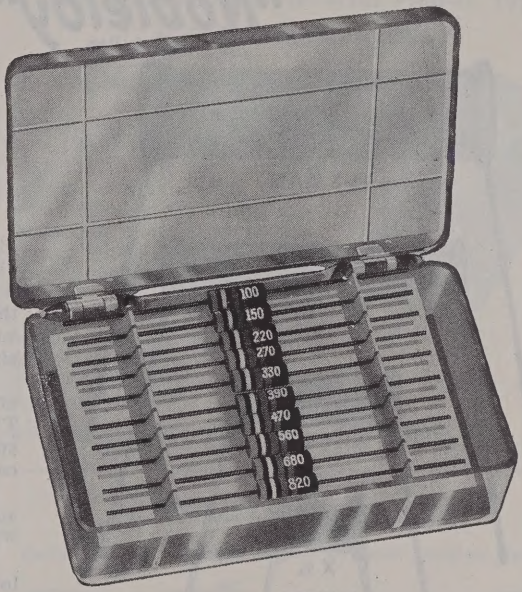
D5-5 WATT



D3-3 WATT

"POCKET-PAC" RESISTOR KITS

- **De Luxe Clear Plastic Boxes**
- **Strongly Hinged Covers**
- **Color Code in Each Kit**
- **Values Stamped on Each Resistor**



These "Pocket-Pac" Kit-Boxes are made of clear durable plastic. The contents can be easily seen thru the walls of the box. A Color Code Indicator and the Box are furnished free with each Kit.

FORTY RESISTOR "POCKET-PAC" KIT VALUES

Ohms	Ohms	Ohms	Megohms	Megohms
100	1000	10,000	0.1	1.0
150	1500	15,000	.15	
220	2200	22,000	.22	2.2
270	2700	27,000	.27	
330	3300	33,000	.33	
470	4700	47,000	.47	4.7
560	5600	56,000	.56	
680	6800	68,000	.68	
820	8200	82,000	.82	10.0

"Pocket-Pac" Code No.	Quantity and Type	Box Size	List Price
40A	40 M½—½ watt	4½ x 2¾ x 1	$6.80
40B	40 M1 — 1 watt	4½ x 2¾ x 1	10.00
40C	40 M2 — 2 watt	7 x 3½ x 1$\frac{3}{16}$	13.20
80D	40 M½ plus 40 M1	7 x 3½ x 1$\frac{3}{16}$	16.80
80E	2 ea. 40 values M½	7 x 3½ x 1$\frac{3}{16}$	13.60
80F	2 ea. 40 values M1	7 x 3½ x 1$\frac{3}{16}$	20.00

- **Heavy Duty Carbon**
- **Operate safely on overloads**
- **Non-inductive**

The D-Type resistor with radial leads is made with solid molded carbon rods, copper sprayed on the ends to which are soldered No. 18 copper tinned leads. The soldered contact construction insures a noise-free and stable resistor. They are known as the heavy duty type units because of their size—having a larger radiating area they operate safely on overloads. A baked-on insulation is a protection against shorts to subpanel and wiring.

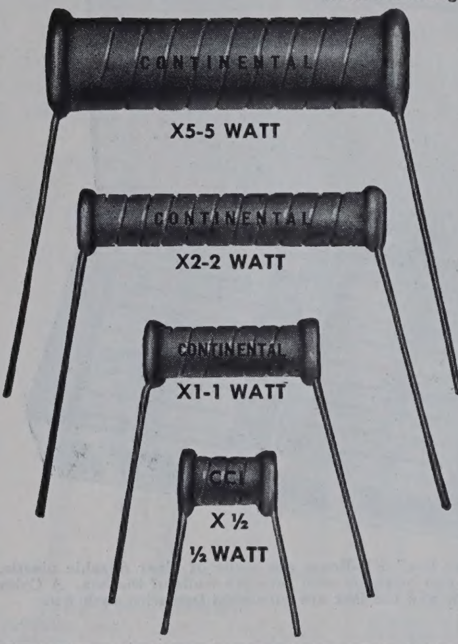
Type	Wattage	Size	List Price Tolerance ±5%	±10%
D 3	3 Watt	2" x ⅜"	$0.60	$0.40
D 4	4 Watt	2½" x ½"	.75	.50
D 5	5 Watt	3" x $\frac{9}{16}$"	.80	.60
D 5ST2*	5 Watt	3" x $\frac{9}{16}$"	1.25	1.00

*D5ST2 units have heavy copper eyeletted and soldered strap terminals ⅜" wide with holes of 2$\frac{9}{16}$" spacing. The outer holes can be used with either 6-32 screw mounting or solder wire loops, while the inner holes are for 8-32 screw mounting. The outer section of the terminal can be cut off or bent to any angle desired.

PRECISION RESISTOR

"Nobleloy" X-Type Resistors

Trade Mark Reg.



- **A new Continental Development!**
- **Not Wire Wound**
- **Not carbon!**
- **Stability of Wire Wound and Equivalent**

After several years of research work CONTINENTAL e gineers have developed a new resistor involving the meta film principle, having the accuracy of a wire wound uni Absolutely no carbon whatever is used in the fabrication o these resistors. The metallic resistance film is formed on th surface of a low loss ceramic tube using a patented pyr chemic process.

The metal film thus formed is hermetically sealed by a laye of vitreous enamel specially developed and patented by CON TINENTAL. The ceramic tube with its associated film is the spiralled to give a long resistance path and to accuratel calibrate the unit to value.

Since the ceramic tubes are hollow they allow a large surface for heat radiation, thus permitting the resistor t withstand overloads of 200% or better.

The copper-tinned lead terminals are soldered to extremel low resistance metal contact films which in turn are integra with the resistance film, thereby reducing contact resistanc to a minimum. This type of construction produces a resisto unit having not only excellent resistance stability but also negligible noise characteristic.

ELECTRICAL CHARACTERISTICS OF CONTINENTAL "NOBLELOY X" TYPE RESISTORS

Voltage

The recommended voltage rating of Continental "NOBLELOY X" type resistors is the maximum r.m.s. voltage which the resistor is expected to withstand in continuous use and is determined from the formula: $E = \sqrt{WR}$ Where E = rated D.C. or r.m.s. A.C. Voltage, W = watts rating, R = resistance.

In no case shall the D.C. or r.m.s. A.C. voltage be greater than the maximum voltage shown in the table.

Load Characteristics

Irrespective of value, Continental "NOBLELOY X" type resistors will not change more than 5.0% when the load is increased from 2% of rated wattage to 200% of rated wattage, and on cooling to room temperature returns to the original value. This is practically the temperature coefficient effect.

Voltage Characteristics

Voltage coefficient does not exceed $\frac{1}{10}$ of 1%.

Normal Load Life Characteristics (All Values)

The permanent change in resistance will not be more than 1.0% when the resistor is subjected to a normal life test of 1000 hours.

Overload Life Characteristics (All Values)

The permanent change in resistance will not be mor than 2.0% when the resistor is subject to 200% o rated wattage for a period of 1000 hours.

Temperature Coefficient (All Values)

The temperature coefficient of resistance will no exceed 0.0005 (.05 per degree Centigrade) Negativ

Humidity Characteristics (All Values 1.0 Ohm to 1 Megohms)

Continental "NOBLELOY X" type resistors will no change more than 1.5% when conditioned in an at mosphere of 100% relative humidity at 40°C. ambient for a period of 1000 hours.

Shelf Life

When stored under normal conditions, the resistanc will not change more than 0.1% during a period o 2000 hours. This is a negligible change.

Noise Characteristic

When tested for noise according to standard R.M.A procedure, the inherent noise level will not excee ¼ microvolt per volt, irrespective of resistance valu This level is equal to wire wounds.

Finish

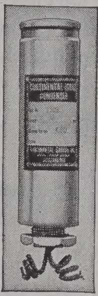
All "X" type resistors possess a smooth, unifor coating of a special rubberized enamel capable o resisting deterioration up to and including 400°F

Type	Wattage	Size	Values	Recommended Voltage	Max. Voltage	List Prices 1%	5%
X-½	½ Watt	9/32" x ⅝"	½ ohm to 5 meghom	500	700	$1.00	$ .8
X-1	1 Watt	9/32" x 1"	1 ohm to 10 meghom	700	1000	1.00	.8
X-2	2 Watt	9/32" x 1¾"	2 ohm to 20 meghom	1000	1500	1.20	1.0
X-5	5 Watt	½" x 2"	3 ohm to 30 meghom	1250	2000	1.40	1.2

No. 18 tinned copper leads 1½" long.

FILTERNOYS Paper Condensers

EE TYPE



IE TYPE

CONTINENTAL Carbon Model E condensers are high quality, paper dielectric capacitors built in shapes and sizes equivalent to electrolytic capacitors commonly found in radio receivers. They are flash tested at 3 times their d.c. working voltage and have the advantage of low power factor at 60 cycles. They are non-inductive, non-polarized, and are of permanent capacity. No active chemicals are used which could cause corrosion of the foil or leakage. The tabulations below show the actual capacity in microfarads and the rated sizes of electrolytic condensers occupying the same dimensions. Recommended for use on d.c. and rectified a.c. only. Model E, d.c. working volts, 600; peak volts, 1000.

Data and Prices on Type E Condensers

Cardboard Containers
Furnished with Six-Inch Wire Leads

E-Type—600 Volts d.c.

Code	Capacity in Mfds.	Equivalent Electrolytic	Size	List Price
EE2	1.2	2	4⅜x1⅜x 11/16	$1.35
EE4	2.4	4	4⅜x1⅜x 15/16	1.65
EE8	4.8	8	4⅜x1⅜x1⅛	2.00
			Condensers in Metal Cans Inverted Stud Mounting, Six-Inch Leads Insulated from Can	
IE4	2.4	4	4⅜x1⅜ Dia.	$2.00
IE8	4.8	8	4⅜x1½ Dia.	2.35

FILTERNOYS F02GH

Most Popular and Universal Plug-in Type FOR ELECTRIC RAZORS

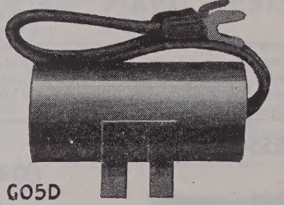
SUPPRESSION TYPE

Handy plug-in type suppressor with two r-f chokes, two condensers, and a ground lead for use on electrical devices of 300 watts or less, creating interference of intermitten or temporary character, such as a sewing machine motor, small electric washing machines, electric shavers, drink mixers, cash registers, adding machines, or electric typewriters. Size 2⅝" by 1⅜" diameter. 300-Watt capacity on 120 volts, a.c. or d.c.

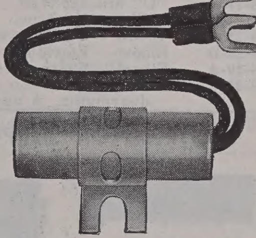
Filternoys F02GH..................List Price $2.00

FILTERNOYS G05D, G01D

Designed to Be Mounted Directly on Small Electrical Devices



G05D



Filternoys G05D has two 0.5 Mfd. condensers, one connected to each lead and the other ends grounded to the can at a common point. This Filternoys can be connected across each pair of brushes of generators, motors and the line wires of all stationary electric devices. Rating: 115-230 Volts a.c. or d.c.

G05D—Size 2¼x1, List Price $1.50

Filternoys Diverter G01D—Dual capacitors in a grounded container for any size electric motor operating on 120 v. or less. Through making use of the field coils as chokes, this is a most effective method to silence a noisy a.c. or d.c. motor. Size 1⅞" x ⅝" diameter. Shock Proof.

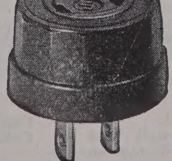
G01D....List Price $0.75

Oil Burner Suppressor

Filternoys Suppressor OB15, carbon element type, intended for use only with the high tension spark ignition of oil or gas burning heating systems. Must be connected in series with each line to the spark gap. Size of the suppressor 3½" x ¾" diameter. Universal connections at both ends for solderless contact.

OB15...............List Price $1.80

FILTERNOYS F18



Filternoys Diverter F18 is a compact 0.1 mfd capacitor in a conveniently small bakelite plug-in coupler for use across domestic power lines in which the neutral wire is grounded. The capacitor diverts interference from the high potential side of the power line to the grounded neutral side. Use on floor or table lamps, cigarette lighters, and the radio.

F18..............List Price $0.75

SUPPRESSORS SUPPRESSOR

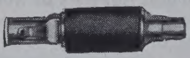
ALL SPARK PLUG SUPPRESSORS AND DISTRIBUTOR SUPPRESSORS EACH LIST PRICE $0.30

CONTINENTAL SUPPRESSORS have been subjected to years of laboratory development and actual road service. They effectively remove noise interference from spark discharge at the plugs and high-tension distributor—yet do not in any way affect the motor car ignition system.

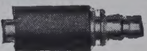
They have mechanical strength to stand the most severe service. The resistance value of 10,000 ohms has been scientifically determined. Sparking across the terminals is eliminated by careful shaping of the electrodes and cases.

SPARK PLUG SUPPRESSORS

S 19

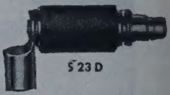

S 19 A

S 27


S 27 D

S 23

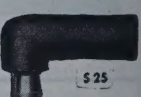
S 21


S 23 D

S 19 D

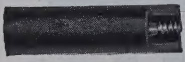
S 20 A

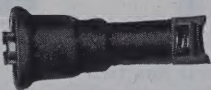
S 21 D

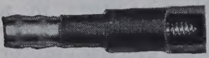

S 25

TYPE	SPARK PLUG CONNECTION	CABLE CONNECTION
S-19	Vertical — Snaps on to spark plug.	Cable terminal snaps on.
S-19-A	Vertical — Rajah special terminal.	Cable terminal snaps on.
S-19-D	Vertical — Snaps on to spark plug same as S-19.	Cable terminal snaps on and with a removable ferrule nut for spade terminal.
S-27	Vertical — Screws on.	Cable terminal snaps on.
S-27-D	Vertical — Screws on.	Cable terminal snaps on and with a removable ferrule nut for spade terminal.
S-21	"U" bracket type.	Cable terminal snaps on.
S-21-D	"U" bracket type.	Cable terminal snaps on and with a removable ferrule nut for spade terminal.
S-23	Elbow — Flexible, snaps on.	Cable terminal snaps on.
S-23-D	Elbow — Flexible, snaps on.	Cable terminal snaps on and with a removable ferrule nut for spade terminal.
S-20-A	Elbow — Snaps on spark plug.	Cable screws into suppressor, making a moisture proof insulated joint.
S-25	Elbow — Snaps on spark plug and also fits distributor. A universal suppressor.	Cable screws into suppressor, making a moisture proof insulated joint.

DISTRIBUTOR SUPPRESSORS


C 11


T 20 A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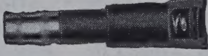
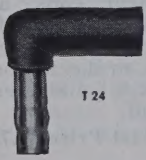

T 20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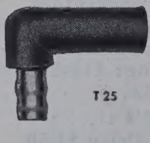
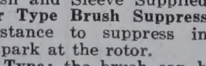
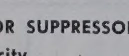

T 25

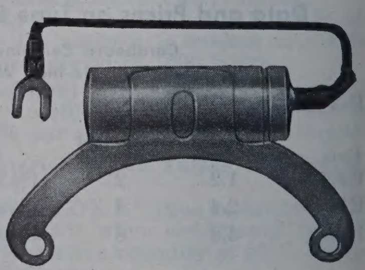
FORD DISTRIBUTOR SUPPRESSOR

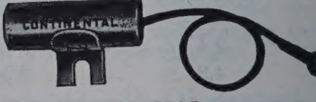

Brush


Sleeve

T-17: Brush and Sleeve Supplied Together
Distributor Type Brush Suppressor of the right resistance to suppress interference from the spark at the rotor.
Universal Type: the brush can be inserted in the bakelite sleeve to fit models using the larger size brush.

GENERATOR CONDENSERS


GB05F



GB05

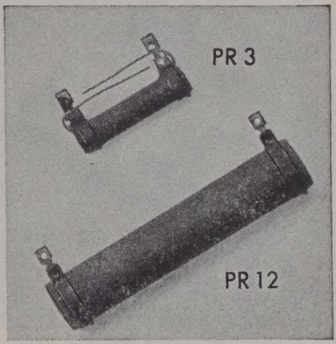
ALL SPARK PLUG AND DISTRIBUTOR SUPPRESSORS EACH LIST PRICE $0.30

Type	Application	Capacity	Size	List Price
GB05	Generator and coil	.5 mfd.	2⅛" x ¾"	$0.60
GB05F	Ford V-8 coil	.5 mfd.	2⅛" x ¾"	.75

TYPE	DISTRIBUTOR CONNECTION	CABLE CONNECTION
C-11		The ignition cable can be cut at any point and the two ends screwed into the suppressor.
T-13	Vertical — Snaps in distributor well.	Cable screws into suppressor, making a moisture proof insulated joint
T-20	Vertical — Snaps in distributor well.	Cable with termina lclip snaps easily into suppressor.
T-20-A	Vertical — Snaps in distributor well and has a rubber skirt for moisture proof connection.	Cable with termina lclip snaps easily into suppressor.
T-24	Elbow — Snaps in distributor well.	Cable screws into suppressor.
T-25	Elbow — Snaps in distributor well and fits both spark plug or distributor on Chevrolet and other makes.	Cable screws into suppressor.

WIRT WIRE WOUND FIXED RESISTORS

WIRE WOUND FIXED RESISTORS



To satisfy the most exacting needs of the Radio and Electronic Industries, Wirt Fixed Wire-wound Resistors are regularly furnished in PHENOCOTE protective coatings, developed and steadily improved over a period of many years in the Wirt Laboratories. The resistor wire is space wound on low loss ceramic tubes. The PHENOCOTE covering is an exclusive organic cement coating offering maximum protection to the resistance winding against the detrimental effects of moisture, humidity and electrolysis. Absolutely inert chemically, it will not effect the most delicate windings. It is particularly recommended for fine wire sizes and all applications where the maximum temperature of the unit will not exceed 300° F. These Resistors are universally used in the Radio, Electronic, Instrument, Public Address and Test Equipment fields.

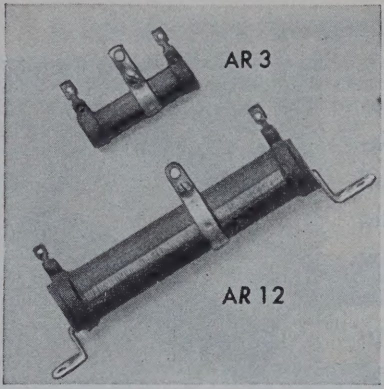
TABLE OF SPECIFICATIONS OF FIXED RESISTORS

Cat. No.	Sizes Watts	Sizes Phys.	Resistance Limits (Ohms)	List Price (Ea.)	Accessories Terminals	Mounting Brackets	Mounting Centers	Packing
PR 1	5	⅜″x1″	1 to 10000	$0.53	Soldering Lugs & Wire Leads	None	......	10 to a box
PR 3	10	⅜″x1¾″	1 to 10000	.59	Soldering Lugs & Wire Leads	None	......	10 to a box
			11000 to 25000	.65				
PR 4	20	½″x2″	5 to 15000	.91	Soldering Lugs & Wire Leads	None	......	10 to a box
			16000 to 50000	1.11				
			51000 to 100000	1.43				
PR 12	50	¾″x4″	5 to 5000	1.56				
			5100 to 25000	1.82	Soldering Lugs	2	5″	Individual
			26000 to 100000	2.08				
PR 19	100	1⅛″x6½″	5 to 5000	2.15				
			5100 to 25000	2.54				
			26000 to 50000	2.86	Soldering Lugs	2	7″	Individual
			51000 to 75000	3.25				
			76000 to 100000	3.58				
PR 22	160	1⅛″x8½″	5 to 10000	2.86				
			11000 to 50000	3.43	Soldering Lugs	2	9″	Individual
			51000 to 100000	3.86				
PR 23	200	1⅛″x10½″	5 to 10000	3.58	Soldering Lugs	2	11″	Individual
			11000 to 100000	4.29				

When ordering state: Quantity, Catalogue Number and Resistance Value.

WIRT

WIRE WOUND ADJUSTABLE RESISTORS



WIRE WOUND ADJUSTABLE RESISTORS

WIRT Adjustable Resistors are space wound on low loss ceramic tubes to which the resistance wire is bonded, resulting in dependability and long life. Protection of the windings is afforded by the PHENOCOTE covering which is described fully on the preceeding page. One adjustable Slider Band, screw driver type, is furnished as standard. Bakelite knob type bands can be furnished on special order at slightly higher prices as shown below. These bands are made with small contact buttons located on the inside of the band so that a number of taps may be made without shorting out excessive resistance.

TABLE OF SPECIFICATIONS OF ADJUSTABLE RESISTORS

Cat. No.	Sizes		Resistance Limits (Ohms)	List Price (Ea.)	Accessories			Mounting Centers	Packing
	Watts	Phys.			Terminals	Brackets Mounting	Slider Bands		
AR 3	10	⅜"x1¾"	1 to 10000	$0.98	Soldering Lugs	None	1	......	Individual
AR 7	25	¾"x2"	1 to 5000	1.24	Soldering Lugs	2	1	3"	Individual
			6000 to 15000	1.43					
			20000 to 25000	1.56					
AR 12	50	¾"x4"	5 to 5000	1.95	Soldering Lugs	2	1	5"	Individual
			7000 to 25000	2.15					
			30000 to 50000	2.47					
			60000 to 100000	2.86					
AR 15	75	¾"x6"	10 to 5000	2.54	Soldering Lugs	2	1	7"	Individual
			7500 to 25000	2.86					
			30000 to 50000	3.25					
			60000 to 100000	3.58					
AR 19	100	1⅛"x6½"	5 to 10000	2.86	Soldering Lugs	2	1	7"	Individual
			15000 to 50000	3.25					
			75000 to 100000	3.90					
AR 22	160	1⅛"x8½"	5 to 10000	3.25	Soldering Lugs	2	1	9"	Individual
			15000 to 50000	4.15					
			60000 to 100000	4.65					
AR 23	200	1⅛"x10½"	5 to 10000	4.29	Soldering Lugs	2	1	11"	Individual
			15000 to 100000	5.01					

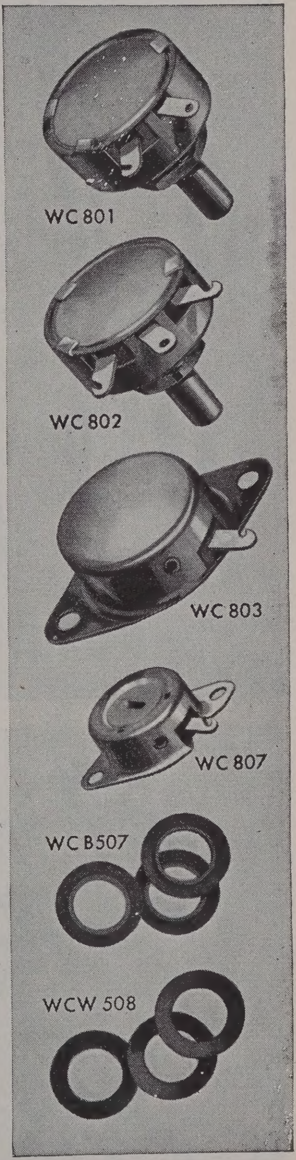
Extra Adjustable Slider Bands are obtainable and priced as follows:

Wattage Size	Screw Driver Type		Bakelite Knob Type
10, 25, 50, 75	$0.26	List Price Each	$0.39
100, 160, 200	.33	List Price Each	.50

When ordering state: Quantity, Catalogue Number and Resistance Value.

WIRT MINIATURE RHEOSTATS and POTENTIOMETERS

MINIATURE RHEOSTATS AND POTENTIOMETERS



General: WIRT Metal Housed Rheostats and Potentiometers are rugged and compact affording high quality and dependability in operation. Due to size and construction these controls are moderately priced. Housings are made of tin-plated steel. Highest quality resistance wire is space wound on specially treated laminated phenolic strips. The Phosphor Bronze contact-arm is grounded to the metal casing and all terminals are silver plated. Switches cannot be furnished. These Rheostats and Potentiometers are adaptable to a wide variety of uses in the Radio Instrument, Electronic and Test Equipment fields. The types available are listed below:

Cat. No. WC801—Two Terminal Rheostat, 2 Watt rating. Resistance Range: 5 ohms to 10,000 ohms with linear winding and standard tolerance of ±15%. Diameter is 1⅛″ and thickness ½″. Shaft is Cadmium plated steel, grounded to housing. 5/32″ from end of bushing and slotted for screw driver adjustment. Brass mounting bushings, ⅜″-32 x ¼″ long are standard. Each control is equipped with one 9/16″ hex mounting nut. **List Price**........ **$0.90 Each**

Cat. No. WC802—Three Terminal Potentiometer. 2 Watt rating. Resistance Range: 5 ohms to 10,000 ohms with linear winding and standard tolerance ±15%. All other specifications are the same as those listed under the WC801 control shown above. **List Price**........ **$1.25 Each**

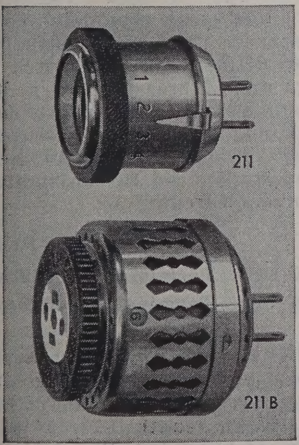
Cat. No. WC803—Sensitivity Control, 2 Watt rating. Resistance Range: 5 ohms to 12,000 ohms with linear winding and standard tolerance of ±15%. Diameter is 1⅛″ and thickness is ½″. A slot is provided in the Rotor mechanism allowing for screw driver adjustment from front only. **List Price**........ **$0.50 Each**

Cat. No. WC804—Sensitivity Control. Identical with WC803 Control, except provided with an opening in back of control to permit screw driver adjustment from either front or back. **List Price** .... **$0.55 Each**

Cat. No. WC807—Miniature Sensitivity Control, 1.5 Watt rating. Resistance Range: 5 ohms to 3000 ohms with uniform winding and standard tolerance of ±15%. A slot is provided in the Rotor mechanism allowing for screw driver adjustment from either front or back. **List Price**........ **$0.50 Each**

Cat. No. WCB507—Insulating Bushing for ⅜″ Brass bushing and used with Cat. Nos. WC801 and WC802 Controls. **List Price**........ **$.095 Each**

Cat. No. WCW508—Insulating Washer for ⅜″ Brass bushing and used with Cat. Nos. WC801 and WC802 Controls. **List Price**........ **$0.075 Each**



VARIABLE VOLTAGE REGULATOR

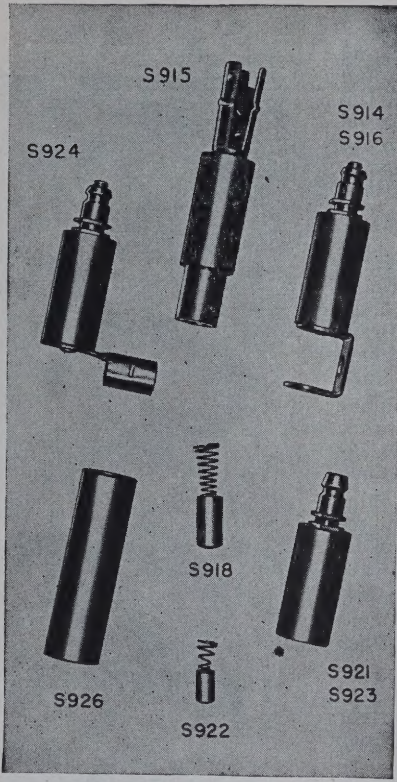
Cat. No. 211 — Variable Voltage Regulator is wound with high quality alloy wire on an insulated metal core with the winding encased in Di-El-Ite. It can be used as a Radio Voltage Regulator where the Receiver draws not more than 65 watts. For industrial use it can be wound up to 600 ohms maximum and will dissipate up to 8 watts. It is adjustable to 5 positions.
List Price .... **$3.00 Each**

Cat. No. 211-B—Regulator has air-cooling features which promote rapid heat dissipation. When used as a Radio Voltage Regulator the Receiver must not draw more than 150 watts. In industrial use for control of voltage and to regulate speed or heat it can be wound with a maximum resistance of 300 ohms and can dissipate up to 20 watts with maximum resistance setting. It is adjustable to 8 positions. **List**...... **$5.00 Each**

UTILITY CABINET

Cat. No. UC—Utility Cabinet is constructed of bass wood with corners dadoed and glued for strength; varnished and rubbed to give a beautiful finish. It has six drawers, each one having three removable partitions. The upper five drawers are 1″ deep and the lower one is 1½″ deep. Overall dimensions of the cabinet are 7″ wide by 5⅝″ deep by 9″ high. Drawer guides, bottom and partitions are made of three ply laminated wood to prevent warping. Knobs are of wood and securely fastened. It is ideal for the storage of such parts as resistors, condensers, bolts, nuts, washers, small tools, etc. **List**.......... **$8.00 Each**

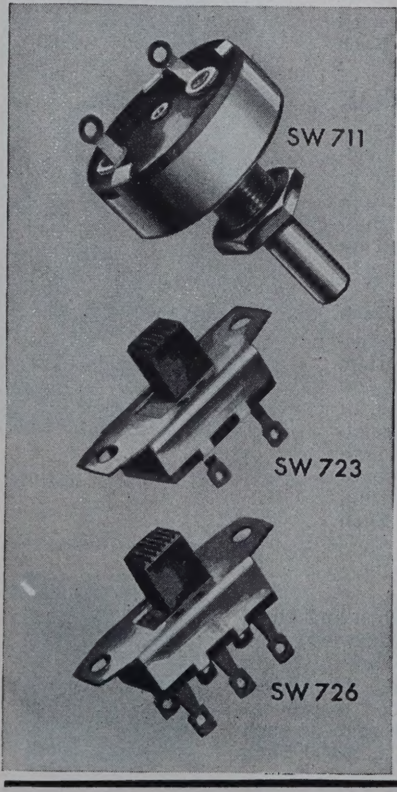
WIRT SUPPRESSORS and SWITCHES



AUTO RADIO IGNITION SUPPRESSORS

Wirt Suppressors are made with moulded black bakelite housings. All metal parts are made of rugged unfinished brass. Terminals are securely fastened to casings and sealed with special moisture and neat resisting dielectric cement. Resistor pills are sprayed with zinc and then double impregnated with a special moistureproofing compound. Resistance value of all standard types is 10000 ohms ±20%; for FV8 types 50000 ohms ±20%. The distributed capacity is less than 1.5 mmf. Resistance values will not change more than 7% after being submerged in water for 100 hours. Test by sparking 1800 times per minute at 10,000 volts for 100 hours produces resistance change of not more than 3%. Wirt Suppressors are impervious to heat, oil, moisture and mild acids, and will not change in resistance more than 10% in 50,000 miles of operation.

Cat. No.	Type	List Price
S914	Bracket—Standard	$0.30 Each
S916	Bracket—For FV-8	.30 Each
S915	Distributor—Slip Fitting	.30 Each
S918	FV-8 Brush—Years 1933-34-35	.30 Each
S922	FV-8 Brush—Years 1936 to 1940	.30 Each
S921	Universal Screw—Standard	.30 Each
S923	Universal Screw—For FV-8	.30 Each
S924	Snap-on Plug	.30 Each
S926	Cable—Screw Fitting	.30 Each



WIRT ROTARY AND SLIDE SWITCHES

Rotary Switches

General: Wirt Rotary Switches are of the quick break type, have positive contact, are rugged and neat in appearance. They are constructed with tin plated steel housings. The outside diameter of the switch is 1⅛" and thickness ½". Standard bushings are of brass, ⅜"-32 x ⅜" long. Steel shafts are ⅝" from end of bushing, and made with a flat. Wiping contacts and terminals are silver plated. Terminals are securely fastened in place. Activating spring is positive in action. One 9/16" hex. nut is furnished. These switches are successfully used in conjunction with Radio, Phonograph, Signal and Instrument Circuits.

Cat. No.	Type	List Price
SW711	SPST Rotary Switch, 3A-125V-AC-DC 2 Terminals	$0.90 Each
SW711A	SPDT Rotary Switch, 3A-125V-AC-DC 3 Terminals	1.00 Each

Slide Switches

General: All Wirt Slide Switches are compact and sturdy. Housings are made of steel and are cadmium plated. The physical dimensions of the switches have been standardized, width 35/64", length 1-13/32" and mounting centers 1⅛". Standard buttons are of black bakelite. All contacts and terminals are silver plated. Switches SW723 and SW725 are supplied with a dot which indicates the "On" position. These switches are used in the Radio, Signal, Phonograph and Instrument industries.

Cat. No.	Type	List Price
SW723	SPST Slide Switch, .75A-125V-AC-DC, 2 Terminals	$0.31 Each
SW724	SPDT Slide Switch, .75A-125V-AC-DC, 3 Terminals	.37 Each
SW725	DPST Slide Switch, .50A-125V-AC-DC, 4 Terminals	.44 Each
SW726	DPDT Slide Switch, .50A-125V-AC-DC, 6 Terminals	.55 Each

MALLORY CONTROLS • LIST PRICES

★ Complete descriptions of these parts will be found on the following pages.

Mallory Page 3

Mallory Control Deals

Mallory Cat. No.	List Price
U1485	$24.75
R1485	24.75
M1485	24.75

Mallory Page 4

The Mallory Midgetrol

Mallory Cat. No.	List Price
U12	$1.25
U14	1.25
U18	1.25
U19	1.25
U20	1.25
U21	1.25
U22	1.25
U24	1.25
U28	1.25
U29	1.25
U33	1.25
U34	1.25
U35	1.25
U36	1.25
U39	1.25
U40	1.25
U41	1.25
U42	1.25
U43	1.25
U44	1.25
U45	1.25
U46	1.25
U48	1.25
U50	1.25
U51	1.25
U53	1.25
U54	1.25
U55	1.25
U56	1.25
U57	1.25
U65	1.25
UT420	1.85
UT425	1.85
UT427	1.85
UT429	1.85
UT431	1.85
UT443	1.85
UT448	1.85
UT450	1.85
UT451	1.85
UT454	1.85

Attachable Mallory Midgetrol Switches

Mallory Cat. No.	List Price
US23	$0.75
US26	.60
US26T	.75
US27	.75
US28	.75

Midgetrol Accessories

Mallory Cat. No.	List Price
UE50	$0.25
UP10	.20

Mallory Midgetrols for Special Applications

Mallory Cat. No.	List Price
SU29	$1.50
SU41	1.50
SU50	1.50
SU67	1.50

Mallory Page 5

1⅛" Dia. • Fixed Shaft Controls

Mallory Cat. No.	List Price
MR14	$1.25
MR18	1.25
MR19	1.25
MR20	1.25
MR21	1.25
MR22	1.25
MR24	1.25
MR28	1.25
MR29	1.25
MR33	1.25
MR34	1.25
MR35	1.25
MR36	1.25
MR37	1.25
MR39	1.25
MR40	1.25
MR41	1.25
MR42	1.25
MR44	1.25
MR45	1.25
MR48	1.25
MR50	1.25
MR51	1.25
MR53	1.25
MR55	1.25
MR57	1.25

1⅛" Dia. • Fixed Knurled Shaft Controls

Mallory Cat. No.	List Price
MK400	$1.25
MK401	1.25
MK402	1.25
MK403	1.25

1⅛" Dia. • Fixed Shaft • Single Tapped Controls

Mallory Cat. No.	List Price
MRT420	$1.85
MRT425	1.85
MRT426	1.85
MRT427	1.85
MRT428	1.85
MRT430	1.85
MRT431	1.85
MRT436	1.85
MRT438	1.85
MRT440	1.85
MRT443	1.85
MRT445	1.85
MRT446	1.85
MRT447	1.85
MRT448	1.85
MRT449	1.85
MRT450	1.85
MRT451	1.85
MRT454	1.85
MRT460	1.85

Mallory Page 6

1⅛" Dia. • Fixed Shaft • Special Application • Single Controls

Mallory Cat. No.	List Price
SM300	$2.50
SM301	2.50
SM302	2.50
SM303	1.85
SM304	2.50
SM305	2.50
SM306	2.50
SM307	1.85
SM308	1.85
SM309	$2.50
SM310	1.85
SM311	2.50
SM312	2.50
SM313	2.50
SM316	1.85
SM317	2.50

1⅛" Dia. • Fixed Shaft • Special Application • Dual Controls

Mallory Cat. No.	List Price
SMD500	$3.75
SMD501	3.75
SMD502	3.75
SMD503	3.75
SMD504	3.75
SMD505	3.75
SMD506	3.75
SMD507	3.75
SMD508	3.75
SMD509	3.75
SMD510	3.75
SMD511	3.75
SMD512	3.75

1⅛" Dia. • Plug-In Shaft Controls

Mallory Cat. No.	List Price
UM114	$1.25
UM118	1.25
UM119	1.25
UM120	1.25
UM121	1.25
UM122	1.25
UM124	1.25
UM128	1.25
UM129	1.25
UM133	1.25
UM134	1.25
UM135	1.25
UM137	1.25
UM138	1.25
UM140	1.25
UM141	1.25
UM142	1.25
UM143	1.25
UM144	1.25
UM147	1.25
UM149	1.25
UM150	1.25
UM151	1.25
UM154	1.25
UM156	1.25
UM157	1.25
UM158	1.25
UM159	1.25
UM160	1.25
UM161	1.25
UM162	1.25
UM163	1.25
UM165	1.25
UM180	1.25
UM181	1.25

Mallory Page 7

1⅛" Dia. • Plug-In Shaft • Single Tapped Controls

Mallory Cat. No.	List Price
TM220	$1.85
TM221	1.85
TM222	1.85
TM223	1.85
TM224	1.85
TM225	1.85
TM226	1.85
TM227	1.85
TM228	1.85
TM230	1.85
TM231	$1.85
TM232	1.85
TM233	1.85
TM234	1.85
TM236	1.85
TM238	1.85
TM239	1.85
TM240	1.85
TM241	1.85
TM242	1.85
TM243	1.85
TM244	1.85
TM245	1.85
TM246	1.85
TM247	1.85
TM248	1.85
TM249	1.85
TM250	1.85
TM251	1.85
TM252	1.85
TM254	1.85
TM257	1.85
TM259	1.85
TM261	1.85

1⅛" Dia. • Plug-In Shaft • Double Tapped Controls

Mallory Cat. No.	List Price
DTM282	$1.85
DTM283	1.85
DTM287	1.85
DTM289	1.85
DTM291	1.85
DTM293	1.85
DTM295	1.85
DTM296	1.85
DTM298	1.85

Mallory Page 8

Universal and Special Plug-In Shafts for Use with Types UM, TM, and DTM Controls

Mallory Cat. No.	List Price
SS1	$0.30
SS2	.30
SS3	.45
SS4	.30
SS5	.30
SS6	.30
SS10	.30
SS11	.45
SS12	.30
SS14	.45
SS15	.45
SS16	.30
SS17	.65
SS18	.30
SS19	.65
SS20	.65
SS21	.45
SS22	.30
SS23	.30
SS24	.30
SS25	.30
SS26	.30
SS27	.30
SS28	.65
SS29	.30
SS30	.30
SS31	.30
SS32	.30
SS33	.45
SS34	.65

Attachable Switches for 1⅛" Dia. Controls

Mallory Cat. No.	List Price
M-23	$0.75
M-26	.60
M-26T	.75
M-27	.75
M-28	.75

Mallory Page 9

1½" Dia. • Fixed Shaft • Carbon Controls

Mallory Cat. No.	List Price
F12	$1.25
H12	1.25
J	1.25
K	1.25
K12	1.25
M	1.25
Y	1.25
Z	1.25
Z12	1.25
UC501	1.25
UC502	1.25
UC503	1.25
UC504	1.25
UC505	1.25
UC506	1.25
UC507	1.25
UC508	1.25
UC509	1.25
UC510	1.25
UC511	1.25
UC514	1.25
Y5MP	1.25
Y10MP	1.25
Y25MP	1.25
Y200MP	1.25
Y250MP	1.25

1½" Dia. • Fixed Shaft • Single & Double Tapped Controls

Mallory Cat. No.	List Price
TRP601	$1.85
TRP602	1.85
TRP603	1.85
TRP604	1.85
TRP605	1.85
TRP606	1.85
TRP607	1.85
TRP608	1.85
TRP609	1.85
TRP610	1.85
TRP612	1.85
TRP613	1.85
TRP614	1.85
TRP615	1.85
TRP616	1.85
TRP617	1.85
TRP618	1.85
TRP619	1.85
TRP620	1.85
TRP621	1.85
TRP622	1.85
TRP623	1.85
TRP624	1.85

Mallory Page 10

1½" Dia. • Fixed Shaft • Special Application Controls

Mallory Cat. No.	List Price
SRP134	$1.85
SRP142	1.85
SRP152	1.85
SRP153	1.85
SRP154	1.85
SRP179	1.85
SRP185	1.85
SRP188	1.85
SRP213	1.85
SRP239	.60
SRP241	.60
SRP245	1.85
SRP251	1.85
SRP261	1.85
SRP262	1.85
SRP263	1.85
SRP269	1.85
SRP282	$1.85
SRP286	1.85
SRP289	1.85
SRP290	1.85
SRP900	1.85
SRP901	1.85
SRP960	1.85
SRP961	1.85

Special Dual Controls

Mallory Cat. No.	List Price
DRP114	$3.10
DRP115	3.10
DRP116	3.10
DRP117	3.10
DRP119	3.10
DRP122	3.10
DRP169	3.10
DRP221	3.10
DRP222	3.10
DRP240	3.10
DRP244	3.10
DRP250	3.10
DRP302	3.10
DRP304	3.10
DRP306	3.75
DRP311	3.10
DRP318	3.10

Mallory Page 11

1½" Dia. • Fixed Shaft • Wire-Wound Controls

Mallory Cat. No.	List Price
A	$1.25
B	1.25
C	1.25
C12	1.25
D	1.25
D7	1.25
D12	1.25
E	1.25
E7	1.25
F	1.25
F7	1.25
G	1.25
G7	1.25
H	1.25
H7	1.25
Q	1.25
R	1.25
S	1.25
T	1.25
U	1.25
V	1.25
W	1.25
X	1.25
UC500	1.25
A400P	1.25
A550P	1.25
A1MP	1.25
A2MP	1.25
A3MP	1.25
A4MP	1.25
A5MP	1.25
A10MP	1.25
A20MP	1.25

Universal Dual Controls

Mallory Cat. No.	List Price
CE	$3.10
GE	3.10
GG	3.10
GK	3.10
LL	3.10
LM	3.10
MM	3.10

MALLORY CONTROLS AND RESISTORS • LIST PRICES

★ Complete descriptions of these parts will be found on the following pages.

Mallory Page 11

Attachable Switches 1½" Dia. Controls

Mallory Cat. No.	List Price
6-9	$0.60
6T	.75
7	.75
8	.75
13	.75
14	.75

Mallory Page 12

1 Watt • Carbon • Potentiometers

B5MP	$1.25
B10MP	1.25
B25MP	1.25
B50MP	1.25
B100MP	1.25
B250MP	1.25
B500MP	1.25
B1000MP	1.25

T & L Pads Attenuators

T6	$4.25
T8	4.25
T15	4.25
T50	4.25
T200	4.25
T250	4.25
T500	4.25
T2000	4.25
L6	3.75
L8	3.75
L15	3.75
L50	3.75
L200	3.75
L250	3.75
L500	3.75
L2000	3.75

2 Watt • Wire-Wound • Potentiometers

C6P	$1.25
C10P	1.25
C15P	1.25
C20P	1.25
C30P	1.25
C40P	1.25
C50P	1.25
C100P	1.25
C200P	1.25
C400P	1.25
C1MP	1.40
C3MP	1.40
C5MP	1.65
C6MP	1.65
C10MP	1.65
C15MP	1.65
C6R	1.00
C10R	1.00
C15R	1.00
C20R	1.00
C30R	1.00
C40R	1.00
C50R	1.00
C100R	1.00

Mallory Page 13

4 Watt • Wire-Wound Potentiometers and Rheostats

Mallory Cat. No.	List Price
M1P	$1.25
M3P	1.25
M6P	1.25
M10P	1.25
M15P	1.25
M20P	1.25
M25P	1.25
M30P	1.25
M40P	1.25
M50P	1.25
M60P	1.25
M75P	1.25
M100P	1.25
M200P	1.25
M400P	1.25
M500P	1.25
M600P	1.25
M1MP	1.40
M2MP	1.40
M3MP	1.40
M4MP	1.40
M5MP	1.40
M10MP	1.65
M15MP	1.65
M20MP	1.65
M25MP	1.65
M50MP	1.95
M70MP	1.95
M05R	1.00
M1R	1.00
M2R	1.00
M3R	1.00
M4R	1.00
M6R	1.00
M10R	1.00
M15R	1.00
M20R	1.00
M25R	1.00
M30R	1.00
M40R	1.00
M50R	1.00
M60R	1.00
M75R	1.00
M100R	1.00

7 Watt • Wire-Wound Potentiometers

E5MP	$3.00
E10MP	3.00
E20MP	3.00
E25MP	3.25
E50MP	3.25
E75MP	3.25
E100MP	3.25
E125MP	3.25
E150MP	3.25

Mallory Page 14

Shafts • Couplers • Bushings

EC240	$0.30
EC256	.30
EC257	.30
EB247	.25
UB241	.95 for 10

Wrench for Volume Control Nuts

178	$0.25

Mallory Page 14

Adjustable Mounting Brackets

Mallory Cat. No.	List Price
RB248	$0.25
RB249	.25

Hexagon Shoulder Nuts

255	$0.20
A11260-12	.25
A11260-2	.30

Mallory Page 15

Universal Extension Shafts

RS242	$0.40
RS243	.40
RS244	.40
RS245	.45
RS246	.45

Web Removing Tool

201	$0.25

Universal Flexible Coupling Shafts

FS250	$0.75
FS251	.75
FS252	.75
FS253	.75

Dial Plates for Controls, Rheostats, Potentiometers

369	$0.25
391	.15
393	.25
395	.25
396	.25
397	.25
398	.25
399	.25

Mallory Page 16

5-Watt • Fixed Vitreous Enamel Resistors

HHJ1 to HHJ1000	$0.53
HHJ1100 to HHJ5000	.58

Mallory Page 16

10 Watt • Fixed Vitreous Enamel Resistors

Mallory Cat. No.	List Price
1HJ1 to 1HJ1000	$0.58
1HJ1100 to 1HJ5000	.63
1HJ6000 to 1HJ10000	.72
1HJ11000 to 1HJ20000	.80
1HJ22500 to 1HJ50000	.86

20 Watt • Fixed Vitreous Enamel Resistors

2HJ5 to 2HJ1000	$0.75
2HJ1250 to 2HJ5000	.78
2HJ6000 to 2HJ10000	.88
2HJ12500 to 2HJ20000	.94
2HJ25000 to 2HJ40000	1.08
2HJ50000	1.25
2HJ75000 to 2HJ100000	1.43

50 Watt • Fixed Vitreous Enamel Resistors

5HJ10 to 5HJ1000	$1.43
5HJ1500 to 5HJ5000	1.51
5HJ7500 to 5HJ10000	1.64
5HJ12500 to 5HJ20000	1.81
5HJ25000 to 5HJ40000	2.01
5HJ50000	2.20
5HJ75000	2.51
5HJ100000	2.71

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100 Watt • Fixed Vitreous Enamel Resistors

10HJ25 to 10HJ1000	$2.12
10HJ1500 to 10HJ5000	2.17

Mallory Page 17

Mallory Cat. No.	List Price
10HJ7500 to 10HJ10000	$2.34
10HJ15000 to 10HJ20000	2.40
10HJ25000 to 10HJ40000	2.76
10HJ50000	2.90
10HJ75000	3.09
10HJ100000	3.26

200 Watt • Fixed Vitreous Enamel Resistors

20HJ25 to 20HJ1000	$2.79
20HJ1500 to 20HJ5000	2.84
20HJ7500 to 20HJ10000	3.04
20HJ20000	3.22
20HJ30000 to 20HJ40000	3.34
20HJ50000	3.45
20HJ75000	3.63
20HJ100000	3.84

10 Watt • Adjustable Vitreous Enamel Resistors

1AV1 to 1AV1000	$1.21
1AV1250 to 1AV5000	1.28
1AV6000 to 1AV10000	1.36

25 Watt • Adjustable Vitreous Enamel Resistors

2AV1 to 2AV1000	$1.59
2AV1250 to 2AV5000	1.61
2AV6000 to 2AV10000	1.73
2AV12000 to 2AV20000	1.78
2AV25000	1.92

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50 Watt • Adjustable Vitreous Enamel Resistors

5AV5 to 5AV1000	$2.06
5AV1500 to 5AV5000	2.11

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Mallory Cat. No.	List Price
5AV7500 to 5AV10000	$2.25
5AV12000 to 5AV20000	2.41
5AV25000 to 5AV40000	2.61
5AV50000	2.81

80 Watt • Adjustable Vitreous Enamel Resistors

8AV10 to 8AV1000	$2.34
8AV1500 to 8AV5000	2.42
8AV7500 to 8AV10000	2.56
8AV15000 to 8AV20000	2.71
8AV25000 to 8AV40000	2.98
8AV50000 to 8AV60000	3.06
8AV75000 to 8AV80000	3.34
8AV100000	3.68

100 Watt • Adjustable Vitreous Enamel Resistors

10AV50 to 10AV1000	$3.06
10AV2000 to 10AV5000	3.14
10AV7500 to 10AV10000	3.31
10AV15000 to 10AV20000	3.51
10AV25000 to 10AV40000	3.73
10AV50000	3.87
10AV75000	4.06

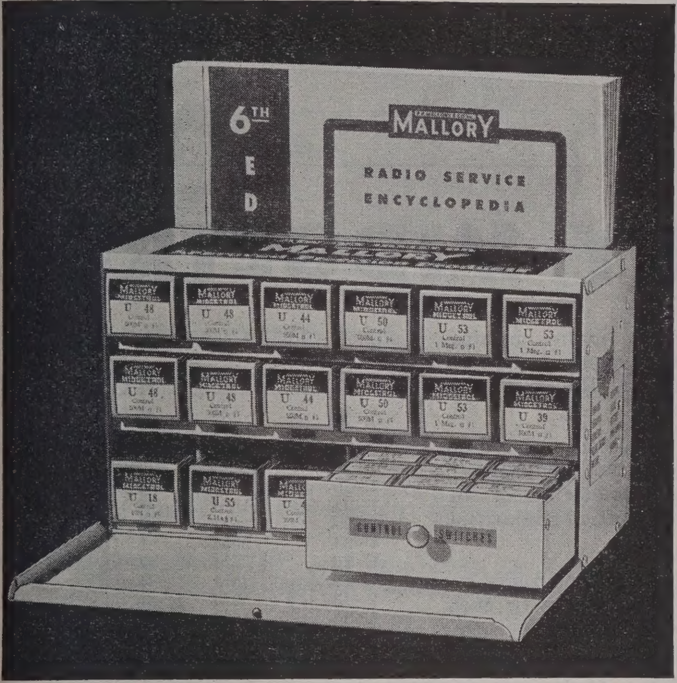
200 Watt • Adjustable Vitreous Enamel Resistors

20AV50 to 20AV1000	$3.73
20AV1500 to 20AV5000	3.79
20AV10000	4.01
20AV20000	4.21
20AV25000 to 20AV30000	4.29
20AV50000	4.39
20AV75000	4.62

Extra Adjustable Clips

No. 1V	$0.37
No. 3V	.37
No. 6V	.47

MALLORY CONTROL DEALS



You Get This Cabinet at no Extra Cost When You Purchase the Controls and Switches at Your Regular Discount

● Treat yourself to a neat, heavy-duty stock cabinet, and simplify your inventory at the same time, with a Mallory Control Deal! Here's how:

You buy a carefully selected assortment of 15 fast-moving controls and 9 popular AC switches *all at your regular price.* Then, you get the handsome steel cabinet shown above *at no extra cost to you!* This cabinet contains 15 compartments for your controls, and a roomy drawer to hold your switches, extension shafts, idler pulleys and other accessories. A special built-in rack holds your Mallory Radio Service Encyclopedia which is purchased separately. And a hinged lid snaps shut to hold the controls in place during service calls.

When you use a Mallory Control Deal you get maximum coverage with minimum stock. In more than 9 out of 10 service jobs you will have *on hand* the control you need. And you can see at a glance which controls you immediately need to re-order.

Best of all—the revolutionary new Mallory Midgetrol is now available in a Mallory Control Deal. And a Mallory Midgetrol improves performance in *any* set where a 1⅛" control was originally used. With your Mallory Midgetrol Deal you get, in addition to the cabinet, extra spring clips, extra U-clips, extra idler pulleys and extra extension shafts. Get started today with the Mallory Midgetrol. Order your deal today!

FAST-MOVING SELECTIONS
OF
MALLORY MIDGETROLS
AND
MALLORY 1⅛" CONTROLS

MALLORY MIDGETROL SELECTION

(Order by Catalog Number U-1485)

4 U-48	1 U-55	2 UP-10
3 U-53	1 U-39	5 Extra Spring Clips
2 U-50	1 U-41	
2 U-44	9 US-26	5 Extra U Clips
1 U-18	4 UE-50	1 Web Removing Tool

MALLORY MR SELECTION

(Order by Catalog Number R-1485)

4 MR-48	1 MR-18	5 M-26
3 MR-53	1 MR-55	3 M-27
2 MR-50	1 MR-39	1 M-28
2 MR-44	1 MR-41	

MALLORY UM SELECTION

(Order by Catalog Number M-1485)

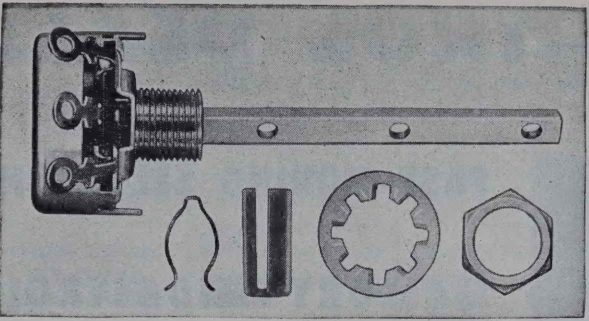
4 UM-154	1 UM-118	2 M-27
3 UM-161	1 UM-163	1 M-28
2 UM-147	1 UM-142	5 SS-25
2 UM-156	3 M-26	1 SS-14
1 UM-140		

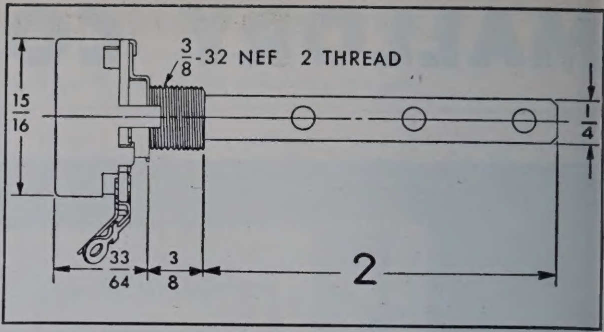
You will use your MALLORY CONTROL DEALS for all of these Radio Sets

Admiral
Air King
Airline
Allied
Atwater Kent
Belmont
Brunswick-Mersman
Cadillac
Capehart
Chevrolet
Colonial
Continental
Crosley
Delco
Detrola
Dewald
Emerson
Fada
Fairbanks-Morse
Hallicrafter
Motorola
Patterson
Philco
Pilot
R.C.A.
Scott
Sears-Roebuck
Sentinel
Sonora
Spiegel
Stewart-Warner
Stromberg-Carlson
Trav-ler
Truetone
United American Bosch
Warwick
Westinghouse
Wilcox-Gay
Zenith
Zephyr

Mallory Page 3 (See Mallory Page 1 for List Prices)

(See Pages R-19 and R-20 for Mallory List Prices)





THE MALLORY MIDGETROL

APPLICATION: For volume and tone control in audio circuits. Tapped controls provide tone compensation when required. Special controls are for use as recommended in the Mallory Radio Service Encyclopedia.

DESCRIPTION: A very small diameter control (15/16) to service radio sets requiring small parts. Available in full line of resistances, tapers, and taps. Special resistance element gives ample safety factor for current-carrying ability. New type contact makes control smoothest and quietest on market by laboratory tests.

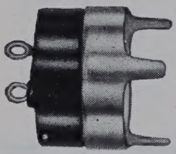
SHAFT DESCRIPTION: New Type flat shaft easily cut to any required length with a pair of side snips. Clips furnished with each control permits its use with all three knob types—Set Screw, Push-On, and Knurled.

ACCESSORIES: One hex nut, one lock washer, one U-clip and one spring steel clip furnished with each control. Idler pulleys, extension shafts and AC switches are available when needed as listed hereon.

PACKAGING: One control plus accessories and complete instructions in each display carton.

Catalog Number	Resistance	Taper*	Tap At
U-12	5M	1	
U-14	5M	4	
U-18	10M	1	
U-19	10M	2	
U-20	10M	4	
U-21	15M	1	
U-22	15M	2	
U-24	20M	1	
U-28	25M	2	
U-29	25M	4	
U-33	50M	1	
U-34	50M	2	
U-35	50M	4	
U-36	75M	1	
U-39	100M	1	
U-40	100M	2	
U-41	100M	4	
U-42	150M	1	
U-43	200M	4	
U-44	250M	1	
U-45	250M	2	
U-46	250M	4	
U-48	500M	1	
U-50	500M	4	
U-51	750M	1	
U-53	1 Meg.	1	
U-54	1 Meg.	4	
U-55	2 Meg.	1	
U-56	2 Meg.	4	
U-57	3 Meg.	1	
U-65	5 Meg.	1	
UT-420	250M		50M
UT-425	350M		70M
UT-427	500M		100M
UT-429	500M		50M
UT-431	500M		225M
UT-443	1 Meg.		450M
UT-450	2 Meg.		125M
UT-448	2 Meg.		250M
UT-454	2 Meg.		400M
UT-451	2 Meg.		900M

Attachable Mallory Midgetrol Switches



Entirely designed and manufactured by Mallory especially for use with Mallory Midgetrols. Can easily and quickly be attached without disassembling control.

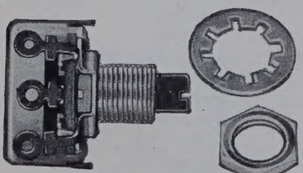
Catalog Number	Description
US-26	Single pole—single throw
US-26T	Single pole—single throw Has dummy terminal
US-27	Double pole—single throw
US-28	Single pole—double throw
US-23	Four pole—single throw, shorting

Accessories

UE-50 Shaft—Extends shaft length on each Mallory Midgetrol an additional 4″ with each extension. Two self-tapping screws furnished with each extension.

UP-10 Pulley—Fits over the Mallory Midgetrol flat shaft to permit its use as an idler for the dial cord where necessary.

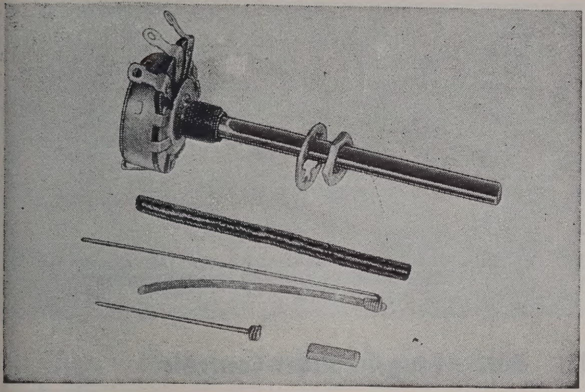
MALLORY MIDGETROLS FOR SPECIAL APPLICATIONS



● Special Mallory Midgetrols for use as exact replacements. These Midgetrols meet exact physical and electrical requirements for special applications. Except for the shaft, these Midgetrols are of the same basic construction as the standard Midgetrol. A fixed, knurled, and slotted bakelite shaft protrudes ¼″ beyond the bushing. The AC switches listed above will fit these Midgetrols.

Cat. No.	Resistance	Taper*
SU-29	25M	4
SU-41	100M	4
SU-50	500M	4
SU-67	5 Meg.	4

*See taper chart on page 8.



1⅛″ Dia. · Fixed Shaft Controls

APPLICATION—For volume or tone control in audio circuits.

DESCRIPTION—1⅛″ carbon control, available in a wide range of resistances and tapers. Has an excellent safety factor in current-carrying capacity. Uses Mallory's special resistance element insuring a long, quiet life.

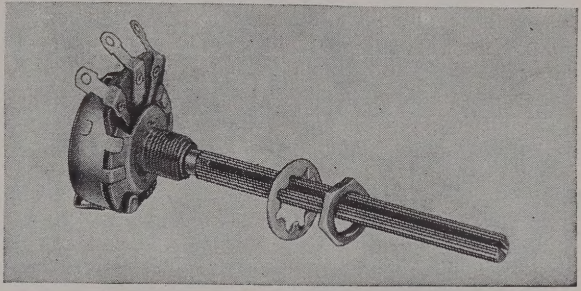
SHAFT DESCRIPTION—An accurately finished channel shaft is permanently attached; measures 3″ from lock ring.

ACCESSORIES—One hex nut, one lock washer, and one shim is furnished with each control. An external adjustable resistor is furnished where required, as indicated below. AC switches are available as a special item. (See page 8).

PACKAGING—One control, plus accessories and complete instructions per display carton.

Catalog Number	Ohms Resistance	Taper	Catalog Number	Ohms Resistance	Taper
MR14§	5M	4	MR39	100M	1
MR18§	10M	1			
MR19§	10M	2	MR40	100M	2
MR20§	10M	4	MR41	100M	4
MR21§	15M	1	MR42	150M	1
MR22§	15M	2	MR44	250M	1
MR24§	20M	1	MR45	250M	2
MR28§	25M	2	MR48	500M	1
MR29§	25M	4	MR50	500M	4
MR33	50M	1	MR51	750M	1
MR34§	50M	2	MR53	1 Meg.	1
MR35	50M	4	MR55	2 Meg.	1
MR36	75M	1	MR57	3 Meg.	1
MR37	75M	2			

§External adjustable resistor included



1⅛″ Dia. · Fixed Knurled Shaft Controls

APPLICATION—For volume or tone control in audio circuits.

DESCRIPTION—1⅛″ carbon control using same element as type MR.

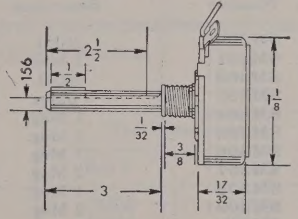
SHAFT DESCRIPTION—Furnished with a 3″ accurately finished, permanently attached knurled shaft for use in replacing original controls of this shaft construction.

ACCESSORIES—One hex nut and one lock washer furnished with each control. AC switches available as a special item. (See page 8).

PACKAGING—One control, plus accessories and complete instructions per display carton.

Catalog Number	Ohms Resistance	Taper
MK400	250M	1
MK401	500M	1
MK402	1 Meg.	1
MK403	2 Meg.	1

Dimensions of Types MR, MK and MRT Fixed Shaft Controls



★ ★ ★

1⅛″ Dia. · Fixed Shaft · Single Tapped Controls

APPLICATION—For control of volume with tone compensation in audio circuits.

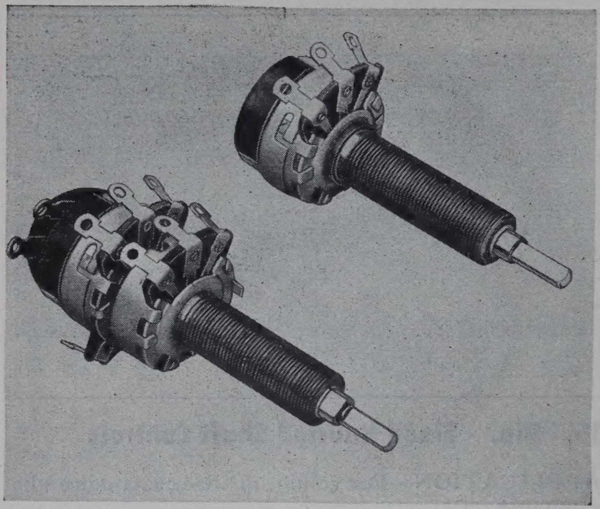
DESCRIPTION—1⅛″ carbon controls with a single tap. Available in a wide range of resistances. Taps are accurately located. Uses Mallory's special resistance element insuring quiet, long life and an excellent safety factor in current-carrying capacity.

SHAFT DESCRIPTION—An accurately finished channel shaft is permanently attached; measures 3″ from lock ring.

ACCESSORIES—One hex nut, one lock washer and one shim furnished with each control. AC switches available as a special item. (See page 8.)

PACKAGING—One control, plus accessories and complete instructions per display carton.

Catalog Number	Overall Resistance	Tap Resistance	Catalog Number	Overall Resistance	Tap Resistance
MRT420	250M	50M	MRT460	1 Meg.	500M
MRT425	350M	70M			
MRT428	500M	5M	MRT445	2 Meg.	5M
MRT426	500M	15M	MRT446	2 Meg.	15M
MRT427	500M	100M	MRT447	2 Meg.	60M
MRT430	500M	150M	MRT450	2 Meg.	125M
MRT431	500M	225M	MRT448	2 Meg.	250M
MRT436	1 Meg.	125M	MRT454	2 Meg.	400M
MRT440	1 Meg.	200M	MRT449	2 Meg.	600M
MRT438	1 Meg.	300M	MRT451	2 Meg.	900M
MRT443	1 Meg.	450M			



1⅛" Dia. · Fixed Shaft · Special Application · Single & Dual Controls

APPLICATION—Special single and dual controls to be used as recommended in the Mallory Radio Service Encyclopedia.

DESCRIPTION—Type SM are single and type SMD are dual 1⅛" diameter carbon controls. Both types are made in a wide range of resistances and tapers and with taps for special applications. The controls and their shafts are designed to exactly replace the original equipment control. Switches are provided as indicated.

SHAFT DESCRIPTION—Type SM have fixed shafts while type SMD have fixed concentric shafts. Each shaft varies according to the requirements of the control and its recommended application.

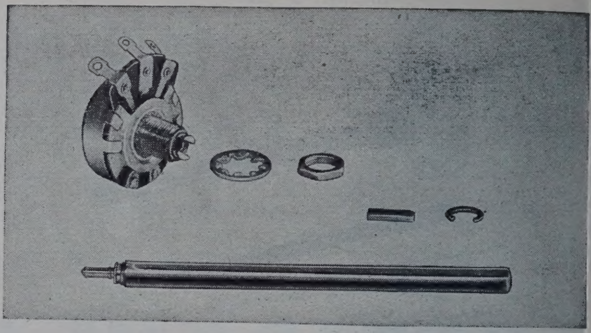
ACCESSORIES—One hex nut and one lock washer furnished with each control.

PACKAGING—One control, plus accessories and complete instructions per display carton.

Catalog Number	Ohms Resistance	Tap at
SM300†	350M	75M
SM301†	2 Meg.	500M
SM302†	500M	No Tap
SM303*	6Meg.	No Tap
SM304†	1 Meg.	200M
SM305†	1 Meg.	875M
SM306†	1 Meg.	550M
SM307*	2 Meg.	250M
SM308	1 Meg.	200M
SM309†	2 Meg.	600M
SM310	2 Meg.	125M
SM311†	1 Meg.	300M
SM312†	250M	No Tap
SM313†	250M	No Tap
SM316	350M	35M
SM317†	2.25 Meg.	500M & 1 Meg.

Catalog Number	Res. Front	Res. Rear	Tap At
SMD500†	2 Meg.	2 Meg.	No Tap
SMD501†	2 Meg.	1 Meg.	Front 500M
SMD502†	250M	1 Meg.	Rear 250M
SMD503†	2 Meg.	1 Meg.	Front 500M
SMD504†	250M	500M	Front 50M
SMD505†	250M	1 Meg.	Rear 300M
SMD506†	500M	1 Meg.	Rear 200M
SMD507†	500M	350M	Rear 70M
SMD508†	30M	1 Meg.	Rear 450M
SMD509†	2 Meg.	500M	Front 900M
SMD510†	1 Meg.	500M	Front 300M
SMD511†	1 Meg.	350M	Rear 70M
SMD512†	1 Meg.	350M	Rear 70M

†Includes SPST switch permanently attached to control.
*AC Switch available as special item. (See page 8).



1⅛" Dia. · Plug-In Shaft Controls

APPLICATION—For volume or tone control in audio circuits.

DESCRIPTION—1⅛" carbon control, available in a wide range of resistances and tapers. Has an excellent safety factor in current-carrying capacity accomplished by the use of Mallory's special resistance element, which also insures a long, quiet life.

SHAFT DESCRIPTION—The control is provided with a socket which will take 30 different types of shafts insuring maximum flexibility of stock. One SS-1 4" channel shaft furnished with each UM control. (See page 8 for other universal and special plug-in shafts available.)

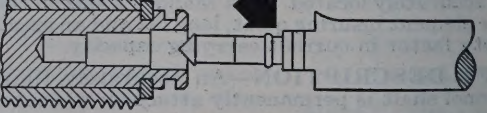
ACCESSORIES—One hex nut, one lock washer, one shim, one lock ring, and one SS-1 shaft furnished with each control. An external variable resistance is furnished where required, as indicated below. AC switches available as a special item. (See page 8.)

PACKAGING—One control, plus accessories and complete instructions per display carton.

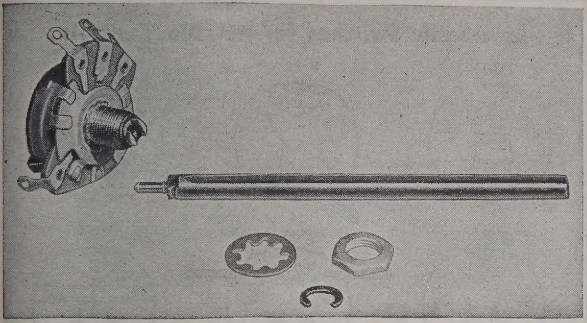
Catalog Number	Ohms Resistance	Taper	Catalog Number	Ohms Resistance	Taper
UM114§	5M	4	**UM144**	150M	1
UM118§	10M	1	**UM147** **UM150***	250M	1
UM119§	10M	2			
UM120§	10M	4			
UM121§	15M	1	**UM149**	250M	4
UM122§	15M	2	**UM151**	350M	1
UM124§	20M	1	**UM154** **UM157***	500M	1
UM128§	25M	2			
UM129§	25M	4			
UM133	50M	1	**UM156**	500M	4
UM134§	50M	2	**UM158**	750M	1
UM135	50M	4	**UM161** **UM162***	1 Meg.	1
UM137	75M	1			
UM138	75M	2	**UM160**	1 Meg.	2
UM140 **UM143***	100M	1	**UM159**	1 Meg.	4
			UM181‡	2 Meg.	Spec.
UM141	100M	2	**UM163**	2 Meg.	1
UM142	100M	4			
UM180‡	100M	Spec.	**UM165**	3 Meg.	1

*Clutch type controls—no provision for attachable switch.
§External adjustable resistor included.
‡Right hand switch action.

NO WOBBLE—*this ring prevents it!*



All Mallory plug-in shafts are now made with a small ring as shown in the drawing above. That's why they can't wobble or work loose—why they fit as securely as a fixed shaft.



1⅛″ Dia. · Plug-In Shaft · Single Tapped Controls

APPLICATION—For use as a volume control with tone compensation in audio circuits.

DESCRIPTION—1⅛″ carbon controls with a single tap. Available in a wide range of resistances. Taps are accurately located. Uses Mallory's special resistance element insuring quiet, long life and an excellent safety factor in current-carrying capacity.

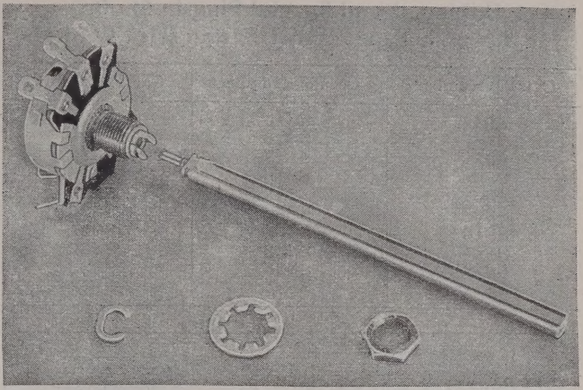
SHAFT DESCRIPTION—The control is provided with a socket which will take 30 different types of shafts insuring maximum flexibility of stock. One SS-1 4″ channel shaft furnished with each TM control. (See page 8 for other universal and special plug-in shafts available.)

ACCESSORIES—One hex nut, one lock washer, one lock ring, one shim, and one SS-1 shaft furnished with each control. AC switches available as a special item. (See page 8.)

PACKAGING—One control, plus accessories and complete instructions per display carton.

Catalog Number	Overall Resistance	Tap Resistance
TM220	250M	50M
TM221 **TM222***	250M	110M
TM225 **TM223***	350M	70M
TM228	500M	5M
TM226	500M	15M
TM233	500M	60M
TM224* **TM227**	500M	100M
TM230	500M	150M
TM231 **TM232***	500M	225M
TM234	1 Meg.	65M
TM236	1 Meg.	125M
TM240 **TM241***	1 Meg.	200M
TM238 **TM239***	1 Meg.	300M
TM242* **TM243**	1 Meg.	450M
TM244	1.5 Meg.	200M
TM245	2 Meg.	5M
TM246	2 Meg.	15M
TM247	2 Meg.	60M
TM250	2 Meg.	125M
TM248	2 Meg.	250M
TM254	2 Meg.	400M
TM249	2 Meg.	600M
TM251 **TM252***	2 Meg.	900M
TM259	2 Meg.	1 Meg.
TM257	3 Meg.	900M
TM261	5 Meg.	1 Meg.

*Clutch type controls—no provision for attachable switch.



1⅛″ Dia. · Plug-In Shaft · Double Tapped Controls

APPLICATION—For use as a volume control with tone compensation in audio circuits.

DESCRIPTION—1⅛″ carbon controls with double taps. The basic resistance element of this control is the same as the element in MR controls. Taps are accurately spaced.

SHAFT DESCRIPTION—The control is provided with a socket which will take 30 different types of shafts insuring maximum flexibility of stock. One SS-1 4″ channel shaft furnished with each DTM control. (See page 8 for other universal and special plug-in shafts available.)

ACCESSORIES—One hex nut, one lock washer, one lock ring, one SS-1 shaft, and one shim furnished with each control. AC switches available as a special item. (See page 8.)

PACKAGING—One control, plus accessories and complete instructions per display carton.

Catalog Number	Overall Resistance	Tap Resistance	
		Tap 1	Tap 2
DTM282	250M	50M	100M
DTM283	500M	100M	200M
DTM287	1 Meg.	50M	100M
DTM289	1 Meg.	250M	500M
DTM291	1.5 Meg.	225M	500M
DTM293	2 Meg.	5M	500M
DTM295	2.25 Meg.	250M	500M
DTM296	2.25 Meg.	500M	1 Meg.
DTM298	3 Meg.	100M	1.5 Meg.

SPECIAL!

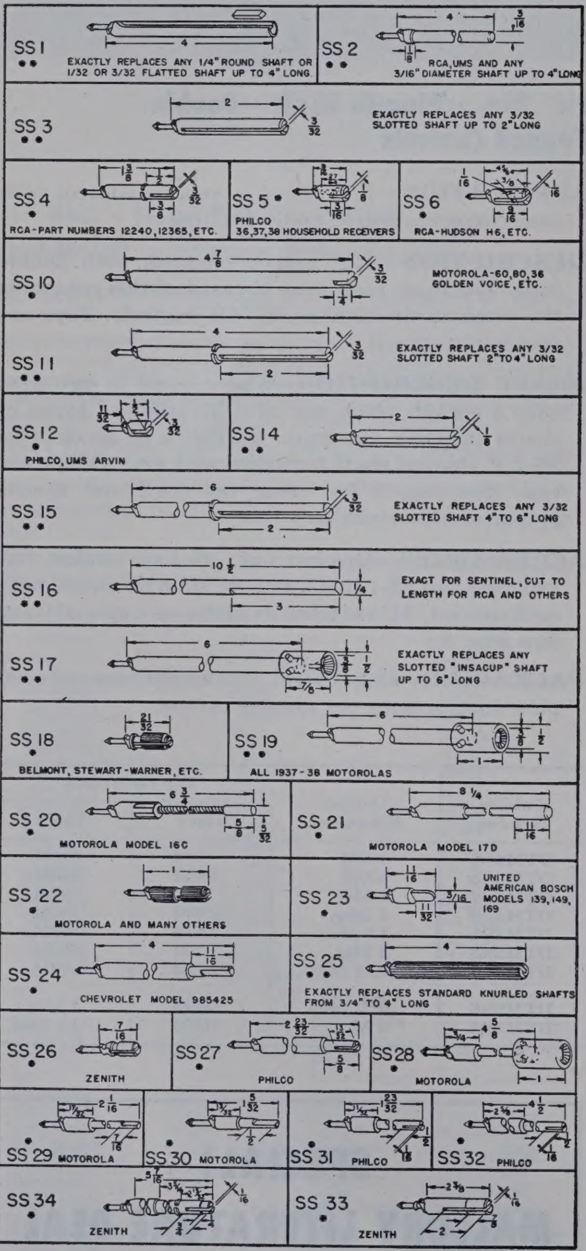
MALLORY LITERATURE DEAL

See Mallory Literature Page
for full information.

MALLORY PLUG-IN SHAFTS • ATTACHABLE SWITCHES

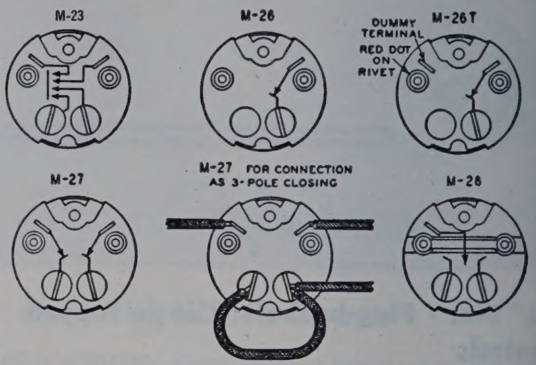
Universal and Special Plug-In Shafts for Use with Types UM, TM, and DTM Controls

Catalog Number	Catalog Number	Catalog Number
SS1	SS15	SS25
SS2	SS16	SS26
SS3	SS17	SS27
SS4	SS18	SS28
SS5	SS19	SS29
SS6	SS20	SS30
SS10	SS21	SS31
SS11	SS22	SS32
SS12	SS23	SS33
SS14	SS24	SS34


SS 1 ••
EXACTLY REPLACES ANY 1/4" ROUND SHAFT OR 1/32 OR 3/32 FLATTED SHAFT UP TO 4" LONG.
SS 2 ••
RCA, UMS AND ANY 3/16" DIAMETER SHAFT UP TO 4" LONG
SS 3 ••
EXACTLY REPLACES ANY 3/32 SLOTTED SHAFT UP TO 2" LONG
SS 4 •
RCA-PART NUMBERS 12240, 12365, ETC.
SS 5 •
PHILCO 36,37,38 HOUSEHOLD RECEIVERS
SS 6 •
RCA-HUDSON H6, ETC.
SS 10 •
MOTOROLA-60,80,36 GOLDEN VOICE, ETC.
SS 11 ••
EXACTLY REPLACES ANY 3/32 SLOTTED SHAFT 2" TO 4" LONG
SS 12 •
PHILCO, UMS ARVIN
SS 14 ••
SS 15 ••
EXACTLY REPLACES ANY 3/32 SLOTTED SHAFT 4" TO 6" LONG
SS 16 ••
EXACT FOR SENTINEL, CUT TO LENGTH FOR RCA AND OTHERS
SS 17 ••
EXACTLY REPLACES ANY SLOTTED "INSACUP" SHAFT UP TO 6" LONG
SS 18 •
BELMONT, STEWART-WARNER, ETC.
SS 19 ••
ALL 1937-38 MOTOROLAS
SS 20 •
MOTOROLA MODEL 16C
SS 21 •
MOTOROLA MODEL 17D
SS 22 •
MOTOROLA AND MANY OTHERS
SS 23 •
UNITED AMERICAN BOSCH MODELS 139, 149, 169
SS 24 •
CHEVROLET MODEL 985425
SS 25 ••
EXACTLY REPLACES STANDARD KNURLED SHAFTS FROM 3/4" TO 4" LONG
SS 26 •
ZENITH
SS 27 •
PHILCO
SS 28 •
MOTOROLA
SS 29 • MOTOROLA
SS 30 • MOTOROLA
SS 31 • PHILCO
SS 32 • PHILCO
SS 34 •
ZENITH
SS 33 •
ZENITH

KEY TO SHAFT CHART—*These Plug-In Shafts are designed as exact replacements for applications requiring a given predetermined length with special coupling slots or tongue or an insulated coupler. None of these require any cutting or special adjustment. **These Plug-In Shafts are of universal length and designed for many applications.

Attachable Switches for 1⅛" Dia. Controls


M-23
M-26
DUMMY TERMINAL
M-26T
RED DOT ON RIVET
M-27
M-27 FOR CONNECTION AS 3-POLE CLOSING
M-28

For Use With MR, MK, UM, TM, MRT, DTM Controls

Catalog Number	Circuit Arrangement
M-26	Single-Pole—Single-Throw
*M-26T	Single-Pole—Single-Throw
M-27	Double-Pole—Single-Throw
M-28	Single-Pole—Double-Throw
M-23	Four-Pole—Single-Throw, Shorting

*Has dummy terminal identified by red dot.

Explanation of Mallory Tapers

● Taper Number 1 is a modified logarithmic left hand taper in the carbon type of control and an approximation to this logarithmic taper in the wire-wound type. This taper should always be used in shunt circuits, as in usual antenna and audio circuits, or where only the center and left hand terminals are used.

Taper Number 2 is a right hand logarithmic taper in the carbon and an approximation in the wire-wound type. Used in series circuits, as in cathode voltage controls, or where only the center and right hand terminals are used.

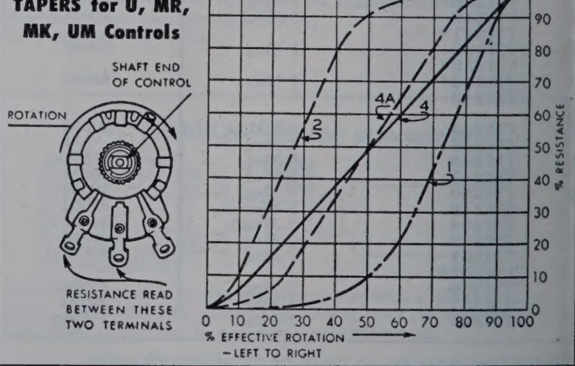
Taper Number 3 is a combination left and right hand taper. Has a limited use in circuits where the control must perform both as a shunt and as a series circuit control as in combination antenna shunt plus bias circuits. This is the most common use for such a taper.

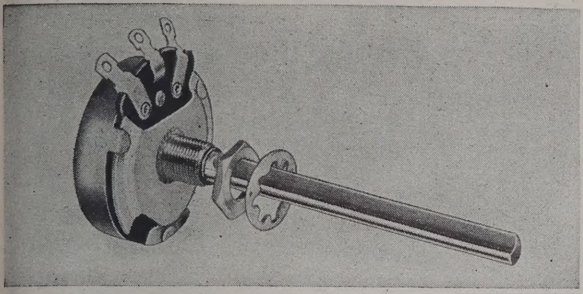
Taper Number 4 is a linear taper. Strictly speaking it is not a "taper" although commonly referred to as such. A linear "taper" is used wherever a control should be such that voltage change is proportional to the degree of rotation.

Taper Number 4A is a modification of the regular linear taper Number 4.

Taper Number 7 is made only in the wire-wound type of control and is a form of left hand taper. This taper is desirable for the antenna shunt plus bias control, wherein greater attenuation is obtained by increasing the bias voltage. The slight left taper then suffices to gradually reduce the signal to zero volume by the shunting action in the antenna circuit.

TAPERS for U, MR, MK, UM Controls





1½″ Dia. · Fixed Shaft · Carbon Controls

APPLICATION—For volume or tone control in audio circuits.

DESCRIPTION—1½″ carbon control made available in a range of resistances and tapers to satisfactorily cover the field. Mallory's exclusive element curing process is used in the manufacture of these controls, as well as in the 1⅛″ dia. line.

SHAFT DESCRIPTION—A fixed channel or slotted shaft is provided, measuring 3″ from lock ring, except as indicated below.

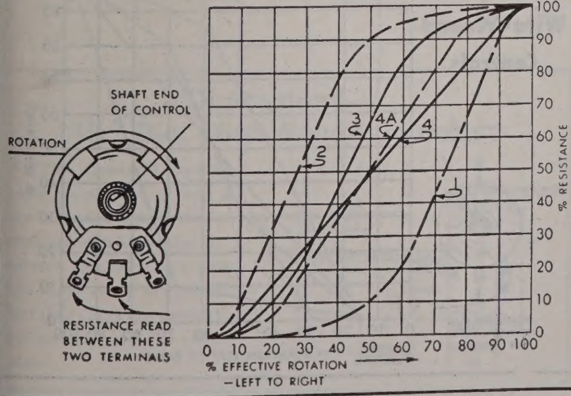
ACCESSORIES—One hex nut, one lock washer, and one shim furnished with each control. An external adjustable resistor is furnished where required, as indicated below. AC Switch available as special item. (See page 11.)

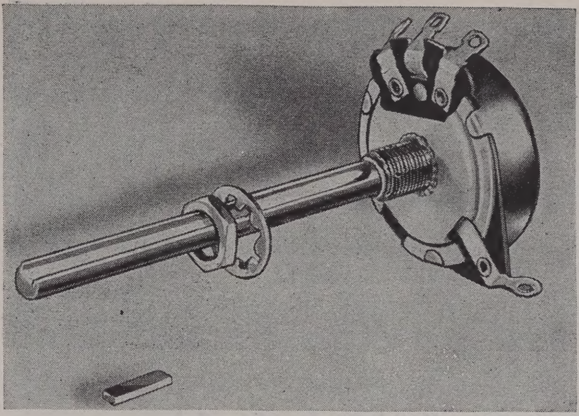
PACKAGING—One control, plus accessories and complete instructions per display carton.

Catalog Number	Ohms Resistance	Taper	Catalog Number	Ohms Resistance	Taper
Y5MP	5M	4	**Y200MP**	200M	4
F12§	7500	1	**M**	250M	1
UC501§	10M	2	**UC511†**		
Y10MP	10M	4	**UC509§**	250M	2
H12§	15M	1	**Y250MP**	250M	4
Y§	20M	1			
J§	25M	2	**UC503**	750M	1
Y25MP	25M	4	**UC514†**	1 Meg.	1
K12	50M	1			
K§	50M	2	**UC504**	3 Meg.	1
Z12	75M	1	**UC505**	4 Meg.	1
Z§	75M	2	**UC506**	5 Meg.	1
			UC507	5 Meg.	2
UC510§	100M	2	**UC508**	9 Meg.	1
UC502	150M	1			

§External adjustable resistor included.
†Has slotted shaft for automobile receivers.

TAPERS for 1½″ Dia. Controls





1½″ Dia. · Fixed Shaft · Single & Double Tapped Controls

APPLICATION—For volume control with tone compensation in audio circuits.

DESCRIPTION—1½″ carbon controls made available in a wide range of resistances, single and double tapped as indicated.

SHAFT DESCRIPTION—An accurately finished shaft is permanently attached, measuring 3″ from lock ring.

ACCESSORIES—One hex nut, one lock washer, and one shim furnished with each control. AC switches available as a special item. (See page 11.)

PACKAGING—One control, plus accessories and complete instructions per display carton.

Single Tapped

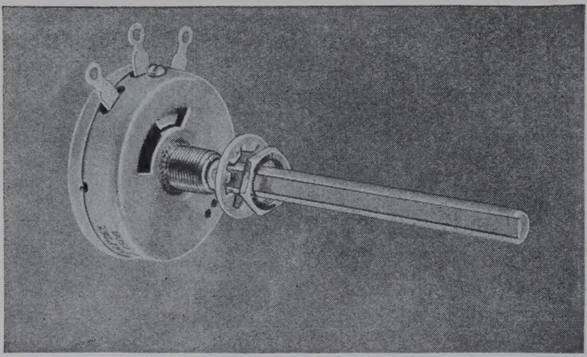
Catalog Number	Overall Resistance	Tap Resistance	Catalog Number	Overall Resistance	Tap Resistance
TRP601	40M	8M	**TRP610**	1 Meg.	30M
TRP602	60M	4M	**TRP608**	1 Meg.	200M
TRP617	60M	12M	**TRP609††**	1 Meg.	500M
TRP623	250M	50M	**TRP612**	2 Meg.	15M
TRP603	250M	110M	**TRP618**	2 Meg.	250M
			TRP613	2 Meg.	400M
TRP604	350M	20M	**TRP620**	2 Meg.	900M
TRP605	350M	70M			
TRP614†			**TRP615**	3 Meg.	900M
TRP616	500M	60M			
TRP606	500M	100M			
TRP607	500M	225M			

†Has slotted shaft for automobile receivers.
††Special taper for fader service.

Double Tapped

Catalog Number	Overall Resistances	Tap Resistance	
		Tap 1	Tap 2
TRP622	44M	7M	14M
TRP621‡ **TRP624**	2.25 Meg.	250M	500M

‡No provision for switch.



(SRP262 Illustrated)

1½″ Dia. · Fixed Shaft · Special Application Controls

APPLICATION—For special applications, as recommended in Mallory Radio Service Encyclopedia.

DESCRIPTION—1½″ carbon or wire-wound controls, as indicated, available in a variety of resistances and constructions to meet the special requirements necessary in replacement, as recommended in Mallory Radio Service Encyclopedia.

SHAFT DESCRIPTION—A special shaft is permanently attached. It is machined to the exact dimensions necessary to meet replacement requirements.

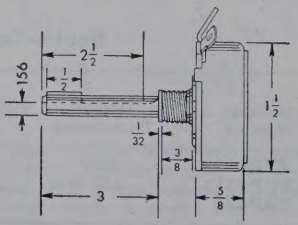
ACCESSORIES—One hex nut, and one lock washer furnished with each control.

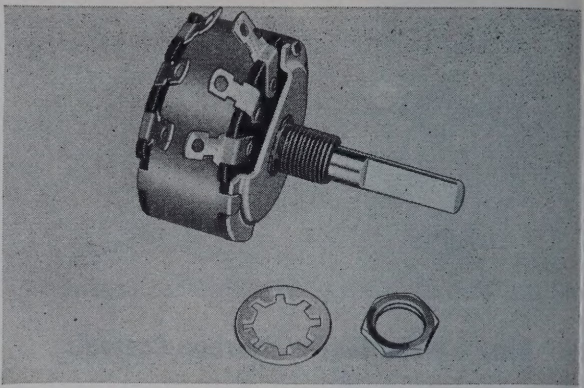
PACKAGING—One control, plus accessories and complete instructions per display carton.

Catalog Number	Ohms Resistance	Type Element
SRP134	4500	W. W.
SRP142	2900	W. W.
SRP152	60	W. W.
SRP153	13M	W. W.
SRP154	50M	Carbon
SRP179	125M	Carbon
SRP185	1500	Carbon
SRP188	32M	Carbon
SRP213	250M	Carbon
SRP239	450	W. W. Strip
SRP241	6M	W. W. Strip
SRP245	32M	Carbon
SRP251	350M	Carbon
SRP261	100M	Carbon
SRP262	1500	W. W.
SRP263	32M	Carbon
SRP269	10M	Carbon
SRP282	350M	Carbon
SRP286	250M	Carbon
SRP289	50M	Carbon
SRP290	1 Meg.	Carbon
SRP900	20M	Carbon
SRP901	10M	Carbon
SRP960	800	W. W.
SRP961	10M	Carbon

†Right hand switch action.

Drawing Showing Dimensions of 1½″ Dia. Carbon Controls





Special Dual Controls

APPLICATION—For special applications, as recommended in Mallory's Radio Service Encyclopedia.

DESCRIPTION—Special controls of wire-wound and /or carbon construction available in a range of resistances and types as required by recommendations of Mallory Radio Service Encyclopedia. They are designed to provide exact physical and electrical characteristics of the original control.

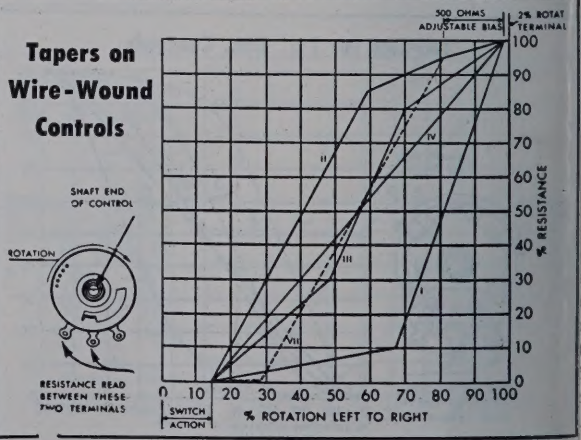
ACCESSORIES—One hex nut and one lock washer furnished with each control.

PACKAGING—One control, plus accessories and complete instructions per display carton.

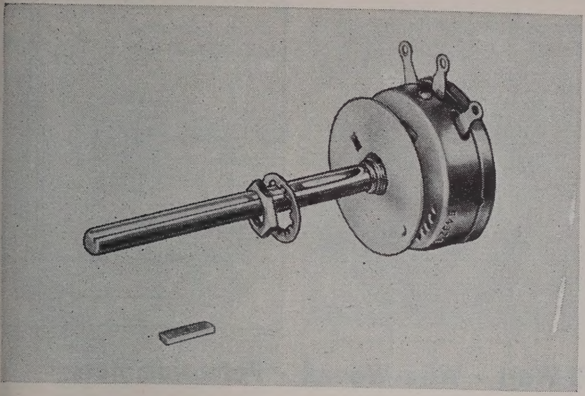
Catalog Number	Ohms Resistance		Type Element	
	Front	Rear	Front	Rear
DRP114	250	5M	W. W.	W. W.
DRP115	3800	3800	Carbon	Carbon
DRP116	25700	10000	W. W.	W. W.
DRP117	500	2500	W. W.	W. W.
DRP119	3M	10M	W. W.	W. W.
DRP122	645	10M	W. W.	W. W.
DRP169	7500	10M	W. W.	W. W.
DRP221	10M	100M	Carbon	Carbon
DRP222	75M	32M	Carbon	Carbon
DRP240	250M	10M	Carbon	Carbon
DRP244	25M	6M	Carbon	Carbon
DRP250	50M	1M	Carbon	Carbon
DRP302	100M	250M	Carbon	Carbon
DRP304	1 Meg.	3 Meg.	Carbon	Carbon
DRP306*	5M	10M	W. W.	Carbon
DRP311	150M	250M tapped 160M	Carbon	Carbon
DRP318	250M	3 Meg.	Carbon	Carbon

*Includes Switch.

Tapers on Wire-Wound Controls



MALLORY WIRE-WOUND CONTROLS • 1½″ ATTACHABLE SWITCHES



1½″ Dia. · Fixed Shaft · Wire-Wound Controls

APPLICATION—Used as bias controls and voltage dividers in bridge circuits and test instruments.

DESCRIPTION—Rugged resistance strip and contactor assemblies are completely enclosed in a dust-proof case. Will carry 4 watts of power.

SHAFT DESCRIPTION—Furnished with a fixed channel-type shaft, measuring 3″ from lock ring.

ACCESSORIES—Mallory Dial Plate No. 396 is available for use with these controls. One hex nut, one lock washer, and one shim furnished with each control. An external variable resistor is furnished where required, as indicated below. Has adjustable stop plate for bias feature, as indicated below. AC switches available as a special item. (See this page.)

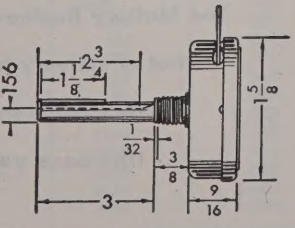
PACKAGING—One control, plus accessories and complete instructions per display carton.

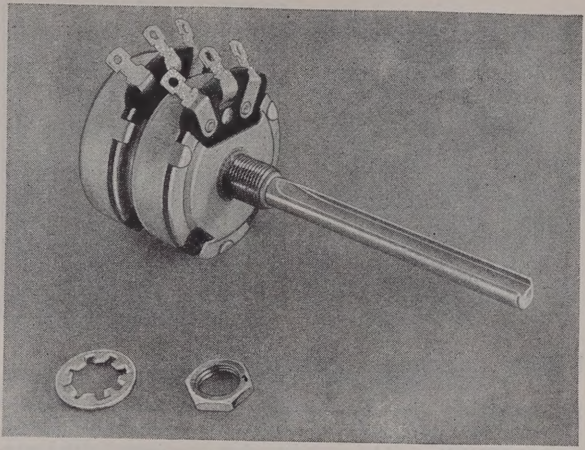
Catalog Number	Ohms Resistance	Taper	Catalog Number	Ohms Resistance	Taper
Q	2	4	**D12§**	3000	1
R	6	4	**D§**	3000	2
S	10	4	**A3MP§**	3000	4
T	20	4	**D7§**	3000	7
U	30	4	**A4MP§**	4000	4
V	60	4	**E§**	5000	2
W	100	4	**A5MP§**	5000	4
X	200	4	**E7§**	5000	7
A400P	400	4	**F§**	7500	2
A	500	1	**F7§**	7500	7
A550P	550	4	**G§**	10000	2
B	1000	1	**A10MP§**	10000	4
UC500	1000	2	**G7§**	10000	7
A1MP	1000	4	**H§**	15000	2
C12§	2000	1	**H7§**	15000	7
C§	2000	2	**A20MP§**	20000	4
A2MP§	2000	4			

§Have exclusive Mallory adjustable bias feature, providing 500 ohms in 100 ohm steps in all values over 1,000 ohms.

Dimensions—
1½″ Dia. Wire-Wound Controls

NOTE: Controls having taper numbers 1, 2 and 7 are intended primarily for replacement in radio receivers. Be sure to check the taper curve and its effect (see chart on page 31) before ordering for other uses.





(Type LL Illustrated)

Universal Dual Controls

APPLICATION—See "General Use" column below.

DESCRIPTION—Consists of two 1½″ Dia. wire-wound or carbon controls driven by a single shaft.

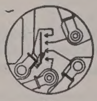
SHAFT DESCRIPTION—Furnished with fixed channel shaft; measuring 2½″ from lock ring.

ACCESSORIES—One hex nut and one lock washer furnished with each control. AC switches available as a special item. (See this page.)

PACKAGING—One control, plus accessories and complete instructions per display carton.

Cat. No.	Ohms Resistance		Taper		Type Element		General Use
	Front	Rear	Front	Rear	Front	Rear	
CE	2M	5M	I	I	W. W.	W. W.	Ant. Shunt and Bias
GE	10M	5M	VII	IV	W. W.	W. W.	Ant. Shunt Bias or Screen
GG	10M	10M	VII	IV	W. W.	W. W.	Ant. Shunt Bias or Screen
GK	10M	50M	I	IV	Carbon	Carbon	Ant. Shunt Bias or Screen
LL	100M	100M	I	I	Carbon	Carbon	Audio Shunt in Push Pull
LM	100M	250M	I	I	Carbon	Carbon	Audio Shunt, Tone, Screen or RF Shunt
MM	250M	250M	I	I	Carbon	Carbon	Audio Shunt in Push Pull

Attachable Switches (1½″ Dia. Controls)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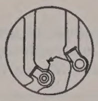
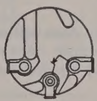

6-9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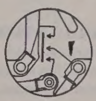
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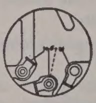
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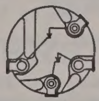
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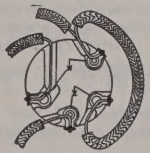
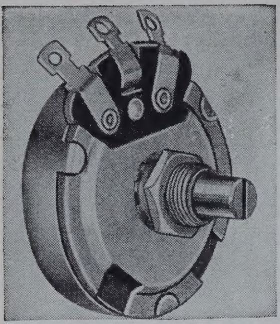

7 for connection as 3-pole closing

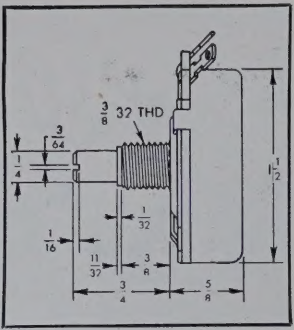
7

For use with standard Universal Controls, Carbon and Wire-Wound types, TRP Tapped Controls, and Universal Dual Controls.

Cat. No. **6-9**—Single-Pole—Single-Throw
***6T**—Single-Pole—Single-Throw
7—Double-Pole—Single-Throw
8—Single-Pole—Double-Throw
13—Three-Pole—Single-Throw Shorting
14—Four-Pole—Single-Throw Shorting

*Has dummy terminal identified by copper rivet.





1 Watt · Carbon · Potentiometers

APPLICATION—For use in test and other instruments, and special applications.

DESCRIPTION—1½″ heavy-duty carbon-type control with a nominal one-watt rating. No. 4 linear taper.

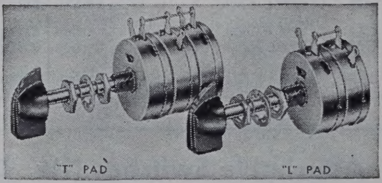
SHAFT DESCRIPTION—A short shaft is provided with a milled screw-driver slot for easy and quick adjustment. Shaft will also take standard knobs.

ACCESSORIES—One hex nut furnished with each control.

PACKAGING—One control, plus accessories and complete instructions per display carton.

Catalog Number	Ohms Resistance
B5MP	5,000
B10MP	10,000
B25MP	25,000
B50MP	50,000
B100MP	100,000
B250MP	250,000
B500MP	500,000
B1000MP	1 Meg.

T and L Pad Attenuators



APPLICATION—For controlling the level of low impedance audio circuits and for volume control of microphones, talking picture amplifiers, and many varied sound amplifying and audio distribution systems.

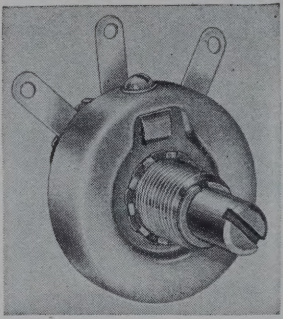
DESCRIPTION—A high quality "T" and "L" pad that may be used with audio amplifiers having a peak audio rating of 15 watts. These attenuators have a continuous DC dissipation rating of 4 watts in any position. Bushing ⅜″ Dia. by ⅜″ long.

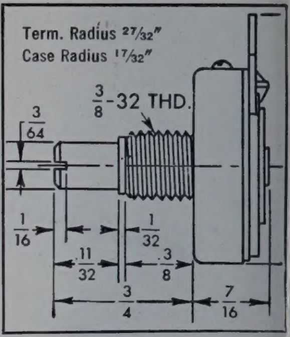
SHAFT DESCRIPTION—2″ long shaft, grooved at popular lengths for easy cutting.

ACCESSORIES—No. 366 Bar Knob, No. 395 Dial Plate with matched rotation, one nut and one lock washer furnished with each control.

PACKAGING—One control, plus accessories and complete instructions per display carton.

"T" Pad Attenuators	"L" Pad Attenuators	
Catalog Number	Catalog Number	Ohms Impedance
T6	**L6**	6
T8	**L8**	8
T15	**L15**	15
T50	**L50**	50
T200	**L200**	200
T250	**L250**	250
T500	**L500**	500
T2000	**L2000**	2000





2 Watt · Wire-Wound · Potentiometers

APPLICATION—For use in test and special instruments, bias control and bridge circuits, etc.

DESCRIPTION—1¹⁄₁₆″ diameter small resistor that will dissipate 2 watts over the entire element for continuous operation. No. 4 linear taper. Contact arm is grounded. Total rotation 284°; effective electrical rotation 266°.

SHAFT DESCRIPTION—A short shaft with a milled screw-driver slot is provided for quick and easy adjustment. Shaft will also take standard knobs.

ACCESSORIES—Dial Plate No. 393 is available for use with these controls. One hex nut furnished with each control.

PACKAGING—One control, plus accessories and complete instructions per display carton.

Potentiometer Catalog Number	Rheostat* Catalog Number	Ohms Resistance	Carrying Capacity in Amps.
C6P	**C6R**	6	.58
C10P	**C10R**	10	.45
C15P	**C15R**	15	.37
C20P	**C20R**	20	.32
C30P	**C30R**	30	.26
C40P	**C40R**	40	.22
C50P	**C50R**	50	.2
C100P	**C100R**	100	.14
C200P		200	.1
C400P		400	.07
C1MP		1M	.045
C3MP		3M	.025
C5MP		5M	.02
C6MP		6M	.018
C10MP		10M	.014
C15MP		15M	.011

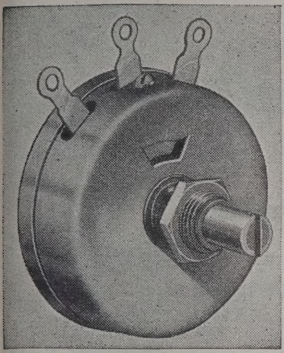
*"Open" or "off" position counter-clockwise.

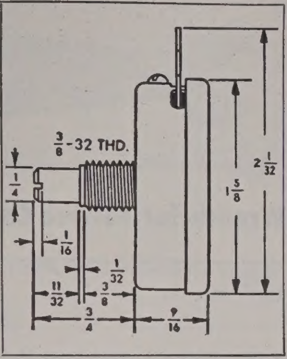
ASK YOUR DISTRIBUTOR ABOUT . . .

"GOOD SERVICE FOR GOOD BUSINESS"

The Mallory Business-Building Plan
that effectively helps you get
new customers and hold
the ones you have!

MALLORY WIRE-WOUND POTENTIOMETERS





4 Watt · Wire-Wound Potentiometers and Rheostats

APPLICATION—Used on bias controls and voltage dividers in bridge circuits and test instruments.

DESCRIPTION—Precision wire-wound potentiometers and rheostats with a 4-watt rating for use in instruments where reliability is paramount. Rugged construction. Rheostats feature "off" position (no connection) type of construction, saving the cost of a switch. Furnished with insulated contact arm. Potentiometers have three terminals. Rheostats have two terminals. Total rotation 294°; effective electrical rotation 279°. No. 4 Linear Taper.

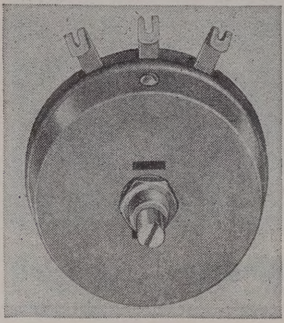
SHAFT DESCRIPTION—A short shaft is provided with a slot for easy screw-driver adjustment. Shafts will take standard knobs.

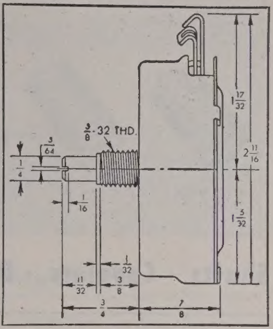
ACCESSORIES—No. 395 Dial Plate is available for use with these controls. One hex nut furnished with each control.

PACKAGING—One control, plus accessories and complete instructions per display carton.

Potentiometer Catalog Number	Rheostat* Catalog Number	Ohms Resistance	Carrying Capacity in Amps.
	M05R	½	2.80
M1P	**M1R**	1	2.00
	M2R	2	1.4
M3P	**M3R**	3	1.15
	M4R	4	1.00
M6P	**M6R**	6	.82
M10P	**M10R**	10	.63
M15P	**M15R**	15	.52
M20P	**M20R**	20	.45
M25P	**M25R**	25	.40
M30P	**M30R**	30	.37
M40P	**M40R**	40	.32
M50P	**M50R**	50	.28
M60P	**M60R**	60	.26
M75P	**M75R**	75	.23
M100P	**M100R**	100	.20
M200P		200	.14
M400P		400	.10
M500P		500	.09
M600P		600	.082
M1MP		1M	.063
M2MP		2M	.045
M3MP		3M	.037
M4MP		4M	.032
M5MP		5M	.028
M10MP		10M	.020
M15MP		15M	.016
M20MP		20M	.014
M25MP		25M	.013
M50MP		50M	.009
M70MP		70M	.0075

*"Open" or "Off" position counter-clockwise.





7 Watt · Wire-Wound Potentiometers

APPLICATION—Suitable for precision instruments such as resistance bridges and where a control of medium currents or voltages is required.

DESCRIPTION—Supplied with grounded contact arm. 310° total rotation; 299° effective electrical rotation. Will dissipate 7 watts. No. 4 linear taper.

SHAFT DESCRIPTION—A short shaft with a milled screw-driver slot is provided for easy adjustment. Shafts will also take standard knobs.

ACCESSORIES—No. 399 Dial Plate is available for use with these controls. One hex nut is furnished with each control.

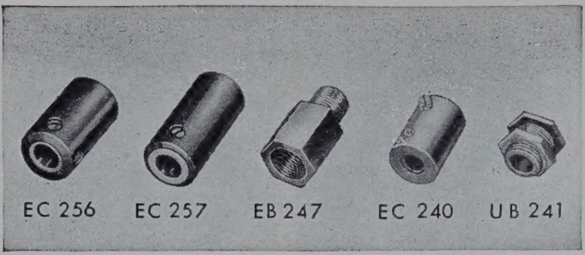
PACKAGING—One control, plus accessories and complete instructions per display carton.

Catalog Number	Ohms Resistance	Carrying Capacity in Amps.
E5MP	5M	.042
E10MP	10M	.03
E20MP	20M	.021
E25MP	25M	.019
E50MP	50M	.0135
E75MP	75M	.011
E100MP	100M	.0095
E125MP	125M	.0085
E150MP	150M	.0078

MALLORY
TECHNICAL MANUAL

● This simply written, practical book bridges the gap between radio theory and practice. Designed for the radio serviceman, engineer, amateur or experimenter who wants the latest technical information . . . presented so that he can easily apply it to everyday problems. Contains page after page of information profusely illustrated. It's worth far more than its price.

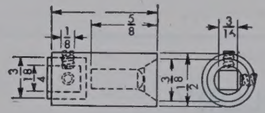
MALLORY CONTROL HARDWARE

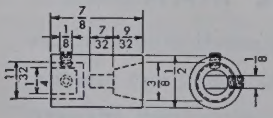


Shafts · Couplers · Bushings

Cat. No.	Description
EC240	**Universal Combination Extension Shaft Coupling and Reducer:** Will couple two ¼″ shafts or one ¼″ shaft and one ³⁄₁₆″ shaft.
	Universal Insulated Shaft Couplers: Designed to connect fixed shaft controls to remote drive couplings popular in automotive radio equipment.
EC256	Slotted Insacup.
EC257	Square Insert Insacup (Motorola type).
EB247	**Universal Extension Bushing:** Designed to screw on the present bushing of Mallory controls and switches, so that the body of the control or switch will be held ⅝″ away from the mounting surface. For example, it is used with the correct Universal Control to service Philco Models 28, 29, 45 and 45C.
UB241	**Universal Bushing and Nut:** Designed to accommodate ¼″ shaft wherever a panel bushing is desired. Includes one No. 232 nut.

DIMENSIONS— SHAFT COUPLERS AND BUSHINGS


EC 257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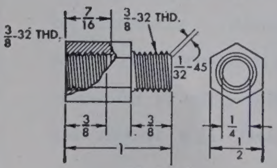
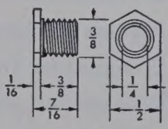
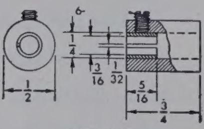
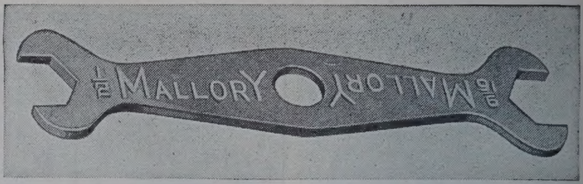


EB 247

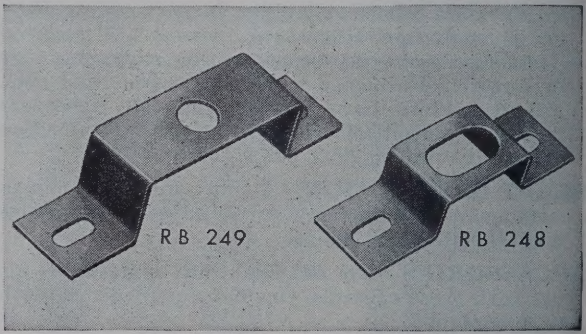

UB 241


EC 240



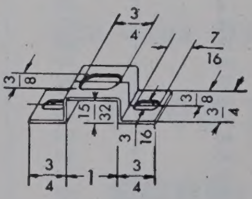
Wrench for Volume Control Nuts

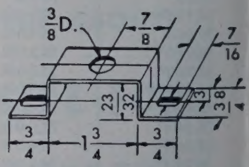
Cat. No.	Description
178	For all standard Volume Control Hexagon Nuts, ½-inch and ⁹⁄₁₆-inch diameters.



Adjustable Mounting Brackets

Cat. No.	Description
RB248	1¾″ Mounting Centers
RB249	2½″ Mounting Centers


RB248



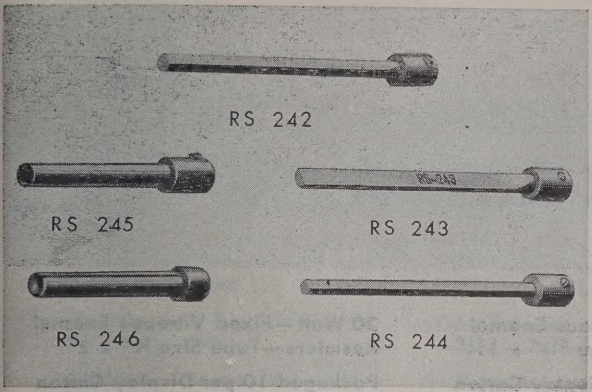
RB249

Hexagon Shoulder Nuts

Cat. No.	Description
255	For ¾″ Panels
A11260-12	For ½″ Panels
A11260-2	For ¼″ Panels

(See Pages R-19 and R-20 for Mallory List Prices)

MALLORY CONTROL HARDWARE

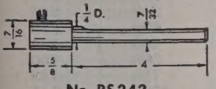


Universal Extension Shafts

Cat. No.	Description
RS242*	4″ long x ¼″ dia. x 1/32″ flat
RS243*	4″ long x ¼″ dia. x 3/32″ flat
RS244*	4″ long x 3/16″ dia. x 1/64″ flat
RS245*	2″ long x ¼″ dia. with 3/32″ slot
RS246*	2″ long x ¼″ wide x 3/32″ thick

*Packed 5 to Envelope.

SHAFT DIMENSIONS



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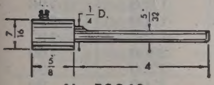

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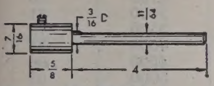

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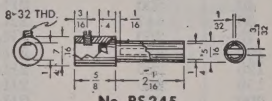

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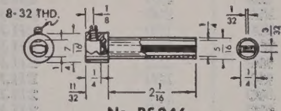
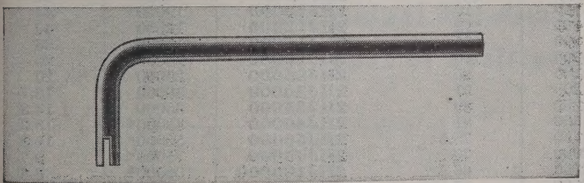
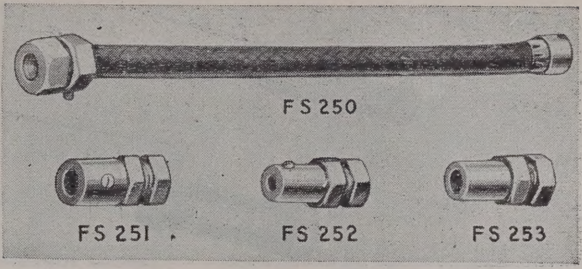


No. RS 246



Web Removing Tool

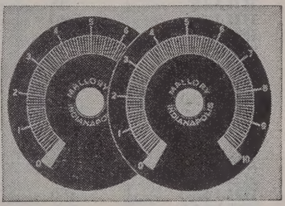
Cat. No.	Description
201	Special tool for removing web from web type knobs to adapt them for use with the Mallory Midgetrol.



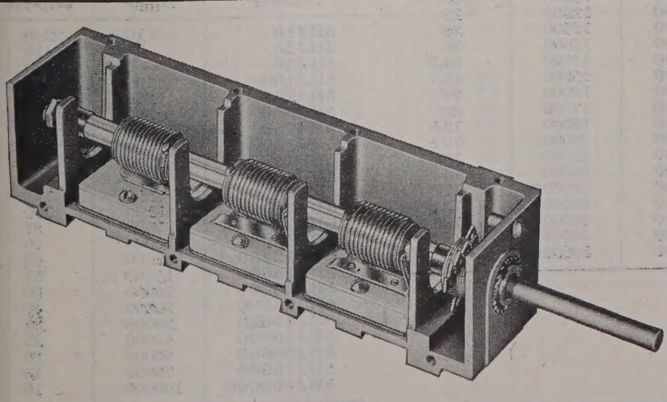
Universal Flexible Coupling Shafts

Cat. No.	Description
FS250	For Universal replacement of all flexible wire shafts, coupling to ¼″ solid shafts.
FS251	Shaft Coupling has 7/32″ hole, ½″ deep, with transverse pin, and is for use (with the correct Mallory control) as a replacement for Philco Models 805, 806, 808, 809 and PHD and PHXD, Studebaker AC266, Pierce-Arrow MT-3, Reo RT-3, etc.
FS252	Shaft Coupling has 5/32″ hole, approximately ½″ deep, and has 2 set screws opposite each other. It is used as a replacement for Philco Model D, Nash AC-989 (Code 122).
FS253	Shaft Coupling has ¼″ dia. hole, ½″ deep, equipped with 2 screws at 90 degrees. This is to be used with the correct Mallory Control as a replacement for Chevrolet No. 364441.

Dial Plates For Controls, Rheostats and Potentiometers



Cat. No.	Marking	For Type of Control	Dia.
369	0 to 100	All Rheostats and Potentiometers (compromise scale).....	2¼″
391	Increase Volume	All Rheostats and Potentiometers.....................	1½″
393	0 to 10	For "C" Type Rheostats and Potentiometers............	2¼″
395	0 to 10	For Standard Wire-Wound Controls with plain cover; also "M" Type Rheostats and Potentiometers..............	2¼″
396	0 to 10	For Standard Wire-Wound Controls with switch type cover..	2¼″
397	0 to 10	For Standard Carbon Controls with plain cover............	2¼″
398	0 to 10	For Standard Carbon Controls with switch type cover......	2¼″
399	0 to 10	For "E" Type Potentiometers.	2¼″



THE MALLORY INDUCTUNER*

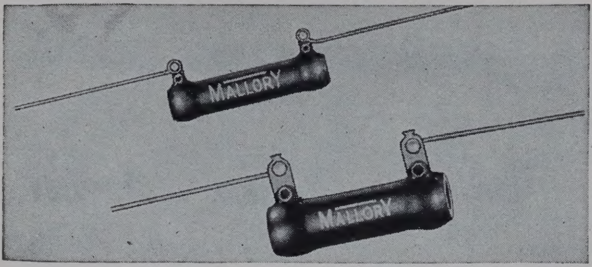
A continuously and infinitely variable inductance unit that supplies the need for a method of tuning the wide range of frequencies covered by the television-FM band. Provides unequaled simplicity, performance, and stability in service. For more complete information turn to Page 9, Mallory Special Components, of this catalog.

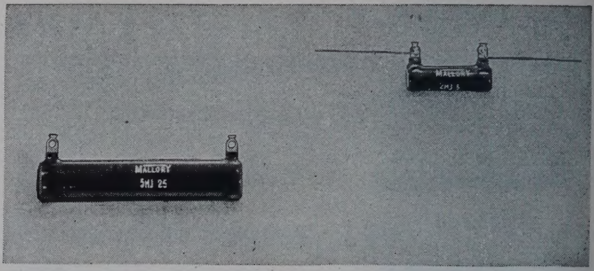
Inductuner*—Registered trade mark for Mallory variable inductance tuning devices. Manufactured and sold under one or more of the following Paul Ware and Mallory patents: 2,163644, 2,163645, 2,163646, 2,163647, 2,260877, 2,377789,2,377790. Other patents applied for.

Mallory Page 15 (See Mallory Page 2 for List Prices)

(See Pages R-19 and R-20 for Mallory List Prices)

MALLORY FIXED RESISTORS





5 Watt—Fixed Vitreous Enamel Resistors—Tube Size 5⁄16″ x 1″

Packaged 10 per Display Carton

Catalog Number	Resistance Ohms	Current Milli-amperes
HHJ1	1	2230
HHJ1.5	1.5	1820
HHJ2	2	1580
HHJ3	3	1290
HHJ4	4	1117
HHJ5	5	1000
HHJ7.5	7.5	811
HHJ10	10	707
HHJ12	12	644
HHJ15	15	577
HHJ20	20	500
HHJ25	25	450
HHJ30	30	408
HHJ35	35	378
HHJ40	40	353
HHJ50	50	316
HHJ75	75	257
HHJ100	100	223
HHJ125	125	200
HHJ150	150	182
HHJ200	200	158
HHJ250	250	141
HHJ300	300	129
HHJ350	350	119
HHJ400	400	112
HHJ450	450	105
HHJ500	500	100
HHJ600	600	91
HHJ700	700	84
HHJ750	750	81
HHJ800	800	79
HHJ900	900	74
HHJ1000	1000	70
HHJ1100	1100	67
HHJ1200	1200	64
HHJ1250	1250	63
HHJ1500	1500	57
HHJ1750	1750	53
HHJ2000	2000	50
HHJ2250	2250	47
HHJ2500	2500	45
HHJ3000	3000	40
HHJ3500	3500	37
HHJ4000	4000	35
HHJ4500	4500	33
HHJ5000	5000	31

*We stock these high resistance values only in the more economical low temperature enamel coating because operating voltages normally encountered rarely exceed the values listed.

10 Watt Fixed Vitreous Enamel Resistors—Tube Size 5⁄16″ x 1¾″

Packaged 10 per Display Carton

Catalog Number	Resistance Ohms	Current Milli-ampers
1HJ1	1	3150
1HJ2	2	2200
1HJ3	3	1800
1HJ4	4	1580
1HJ5	5	1400
1HJ7.5	7.5	1150
1HJ10	10	1000
1HJ12	12	910
1HJ15	15	812
1HJ20	20	707
1HJ25	25	630
1HJ30	30	575
1HJ35	35	530
1HJ40	40	500
1HJ50	50	447
1HJ75	75	360
1HJ100	100	315
1HJ125	125	280
1HJ150	150	260
1HJ200	200	220
1HJ225	225	210
1HJ250	250	200
1HJ300	300	180
1HJ350	350	170
1HJ400	400	158
1HJ450	450	150
1HJ500	500	141
1HJ600	600	130
1HJ700	700	120
1HJ750	750	115
1HJ800	800	112
1HJ900	900	105
1HJ1000	1000	100
1HJ1100	1100	95
1HJ1200	1200	91
1HJ1250	1250	89
1HJ1500	1500	81
1HJ1750	1750	75.5
1HJ2000	2000	70
1HJ2250	2250	66.5
1HJ2500	2500	63
1HJ3000	3000	56
1HJ3500	3500	53
1HJ4000	4000	50
1HJ4500	4500	47
1HJ5000	5000	45
1HJ6000	6000	40
1HJ7000	7000	38
1HJ7500	7500	36
1HJ8000	8000	35
1HJ8500	8500	34
1HJ10000	10000	31.6
1HJ11000	11000	30
1HJ12000	12000	29
1HJ12500	12500	28
1HJ13500	13500	26
1HJ14300	14300	24.5
1HJ15000	15000	23
1HJ16000	16000	22
1HJ17500	17500	20
1HJ18000	18000	19.5
1HJ20000	20000	17.5
1HJ22500	22500	15.5
1HJ25000	25000	14
1HJ30000	30000*	11.5
1HJ35000	35000*	10.5
1HJ40000	40000*	10
1HJ45000	45000*	9.5
1HJ50000	50000*	9

20 Watt—Fixed Vitreous Enamel Resistors—Tube Size ½″ x 2″

Packaged 10 per Display Carton

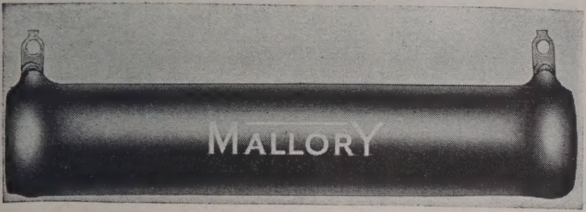
Catalog Number	Resistance Ohms	Current Milli-amperes
2HJ5	5	2000
2HJ10	10	1415
2HJ15	15	1153
2HJ25	25	895
2HJ50	50	633
2HJ75	75	517
2HJ100	100	447
2HJ150	150	365
2HJ200	200	316
2HJ250	250	283
2HJ300	300	258
2HJ400	400	224
2HJ500	500	200
2HJ750	750	163
2HJ1000	1000	141
2HJ1250	1250	126
2HJ1500	1500	115
2HJ1750	1750	107
2HJ2000	2000	100
2HJ2250	2250	94
2HJ2500	2500	89
2HJ2750	2750	85
2HJ3000	3000	81
2HJ3500	3500	75
2HJ4000	4000	71
2HJ4500	4500	66
2HJ5000	5000	63
2HJ6000	6000	57
2HJ7500	7500	51
2HJ10000	10000	44
2HJ12500	12500	40
2HJ15000	15000	33
2HJ20000	20000	25
2HJ25000	25000	20
2HJ30000	30000	16.7
2HJ35000	35000	14.3
2HJ40000	40000*	13.3
2HJ50000	50000*	11.8
2HJ75000	75000*	9.7
2HJ100000	100000*	8.3

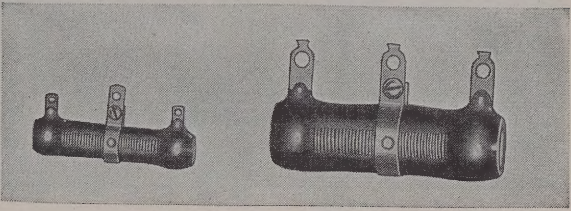
50 Watt—Fixed Vitreous Enamel Resistors—Tube Size ¾″ x 4½″

One Resistor to a Display Carton

Catalog Number	Resistance Ohms	Current Milli-amperes
5HJ10	10	2240
5HJ25	25	1415
5HJ50	50	1000
5HJ100	100	707
5HJ250	250	447
5HJ500	500	316
5HJ750	750	258
5HJ1000	1000	224
5HJ1500	1500	183
5HJ2000	2000	158
5HJ2500	2500	141
5HJ5000	5000	100
5HJ7500	7500	81
5HJ10000	10000	70
5HJ12500	12500	63
5HJ15000	15000	57
5HJ20000	20000	50
5HJ25000	25000	40
5HJ30000	30000	33
5HJ40000	40000	25
5HJ50000	50000	20
5HJ75000	75000	13
5HJ100000	100000	10

MALLORY FIXED AND ADJUSTABLE RESISTORS





100 Watt—Fixed Vitreous Enamel Resistors—Tube Size 1⅛″ x 6½″

One Resistor to a Display Carton

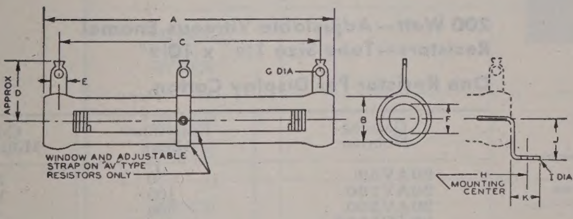
Catalog Number	Resistance Ohms	Current Milli-amperes
10HJ25	25	2000
10HJ50	50	1414
10HJ75	75	1155
10HJ100	100	1000
10HJ150	150	815
10HJ250	250	632
10HJ500	500	447
10HJ750	750	365
10HJ1000	1000	316
10HJ1500	1500	258
10HJ2000	2000	223
10HJ2500	2500	200
10HJ5000	5000	141
10HJ7500	7500	115
10HJ10000	10000	100
10HJ15000	15000	80
10HJ20000	20000	70
10HJ25000	25000	60
10HJ30000	30000	50
10HJ40000	40000	37
10HJ50000	50000	30
10HJ75000	75000	20
10HJ100000	100000	15

200 Watt—Fixed Vitreous Enamel Resistors—Tube Size 1⅛″ x 10½″

One Resistor to a Display Carton

Catalog Number	Resistance Ohms	Current Milli-amperes
20HJ25	25	2830
20HJ50	50	2000
20HJ75	75	1635
20HJ100	200	1414
20HJ250	250	894
20HJ500	500	632
20HJ750	750	515
20HJ1000	1000	447
20HJ1500	1500	365
20HJ2000	2000	316
20HJ2500	2500	283
20HJ3000	3000	258
20HJ5000	5000	200
20HJ7500	7500	163
20HJ10000	10000	141
20HJ20000	20000	100
20HJ30000	30000	80
20HJ40000	40000	62
20HJ50000	50000	50
20HJ75000	75000	33
20HJ100000	100000	25

Dimensional Drawing of all Types of Resistors



Key to Resistor Dimensions

Rtg. Watts	Type	A	B	C	D	E	F	G	H	I	J	K
5	*HHJ	1	5/16	1½	7/16	⅛	3/16	.070	.....	.....	.....	.....
10	*1HJ	1¾	5/16	1½	7/16	⅛	3/16	.070	.....	.....	.....	.....
20	* 2HJ	2	½	1½	13/16	¼	5/16	.144	.....	.....	.....	.....
50	5HJ	4½	¾	4	15/16	¼	½	.144	5	.203	¾	½
100	10HJ	6½	1⅛	5¾	1⅛	¼	⅞	.144	7¼	.265	1¼	11/16
200	20HJ	10½	1⅛	9¾	1⅛	¼	⅞	.144	11¼	.265	1¼	11/16
10	1AV	1¾	5/16	1½	7/16	⅛	3/16	.070	25/16	.142	⅝	7/16
25	2AV	2½	⅝	2	⅞	¼	7/16	.144	3	.203	¾	½
50	5AV	4½	⅝	4	⅞	¼	7/16	.144	5	.203	¾	½
80	8AV	6½	⅝	6	⅞	¼	7/16	.144	7	.203	¾	½
100	10AV	6½	1⅛	5¾	1⅛	¼	⅞	.144	7¼	.265	1¼	11/16
200	20AV	10½	1⅛	9¾	1⅛	¼	⅞	.144	11¼	.265	1¼	11/16

*Types HHJ, 1HJ and 2HJ furnished with lugs and wire leads.
Types 5HJ, 10HJ, and 20HJ furnished with lugs.

10 Watt—Adjustable Vitreous Enamel Resistors—Tube Size 5/16″ x 1¾″

One Resistor per Display Carton

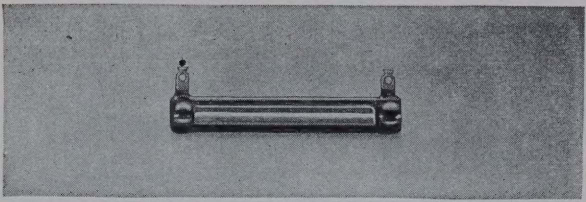
Catalog Number	Resistance Ohms	Current Milli-amperes
1AV1	1	3150
1AV2	2	2200
1AV3	3	1800
1AV5	5	1400
1AV7.5	7.5	1150
1AV10	10	1000
1AV15	15	812
1AV20	20	707
1AV25	25	630
1AV50	50	447
1AV75	75	360
1AV100	100	315
1AV150	150	260
1AV200	200	220
1AV250	250	200
1AV300	300	180
1AV350	350	170
1AV400	400	158
1AV500	500	141
1AV600	600	130
1AV750	750	115
1AV800	800	112
1AV1000	1000	100
1AV1250	1250	89
1AV1500	1500	81
1AV2000	2000	70
1AV2250	2250	66.5
1AV2500	2500	63
1AV3000	3000	56
1AV3500	3500	53
1AV4000	4000	50
1AV4500	4500	47
1AV5000	5000	45
1AV6000	6000	40
1AV7000	7000	38
1AV7500	7500	36
1AV8000	8000	35
1AV8500	8500	34
1AV9000	9000	33
1AV10000	10000	32

25 Watt—Adjustable Vitreous Enamel Resistors—Tube Size ⅝″ x 2½″

One Resistor Per Display Carton

Catalog Number	Resistance Ohms	Current Milli-amperes
2AV1	1	5000
2AV3	3	2890
2AV5	5	2240
2AV10	10	1580
2AV15	15	1290
2AV25	25	1000
2AV50	50	707
2AV75	75	575
2AV100	100	500
2AV150	150	400
2AV200	200	353
2AV250	250	316
2AV300	300	288
2AV400	400	250
2AV500	500	224
2AV750	750	182
2AV1000	1000	158
2AV1250	1250	141
2AV1500	1500	129
2AV2000	2000	112
2AV2500	2500	100
2AV3000	3000	91
2AV3500	3500	84
2AV4000	4000	79
2AV5000	5000	71
2AV6000	6000	64
2AV7500	7500	57
2AV10000	10000	50
2AV12000	12000	42
2AV15000	15000	33
2AV20000	20000	25
2AV25000	25000	20

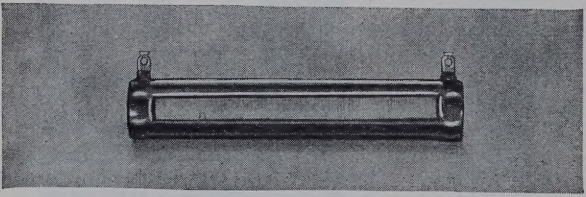
MALLORY ADJUSTABLE RESISTORS



50 Watt—Adjustable Vitreous Enamel Resistors—Tube Size ⅝″ x 4½″

One Resistor per Display Carton

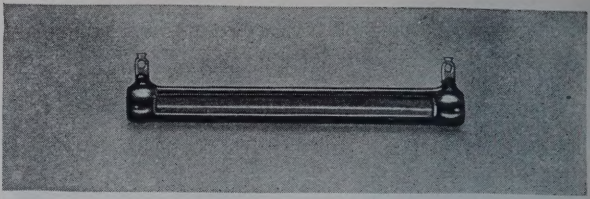
Catalog Number	Resistance Ohms	Current Milliamperes
5AV5	5	3160
5AV10	10	2230
5AV25	25	1410
5AV50	50	1000
5AV75	75	816
5AV100	100	707
5AV150	150	577
5AV200	200	500
5AV250	250	447
5AV300	300	408
5AV400	400	354
5AV500	500	316
5AV750	750	258
5AV1000	1000	224
5AV1500	1500	182
5AV2000	2000	158
5AV2500	2500	141
5AV3000	3000	129
5AV4000	4000	112
5AV5000	5000	100
5AV7500	7500	81
5AV10000	10000	70
5AV12000	12000	64
5AV15000	15000	57
5AV20000	20000	50
5AV25000	25000	40
5AV30000	30000	33
5AV40000	40000	25
5AV50000	50000	20



80 Watt—Adjustable Vitreous Enamel Resistors—Tube Size ⅝″ x 6½″

One Resistor per Display Carton

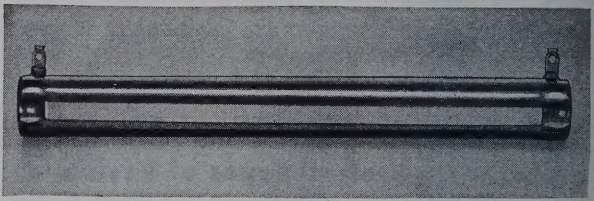
Catalog Number	Resistance Ohms	Current Milliamperes
8AV10	10	2830
8AV15	15	2310
8AV25	25	1790
8AV50	50	1265
8AV100	100	894
8AV250	250	566
8AV300	300	517
8AV400	400	495
8AV500	500	400
8AV750	750	327
8AV1000	1000	283
8AV1500	1500	231
8AV2000	2000	200
8AV2500	2500	179
8AV3500	3500	152
8AV5000	5000	126
8AV7500	7500	103
8AV10000	10000	89
8AV15000	15000	73
8AV20000	20000	63
8AV25000	25000	50
8AV30000	30000	42
8AV40000	40000	31
8AV50000	50000	25
8AV60000	60000	21
8AV75000	75000	16.5
8AV80000	80000	15.5
8AV100000†	100000	12.5



100 Watt—Adjustable Vitreous Enamel Resistors—Tube Size 1⅛″ x 6½″

One Resistor per Display Carton

Catalog Number	Resistance Ohms	Current Milliamperes
10AV50	50	1413
10AV100	100	1000
10AV500	500	447
10AV1000	1000	316
10AV2000	2000	223
10AV2500	2500	200
10AV3000	3000	182
10AV4000	4000	158
10AV5000	5000	141
10AV7500	7500	115
10AV10000	10000	100
10AV15000	15000	80
10AV20000	20000	70
10AV25000	25000	60
10AV30000	30000	50
10AV35000	35000	43
10AV40000	40000	37
10AV50000	50000	30
10AV75000	75000	20



200 Watt—Adjustable Vitreous Enamel Resistors—Tube Size 1⅛″ x 10½″

One Resistor Per Display Carton

Catalog Number	Resistance Ohms	Current Milliamperes
20AV50	50	2000
20AV100	100	1414
20AV500	500	632
20AV1000	1000	447
20AV1500	1500	365
20AV2000	2000	316
20AV2500	2500	283
20AV5000	5000	200
20AV10000	10000	141
20AV20000	20000	100
20AV25000	25000	80
20AV30000	30000	62
20AV50000	50000	50
20AV75000	75000	33

Extra Adjustable Clips

Type No. 1V— For 10-Watt Variohms*
Type No. 3V— For 25, 50, and 80-Watt Variohms
Type No. 6V— For 100 and 200-Watt 1⅛″ Variohms

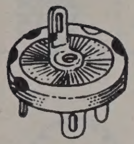
*Reg. U. S. Pat. Off.

†Will be discontinued when present stocks are exhausted.

Mallory Page 18 (See Mallory Page 2 for List Prices)

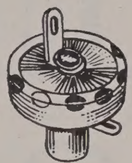
(See Pages R-19 and R-20 for Mallory List Prices)

ERIE BUTTON STYLE SILVER MICA CAPACITORS



STYLE CB

These are midget silver-mica capacitors, for use where compact size, minimum external inductance, and high internal series resistance are essential. Erie button silver-mica capacitors are unmatched for V.H.F. and U.H.F. work. "Q" at 1 MC is not less than 1000 above 100 mmf; not less than 700 between 50 and 100 mmf; not less than 500 below 50 mmf. Type 370-CB has ring type metal shell with three soldering ears. High potential terminal at either end for feed-thru connection. Type 370-FA is fastened to chassis with 3-48 screw.

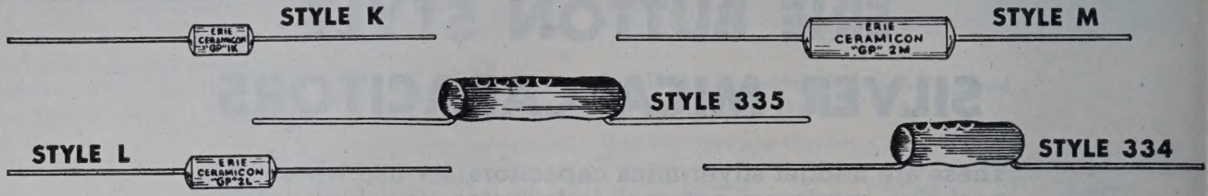


STYLE FA

SPECIFICATION CHART

Style	Capacity	Tolerance	List Price
370CB and 370FA	15	20% 10% 5%	1.10 1.25 1.85
370CB and 370FA	25	20% 10% 5%	1.10 1.25 1.85
370CB and 370FA	50	20% 10% 5%	.80 .90 1.30
370CB and 370FA	100	20% 10% 5%	.80 .90 1.30
370CB and 370FA	150	20% 10% 5%	.80 .90 1.30
370CB and 370FA	200	20% 10% 5%	.90 1.00 1.45
370CB and 370FA	250	20% 10% 5%	1.00 1.10 1.65
370CB and 370FA	300	20% 10% 5%	1.10 1.25 1.85
370CB and 370FA	400	20% 10% 5%	1.10 1.25 1.85
370CB and 370FA	500	20% 10% 5%	1.10 1.25 1.85
370CB and 370FA	750	20% 10% 5%	1.75 2.00 2.90
370CB and 370FA	1000	20% 10% 5%	2.20 2.50 3.50

ERIE CERAMICONS®



ERIE CERAMICONS* are small fixed capacitors consisting essentially of a ceramic dielectric with silver electrodes which are fired on at a very high temperature. Erie Ceramicons are outstanding because of their excellent high frequency characteristics, small size, rugged construction and availability in a wide range of capacity values.

Physical dimensions of styles illustrated are:

Style K length .562" diameter .250"	Style 334 length 1.213" diameter .415"
Style L length .812" diameter .250"	Style 335 length 1.650" diameter .415"
Style M length 1.328" diameter .340"	

"GP"® General Purpose CERAMICONS®

"GP" general purpose Ceramicons are ideally suited for such applications as coupling and by-passing, in circuits where temperature coefficient is not important — in other words for all receiver applications *except* in frequency determining circuits. Working voltage — 500 volts D.C. Use Erie "GP" Ceramicons as replacements for molded mica and paper tubular capacitors.

SPECIFICATION CHART

Style	Capacity (MMF)	Tolerance	List Price
GP1K	10	20%	.25
GP1K	12	20%	.25
GP1K	15	20%	.25
GP1K	18	20%	.25
GP1K	22	20%	.25
GP1K	25	20%	.25
GP1K	27	20%	.25
GP1K	33	20%	.25
GP1K	39	20%	.25
GP1K	47	20%	.25
GP1K	50	20%	.25
GP1K	56	20%	.25
GP1K	68	20%	.25
GP1K	75	20%	.25
GP1K	100	20%	.25
GP2K	120	20%	.25
GP2K	150	20%	.25
GP2K	180	20%	.25
GP2K	200	20%	.25
GP2K	220	20%	.25
GP2K	250	20%	.25
GP2K	270	20%	.25
GP2K	300	20%	.25
GP2K	330	20%	.25
GP2K	390	20%	.25
GP2K	470	20%	.25
GP2K	500	20%	.25
GP2K	560	20%	.25
GP2K	680	20%	.25
GP2K	750	20%	.25
GP2L	1,000	20%	.25
GP2L	1,200	20%	.25
GP2L	1,500	20%	.25
GP2M	1,800	20%	.25
GP2M	2,000	20%	.25
GP2M	2,200	20%	.25
GP2M	2,500	20%	.25
GP2M	2,700	20%	.25
GP2M	3,000	20%	.25
GP2M	3,300	20%	.25
GP2M	4,700	20%	.30
GP2M	5,000	20%	.30
GP2M	5,600	20%	.30
GP2-334	6,800	20%	.30
GP2-335	7,500	20%	.30
GP2-335	10,000	20%	.30

NPO Zero Temperature Coefficient CERAMICONS®

NPO zero temperature coefficient Ceramicons are highly recommended for frequency applications where no capacity change with change in temperature is desired. "Q" for NPO Ceramicons above 30 mmf is 1000 or higher. Below 30 mmf "Q" decreases slightly as capacity decreases. Working voltage — 500 volts D.C. Can be used as replacements for silver mica condensers.

SPECIFICATION CHART

Style	Capacity (MMF)	Tolerance	List Price
NPOK	1.5	10%	.50
NPOK	3	10%	.50
NPOK	3.3	10%	.50
NPOK	4.7	10%	.50
NPOK	5	10%	.50
NPOK	6.8	10%	.50
NPOK	8.2	10%	.50
NPOK	10	10%	.50
NPOK	20	10%	.50
NPOL	25	10%	.50
NPOL	33	10%	.50
NPOM	50	10%	.55
NPOM	75	10%	.55
NPOM	100	10%	.55
NPO-334	150	10%	.60
NPO-334	175	10%	.60

"Ceramicon" and "GP" are registered trade names and refer to ceramic dielectric condensers manufactured by Erie Resistor Corp.

Negative Temperature Coefficient CERAMICONS®

N080 and N750 units provide temperature compensation to eliminate drift.

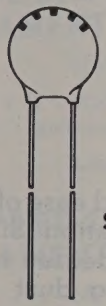
SPECIFICATION CHART

ERIE TUBULAR TYPE N750 CERAMICONS

Style	Capacity (MMF)	Tolerance	List Price
N750K	5	10%	.50
N750K	10	10%	.50
N750L	47	10%	.50
N750L	75	10%	.50
N750L	100	10%	.50

ERIE TUBULAR TYPE N080 CERAMICONS

Style	Capacity (MMF)	Tolerance	List Price
N080-331	10	10%	.60
N080-331	22	10%	.60
N080-338	33	10%	.60
N080-338	47	10%	.60
N080-338	62	10%	.60



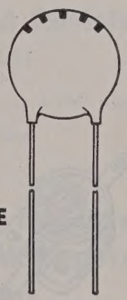
STYLE 811

ERIE DISC CERAMICONS®

Erie Disc Ceramicons consist of a flat Hi-K ceramic dielectric with silver fired on to the dielectric. Lead wires are firmly soldered to the silver electrodes, and the unit is given a protective coating of phenolic. Very efficient at high frequencies.

SPECIFICATION CHART

Style	Size	Value	List Price
811	19/32″ Dia.	.005 min.	.25
821	3/4″ Dia.	.01 min.	.30



STYLE 821

STYLE 324

ERIE STAND-OFF CERAMICONS®

Stand-Off Ceramicons, an original Erie development, are now widely used for the dual purposes of by-passing R.F. current to ground, and of mechanically supporting other circuit elements. They are especially suited for V.H.F. and U.H.F. applications, due to their low-inductance electrical paths and resultant high resonant frequency.

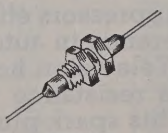
SPECIFICATION CHART

Style	Capacity (MMF)	Tolerance	List Price
323	50	20%	.60
323	100	20%	.60
323	500	20%	.60
324	1,000	20%	.60
324	1,500	20%	.60

STYLE 323

ERIE FEED-THRU CERAMICONS®

This very practical feed-thru capacitor is highly recommended for by-passing R.F. to ground in feed-thru applications. Wire terminals are sufficiently rugged to serve as tie points for several connections, for supporting other circuit elements, and long enough for point to point wiring.

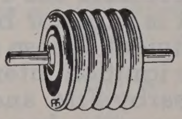


STYLE 362

SPECIFICATION CHART

Style	Capacity (MMF)	Tolerance	List Price
362	1500	20%	1.00

ERIE HIGH VOLTAGE CERAMICONS®



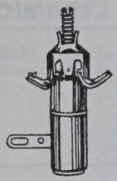
STYLE 410

15 KV Ceramicon specially designed for television receiver power supply filter application. The only ceramic condenser on the market with these two extra features: (1) Ridges on *all* surfaces to give extra creepage path, and (2) ceramic dielectric with built-in corona shields for extra protection against internal flashover. Capacity range — 500 mmf minimum. 1⅛″ diameter x ⅞″ long. Approved by leading television manufacturers for original equipment.

SPECIFICATION CHART

Style	Capacity (MMF)	Tolerance	List Price
410	500	20%	2.25

ERIE TUBULAR TRIMMERS

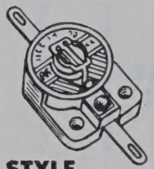

STYLE 532

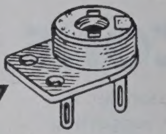
Here is a compact, economical tubular trimmer that is ideal for applications calling for a low minimum capacity and a high ratio of maximum to minimum capacity. Has molded plastic dielectric. Can be mounted on panels having a thickness of .040" to .065"

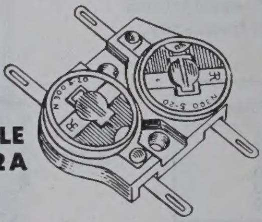
SPECIFICATION CHART

Style	Capacity Range (MMF)	List Price
532-08	0.5-5	.55
532	1-8	.55

ERIE CERAMICON® TRIMMERS


STYLE TS2A


STYLE 557

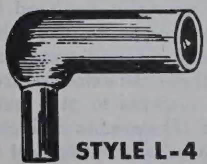

STYLE TD2A

Erie Ceramicon trimmers give maximum stability and ease of adjustment. Capacity change is constant per degree of rotation. Silver electrodes are fired on to ceramic rotor and base. 360 degree rotor completely covers entire track on stator thus preventing dust and other foreign matter from affecting characteristics of the unit.

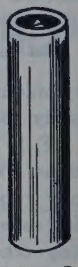
SPECIFICATION CHART

Style	Capacity Range (MMF)	Temperature Coefficient	List Price
TS2A	1.5-7	NPO	1.50
	3-12	NPO	1.50
	4-30	N500	1.50
	7-45	N500	1.50
TD2A	1.5-7 each section	NPO	2.50
	3-12 " "	NPO	2.50
	4-30 " "	N500	2.50
	7-45 " "	N500	2.50
557	3-12	NPO	1.25
	5-25	NPO	1.25
	8-50	N750	1.25

ERIE SUPPRESSORS


STYLE L-4

Erie Suppressors use a special resistance element that is superior because of its low voltage coefficient. These suppressors effectively eliminate ignition interference in auto radios, and in nearby F.M. and Television home sets. Erie Suppressors have a resistance value of 10,000 ohms. Style L-4 fits spark plugs, style L-7 for distributor cables.


STYLE S-5

SPECIFICATION CHART

Style	List Price
S-5	.30
L-4	.30

INSULATED RESISTORS

Preferred for Performance

IRC

TYPE BTS INSULATED FILAMENT RESISTOR

(½ watt)

13/32″ x ⅛″—470 ohms to 22 meg
350 volts max.

List 17¢

TYPE BTA INSULATED FILAMENT RESISTOR

(1 watt)

23/32″ x ¼″—330 ohms to 22 meg
500 volts max.

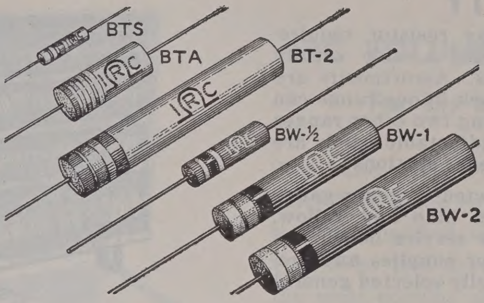
List 25¢

TYPE BT-2 INSULATED FILAMENT RESISTOR

(2 watt)

1¾″x21/64″—470 ohms to 22 meg
500 volts max.

List 50¢



TYPE BT INSULATED FILAMENT RESISTORS are completely insulated with bakelite and unexcelled for stability, low-noise level, low voltage coefficient and mechanical strength. Insulation breakdown of Type BTS is 750 volts to ground; all other type BT's, 1000 volts. Standard tolerance ±10%. Special tolerance ±5% at slightly higher cost.

TYPE BW INSULATED WIRE WOUND RESISTORS are furnished with the same bakelite insulation as BT resistors. The wire resistance element is wound tightly around a special insulated core. Standard tolerance ±10%. Special tolerance ±5% at slightly higher cost.

Type BW-½ Insulated Wire Wound Resistor

(½ watt)

⅝″ x 3/16″—0.47 to 820 ohms

List 17¢

Type BW-1 Insulated Wire Wound Resistor

(1 watt)

1¼″ x ¼″—0.47 to 4,700 ohms

List 25¢

Type BW-2 Insulated Wire Wound Resistor

(2 watt)

1¾″ x 21/64″—1.0 to 6,800 ohms

List 50¢

STANDARD RANGES

Standardization pays dividends! It can be an important profit factor for you, too.

The great majority of radio parts manufacturers were quick to see the advantages in standardization and adopted the RMA Preferred Ranges some years ago. IRC has pioneered standardization of resistors because close contact with the radio industry has convinced us that such standardization is not only desirable but absolutely essential to carry out the tremendous development and production program of the industry.

This IRC policy will help servicemen prepare for better, faster and more profitable business.

Type BT and BW Resistors, in 10% tolerance, are carried in stock in the RMA ranges listed below. Figures in heavy type are the standard RMA 10% tolerance values. Using 10% tolerance BT's and BW's, these 93 ranges give complete coverage of all values with the smallest resistor stock. Standardization of your stock on these values is recommended for economical, complete coverage, faster turnover . . . more profit for you!

However, the intermediate values listed below also are carried in the IRC stockroom, so that every RMA value is available to servicemen when desired.

JOBBERS' STOCK IN PREFERRED RMA RANGES

Subject to the minimum and maximum values for each of the various types of BT and BW Resistors.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs	Megs	Megs
0.47	3.0	**18**	110	**680**	4,300	**27,000**	**0.1**	0.62	**3.9**
0.51	**3.3**	20	**120**	750	**4,700**	30,000	0.11	**0.68**	4.3
0.56	3.6	**22**	130	**820**	5,100	**33,000**	**0.12**	0.75	**4.7**
0.62	**3.9**	24	**150**	910	**5,600**	36,000	0.13	**0.82**	5.1
0.68	4.3	**27**	160	**1,000**	6,200	**39,000**	**0.15**	0.91	**5.6**
0.75	**4.7**	30	**180**	1,100	**6,800**	43,000	0.16	**1.0**	6.2
0.82	5.1	**33**	200	**1,200**	7,500	**47,000**	**0.18**	1.1	**6.8**
0.91	**5.6**	36	**220**	1,300	**8,200**	51,000	0.20	**1.2**	7.5
1.0	6.2	**39**	240	**1,500**	9,100	**56,000**	**0.22**	1.3	**8.2**
1.1	**6.8**	43	**270**	1,600	**10,000**	62,000	0.24	**1.5**	9.1
1.2	7.5	**47**	300	**1,800**	11,000	**68,000**	**0.27**	1.6	**10.0**
1.3	**8.2**	51	**330**	2,000	**12,000**	75,000	0.30	**1.8**	11.0
1.5	9.1	**56**	360	**2,200**	13,000	**82,000**	**0.33**	2.0	**12.0**
1.6	**10**	62	**390**	2,400	**15,000**	91,000	0.36	**2.2**	13.0
1.8	11	**68**	430	**2,700**	16,000		**0.39**	2.4	**15.0**
2.0	**12**	75	**470**	3,000	**18,000**		0.43	**2.7**	16.0
2.2	13	**82**	510	**3,300**	20,000		**0.47**	3.0	**18.0**
2.4	**15**	91	**560**	3,600	**22,000**		0.51	**3.3**	20.0
2.7	16	**100**	620	**3,900**	24,000		**0.56**	3.6	**22.0**

IRC INSULATED RESISTORS

Preferred for Performance

BASIC KIT

Designed to meet your day-to-day resistor requirements, the IRC Basic Kit provides a wide variety stock in carefully selected values. Assortments are so arranged that a shortage of stock in one range can usually be compensated for by using two other ranges in series or parallel. Additional adjustable bands are included for use in making up bleeder sections.

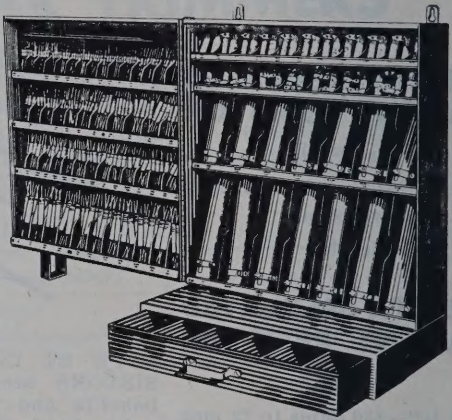
The Basic Kit is sturdily constructed of heavy-gauge steel, and beautifully finished in blue and yellow. Hung on your wall or set on your service bench, the Basic Kit saves countless trips for supplies and provides your shop with a neat, carefully selected general purpose resistor stock.

The IRC Basic Kit is factory-packed with the following wide-variety resistor stock:

BTS —10 each—1,000, 2,200, 4,700, 10,000, 15,000, 22,000, 27,000, 47,000, 75,000 ohm; 0.1 meg., 0.22 meg., 0.47 meg., 1.0 meg., 2.2 meg., 10.0 meg. 15.0 meg.
BTA —5 each—470, 1,000, 1,500, 2,200, 3,600, 4,700, 22,000, 36,000, 75,000 ohm.
10 each—10,000, 15,000, 47,000 ohm; 0.1 meg., 0.24 meg. 0.47 meg., 1 meg.
BW-½ —10 each—100, 150, 220, 330, 470, 560 ohm.
BT-2 —5 each—1,000, 2,200, 4,700, 10,000, 22,000, 47,000 ohm; 0.1 meg.
BW-1 —5 each—47, 82, 100, 270 ohm.
BW-2 —5 each—47, 82, 100, 270 ohm.
AB —2 each—100, 250, 500, 750, 1,000, 1,500, 2,500, 5,000, 10,000 ohm.
2 each—15,000, 25,000 ohm.
ABA —2 each—100, 250, 500, 1,000, 1,500, 2,500, 5,000, 10,000 ohm.
EPA —1 each—1,000, 1,500, 2,500, 5,000 ohm.
1 each—10,000, 25,000 ohm.
ESA —1 each—1.000, 1,500, 2,500, 5,000 ohm.
1 each—10,000, 25,000, 50,000 ohm.
6 "X-3" Bands.
MW-2J—2 each—10, 20, 50, 100 ohm.
M1034—2 each.

All-Metal Cabinet Furnished at No Extra Cost

List Price: $160.53



Serviceman's Special Assortment

Available in Basic Kit

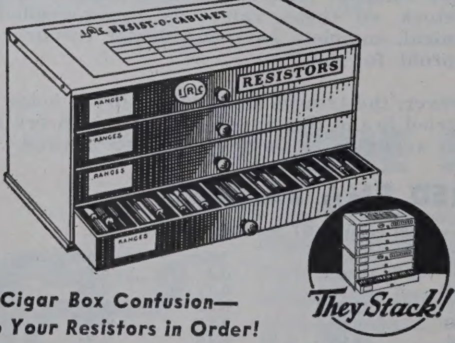
The Basic Kit is also available stocked with a special "Serviceman's Assortment." This assortment contains a complete stock of ½, 1 and 10 watt resistors, plus a selection of controls, shafts and switches. The heavy-duty power wire-wound resistors are not furnished in this assortment—leaving space in the compartments and drawers for capacitors, lamp bulbs, solder, small tools and spare parts.

The "Serviceman's Assortment" is factory-packed with the following:

160—BTS resistors
115—BTA resistors
60—BW½ resistors
20—BW-1 resistors
22—AB power resistors
2—#41 switches
1—#42 switch
4—D13-133 controls
1—D13-133X control
1—D13-137 control
1—D13-137X control
1—D13-139 control
2—"E" shafts
1—"H" shaft

List Price: $99.54

RESIST-O-CABINET



End Cigar Box Confusion—
Keep Your Resistors in Order!

The sturdy, IRC Resist-O-Cabinet is specifically designed to hold resistors systematically and safely without the bending of leads. It puts an end to "cigar box confusion!" Its four "non-spill" drawers have seven ample-sized compartments in each which readily accommodate resistor sizes from ½ to 10 watts.

Attractively finished in blue, yellow and silver. Ohm's Law formulas neatly and permanently lithographed on top of cabinet for handy reference. Cabinet measures 11" long, 5½" high and 5½" deep. Bases of Resisto-O-Cabinets are arranged for stacking so that several cabinets may be used to increase stock capacity. This handy Resist-O-Cabinet is FREE with the purchase of any of the three well-balanced IRC resistor assortments listed. (Cabinet is not sold separately.)

ASSORTMENT No. 1—59 Resistors

Type BTS—One each 1,000, 4,700, 10,000, 27,000, 47,000 ohms; 0.1 meg, 0.27, 0.47 megs.

Type BTA—One each 39,000, 68,000 ohms; 0.15, 0.22 megs. Two each 1,000, 1,500, 2,200, 2,700, 4,700, 15,000, 27,000 ohms; 1.0, 2.2 megs. Three each 10,000, 47,000 ohms; 0.1 meg, 0.27, 0.47 megs.

Type AB 10 Watt—One each 1,000, 1,500, 2,500, 5,000 ohms. Two each 10,000 and 25,000 ohms.

Type ABA, 10 Watt Adjustable—One each 1.000, 2,500, 5,000, 10,000.

List price of Resistors, **$22.87**
(Cabinet furnished at no extra charge)

ASSORTMENT No. 2—100 Resistors

Type BW-½—Two each 47, 100, 270 ohms.

Type BTS—Two each 3,300, 6,800, 33,000, 68,000, 82,000 ohms; 0.22, 0.33 megs. Three each 470, 1,500, 15,000, 22,000, 39,000 ohms; 0.15, 1.0, 2.2 megs. Five each 2,200, 2,700, 27,000 ohms; 0.27 megs. Six each 1,000, 4,700, 10,000, 47,000 ohms; 0.1, 0.47 megs.

List price of Resistors, **$17.00**
(Cabinet furnished at no extra charge)

ASSORTMENT No. 3—83 Resistors

Type BW-1—Two each 47, 100, 270 ohms.

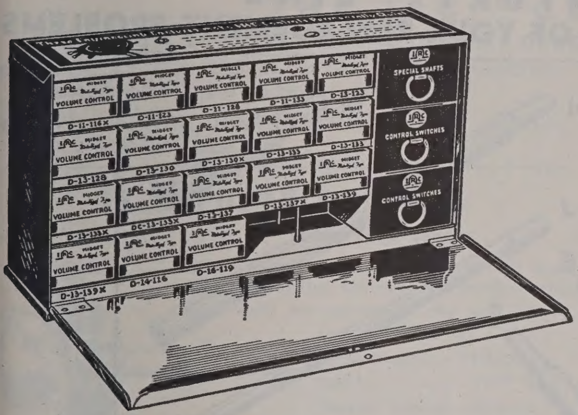
TYPE BTA—Two each 470, 1,500, 2,700, 3,300, 6,800, 33,000 39,000, 68,000, 82,000 ohms; 0.15, 0.22, 0.33, 1.0, 2.2 megs. Three each 15,000, 22,000, 27,000 ohms. Five each 1,000, 2,200, 4,700, 10,000, 47,000 ohms; 0.1, 0.27, 0.47 megs.

List price of Resistors, **$20.75**
(Cabinet furnished at no extra charge)

VOLUME CONTROLS

Preferred for Performance

IRC



Check this fast-selling stock!

The IRC Volume Control Cabinet is factory-packed with the following 18 Type D All-Purpose Controls, switches and special shafts.

IRC Control Type No.	Resistance	Purpose	IRC Control Type No.	Resistance	Purpose
2–D13-133	500,000	A	1–D13-133X	500,000	F
1–D11-116	10,000	B	1–DC13-133X	500,000	G
1–D11-123	50,000	C	1–D13-137	1.0	A
1–D11-128	100,000	C	1–D13-137X	1.0	F
1–D11-133	500,000	C	1–D13-139	2.0	A
1–D13-123	50,000	D	1–D13-139X	2.0	F
1–D13-128	100,000	A	1–D14-116	10,000	H
1–D13-130	250,000	A	1–D16-119	20,000	B
1–D13-130X	250,000	E			

A—Tone or Audio Circuit Control
B—Antenna Grid Bias Control
C—Potentiometer Voltage Divider
D—Tone Control
E—Tapped for A. V. C.
F—Tapped for Tone Compensation
G—Friction Clutch Auto Radio Type
H—Antenna Grid Bias of 2 Tubes

Switches: 5—No. 41 S.P.S.T.; 1—No. 42 D.P.S.T.
Shafts: 1—Type B Auto Radio; 4—Type E knurled and slotted—with thin web

IRC VOLUME CONTROL CABINET

For the Modern Service Shop

This handy stock of IRC Type D Universal Controls, quickly attached switches and easily installed shafts is factory-packed in an attractive all-metal cabinet. Proved by IRC Service Records to be a selection of the most popular controls—you can actually service over 87% of all replacements right from this cabinet. Here is your answer to speedier, more efficient servicing—reduction of costly exact-duplicate inventories —and modern appearance for your shop.

Cabinet measures 14½″ long, 7⅜″ high and 4½″ wide. It is handsomely finished in yellow, blue and silver and provides separate compartments for controls and three handy drawers for switches, special shafts and spare parts. Each compartment and drawer is individually marked for identification. The hinged front cover snaps securely shut. The cabinet is furnished at no extra charge when factory- packed with the IRC controls, switches and shafts listed on the left. It is not sold separately.

ORDER YOUR IRC VOLUME CONTROL CABINET TODAY

List Price: $30.90

NEW IRC ALL-PURPOSE KIT

Here's how to sharpen the appearance of your shop without an additional outlay of cash! 9 "hot-number" IRC ½, 1 and 2 meg. controls are available pre-packed in the **All-Purpose** Kit with 4 switches and 4 special shafts. Every one a fast mover . . . and you pay only the standard net cost of the merchandise. At no extra cost you receive this attractive 12 compartment utility cabinet.

Buy your "hot-number" controls this way each week and accumulate a shelf of these neat cabinets—each pre-packed with the following IRC merchandise:

	IRC Control Type No.	Resistance	Purpose
5	D13-133	500,000	A
1	D13-133X	500,000	B
1	D13-137	1.0	A
1	D13-137X	1.0	B
1	D13-139	2.0	A

Purpose: A—Tone or Audio Circuit control; B—Tapped for tone compensation.

SWITCHES

3	#41	S.P.S.T.
1	#42	D.P.S.T.

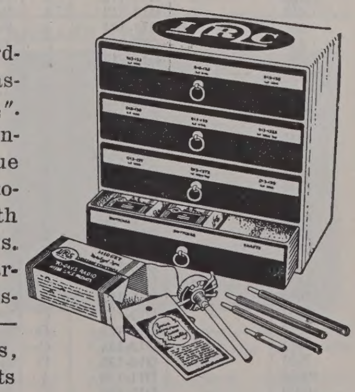
SHAFTS

1 Type "A" double-flatted tap-in shaft is included with each control—plus:

3 Type "E" with universal knurl for special type push-on knobs.

1 Type "H" with universal groove for many Delco, RCA, Sears-Roebuck and Westinghouse models.

Sturdy utility cardboard cabinet measures 7¾″x7¾″x4½″. It is attractively finished in yellow, blue and silver, and provides 4 drawers with 12 compartments. Ideal stocking arrangement for miscellaneous parts — hardware, knobs, capacitators, shafts and dial fittings.



Cabinet furnished at no extra cost.

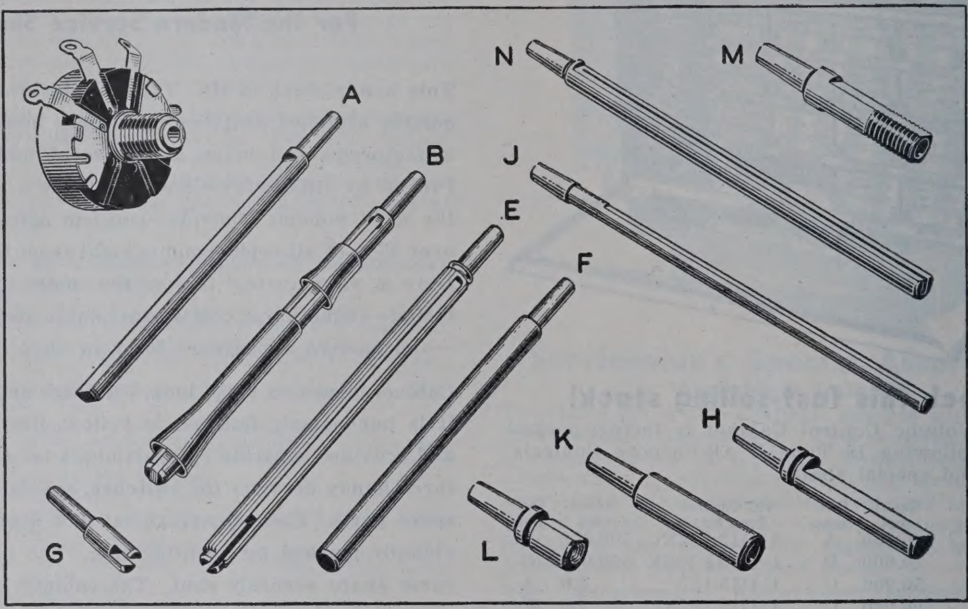
List Price $16.20

IRC VOLUME CONTROLS

Preferred for Performance

THE IRC "CENTURY" LINE

114 IRC CONTROLS THAT SOLVE 90% OF YOUR REPLACEMENT PROBLEMS



For miscellaneous service needs, 71 all-purpose controls are available for use with the popular IRC tap-in shafts. An A shaft is included with each control and shafts B, E, F, G, H, J, K, L, M and N may be had at slight extra cost.

Each D Control accommodates any of the eleven Tap-in Shaft types shown. Shaft flats may be located in any position. A few extra shafts greatly increase the utility of your D Control stock at a small investment. Of unusual convenience is the "Double-Flatted" A shaft, included with each D Control. Accommodates popular push-on knobs requiring either 1/32″ or 3/32″ flats and all set-screw knobs without filing of shaft or use of inserts. Dimensions: 1⅛″ x 17/32″.

Single Control—Without switch .... List $1.25
Tapped Control—Without switch.. List 1.85
Prices include Shaft A packed with each control

Easily Installed "Tap-in" Shafts

Type B, M—List $0.45
Types E, F, G, H, J, K, L, N—List $0.30

70 UNIVERSAL TYPE D CONTROLS
with 11 easily installed Tap-In Shafts

Resistance Ohms	Tap	I R C Stock No.	Taper	Usual Application
500	—	D11-103	A	Potentiometer Voltage Divider
1M	—	D11-108	A	Potentiometer Voltage Divider
2M	—	D11-110	A	Potentiometer Voltage Divider
3M	—	D11-112	A	Potentiometer Voltage Divider
4M	—	D11-113	A	Potentiometer Voltage Divider
5M	—	D11-114	A	Potentiometer Voltage Divider
5M	—	D13-114	C	Antenna Control
5M	—	D14-114	D	*Antenna C Bias Control
7,500	—	D11-115	A	Potentiometer Voltage Divider
10M	—	D11-116	A	*Antenna Grid Bias Control
10M	—	D13-116	C	Antenna Control
10M	—	D14-116	D	*Antenna Grid Bias of 2 Tubes
10M	—	D16-116	F	*Antenna Grid Bias of 1 Tube
13M	3M	D18-117X	H	I. F. Shunting Control
15M	—	D14-118	D	*Antenna Grid Bias Control
15M	—	D16-118	F	*Antenna Grid Bias Control
20M	—	D16-119	F	*Antenna Grid Bias Control
25M	—	D11-120	A	Potentiometer Voltage Divider
25M	—	D14-120	D	*Grid Bias Control
25M	—	D16-120	F	Antenna Control
30M	6M	D18-122X	H	Audio Control with Tone Tap
44M	7M–14M	D18-123XX	Spec.	Audio Control with 2 Tone Taps
50M	—	D11-123	A	Potentiometer Voltage Divider
50M	—	D13-123	C	Tone Control
50M	—	D14-123	D	*Antenna Grid Bias Control
75M	—	D13-125	C	Tone Control
75M	—	D14-125	D	*Grid Bias Control
100M	—	D11-128	A	Potentiometer Voltage Divider
100M	—	D13-128	C	Tone or Audio Circuit Control
200M	—	D11-129	A	Potentiometer Voltage Divider
200M	—	D14-129	D	*Grid Bias Control
250M	—	D11-130	A	Potentiometer Voltage Divider
250M	—	D13-130	C	Tone or Audio Circuit Control
250M	125M	D13-130X	Spec.	Audio Control with A.V.C. Tap
250M	—	D14-130	D	*Grid Bias Control
250M	25M	D17-130X	Spec.	Audio Control with Tone Tap
250M	60M	D18-130X	H	Audio Control with Tone Tap
250M	60M–120M	D18-130XX	Spec.	Audio Control with 2 Tone Taps
350M	—	D13-132	C	Tone or Audio Circuit Control
350M	35M	D17-132X	Spec.	Audio Control with Tone Tap
350M	75M	D18-132X	H	Audio Control with Tone Tap
500M	—	D11-133	A	Potentiometer Voltage Divider
500M	—	D13-133	C	Tone or Audio Circuit Control
500M	125M	D13-133X	H	Audio Control with Tone Tap
500M	—	D14-133	D	R.F. Plate Control
500M	25M	D17-133X	Spec.	Audio Control with Tone Tap
500M	50M	D18-133X	Spec.	Audio Control with Tone Tap
500M	250M	D19-133X	Spec.	Audio Control with Tone Tap
500M	100M–200M	D18-133XX	Spec.	Audio Control with 2 Tone Taps
1.0 meg.	—	D11-137	A	Potentiometer Voltage Divider
1.0 meg.	—	D13-137	C	Tone or Audio Circuit Control
1.0 meg.	250M	D13-137X	H	Audio Control with Tone Tap
1.0 meg.	—	D14-137	D	Tone Control
1.0 meg.	35M	D17-137X	Spec.	Audio Control with Tone Tap
1.0 meg.	50M–100M	D17-137XX	Spec.	Audio Control with 2 Tone Taps
1.0 meg.	100M	D18-137X	Spec.	Audio Control with Tone Tap
1.0 meg.	250M–500M	D18-137XX	Spec.	Audio Control with 2 Tone Taps
1.0 meg.	500M	D19-137X	Spec.	Audio Control with Tone Tap
1.0 meg.	500M	DVC-539X	Spec.	Fader control for fading one circuit into another
2.0 meg.	—	D13-139	C	Tone or Audio Circuit Control
2.0 meg.	500M	D13-139X	H	Audio Control with Tone Tap
2.0 meg.	5M	D15-139X	Spec.	Audio Control with Tone Tap
2.0 meg.	500M–1.0 meg.	D13-139XX	Spec.	Audio Control with 2 Tone Taps
2.0 meg.	150M	D17-139X	Spec.	Audio Control with Tone Tap
2.0 meg.	1.0 meg.	D18-139X	Spec.	Audio Control with Tone Tap
2.0 meg.	250M–500M	D18-139XX	Spec.	Audio Control with 2 Tone Taps
2.0 meg.	50M	D19-139X	Spec.	Audio Control with Tone Tap
3.0 meg.	—	D13-140	C	Audio Control
5.0 meg.	—	D11-141	A	Potentiometer Voltage Divider
7.0 meg.	—	D11-142	A	Potentiometer Voltage Divider
10.0 meg.	—	D11-143	A	Potentiometer Voltage Divider

* Supplied with 270 ohm BW½ (½ Watt) Insulated Wire Wound Resistor.

VOLUME CONTROLS

Preferred for Performance

IRC

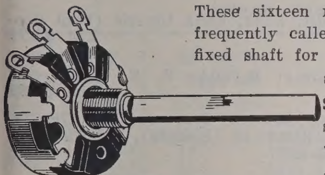
THE IRC "CENTURY" LINE

114 QUALITY CONTROLS THAT OFFER YOU THESE EXCLUSIVE FEATURES

- METALLIZED ELEMENT — harder, smoother, moisture-proof, permanent.
- FIVE FINGER CONTACTOR—assures positive, more uniform contact.
- SILENT SPIRAL CONNECTOR—a positive connection between contactor and its terminal.
- STEEL COIL SPRING THRUST WASHER — eliminates shaft wobble and end-play.

16 POPULAR DS TYPES

With Fixed Shafts



These sixteen numbers have been the most frequently called for and are furnished with fixed shaft for convenient, easy use. Dimensions: 1⅛″ x $\frac{17}{32}$″.

Single Control—Without switch.....................**List $1.25**

Tapped Control—Without switch.....................**List $1.85**

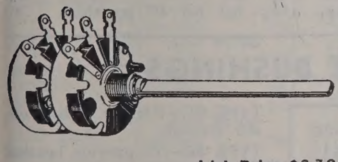
Resistance Ohms	Tap	I R C Stock No.	Taper	Usual Application
10M	—	**DS11-116**	A	Antenna Grid Bias Control
10M	—	**DS14-116**	D	*Antenna Grid Bias of 2 Tubes
25M	—	**DS14-120**	D	*Grid Bias Control
50M	—	**DS11-123**	A	Potentiometer Voltage Divider
100M	—	**DS11-128**	A	Potentiometer Voltage Divider
100M	—	**DS13-128**	C	Tone or Audio Circuit Control
250M	—	**DS11-130**	A	Potentiometer Voltage Divider
250M	—	**DS13-130**	C	Tone or Audio Circuit Control
250M	125M	**DS13-130X**	Spec.	Audio Control with AVC Tap
250M	60M	**DS18-130X**	H	Audio Control with Tone Tap
500M	—	**DS13-133**	C	Tone or Audio Circuit Control
500M	125M	**DS13-133X**	H	Audio Control with Tone Tap
1.0 meg.	—	**DS13-137**	C	Tone or Audio Circuit Control
1.0 meg.	250M	**DS13-137X**	H	Audio Control with Tone Tap
2.0 meg.	—	**DS13-139**	C	Tone or Audio Circuit Control
2.0 meg.	500M	**DS13-139X**	H	Audio Control with Tone Ta

*Supplied with 270 ohm BW-½ (½ Watt) Insulated Wire Wound Resistor.

9 TYPE J CONTROLS FOR SPECIAL APPLICATIONS

For a wide variety of sets with specific requirements, you'll find these nine numbers extremely useful. To play safe your stock should include at least one of each.

8 DUAL CONTROLS



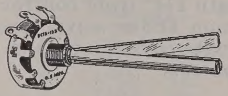
Eight popular Dual Controls are included in IRC's new Century Line. Here is a small but carefully selected group of "duals" that will speed many an important repair job! Standard No. 20 series switches can be attached. 1¼″ x 1¼″.

List Price $3.10 each

I R C Stock No.	Unit	Resistance Ohms	Taper
35-1620	Panel	10,000	C
	Rear	25,000	E
61-1623	Panel	10,000	F
	Rear	50,000	A
33-2828	Panel	0.1 meg.	C
	Rear	0.1 meg.	C
33-3030	Panel	0.25 meg.	C
	Rear	0.25 meg.	C
33-3333	Panel	0.5 meg.	C
	Rear	0.5 meg.	C
33-3737	Panel	1.0 meg.	C
	Rear	1.0 meg.	C
33-3939	Panel	2.0 meg.	C
	Rear	2.0 meg.	C
31-4141	Panel	5.0 meg.	A
	Rear	5.0 meg.	A

8 CLUTCH-TYPE DC CONTROLS

With Tap-in Shafts



Practical for auto radio use and many other applications. Controls have friction clutch drive-arm and are equipped with a special shaft for use where either a slotted or tongued type shaft is required. Instructions tell how to cut shaft for either application. **Switches cannot be used with friction clutch controls.** Size same as Type D.

List Price $1.85 each

I R C Stock No.	Resistance Ohms	Resistance to Tap
DC13-130	250M	—
DC18-130X	250M	Tap 50M
DC13-133	500M	—
DC13-133X	500M	Tap 125M
DC13-137	1.0 meg.	—
DC13-137X	1.0 meg.	Tap 250M
DC13-139	2.0 meg.	—
DC13-139X	2.0 meg.	Tap 500M

2 TYPE S SPECIAL POWER CONTROLS

With Tap-in Shafts

Designed for power requirements of plate circuit tone controls, Type S Controls should be used where the audio output exceeds 2 watts. 1¼″ in diameter, they employ the Tap-in Shaft feature. Use No. 20 series switches listed below.

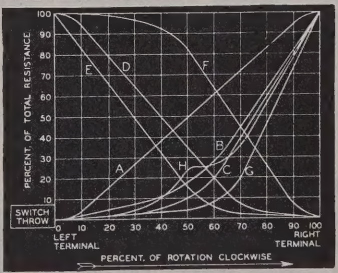
List Price $1.25 each

I R C Stock No.	Resistance Ohms	Taper
S11-128	0.1 meg.	A
S13-128	0.1 meg.	C

QUICKLY ATTACHED SWITCHES

	For D and DS Controls	For S and Dual Controls	List
SP., ST....................	No. 41	No. 21	**$0.60**
DP., ST....................	No. 42	No. 22	**0.75**
SP., DT....................	No. 43	No. 23	**0.75**
Three Point..............	—	No. 24	**0.75**
Four Point................	No. 45	No. 25	**0.75**
SP., DT. at clockwise position.	—	No. 26	**0.75**
SP., ST. with dummy lug...	No. 47	No. 27	**0.75**

8 STANDARD TAPERS



A—Used as potentiometer or rheostat in any circuit where uniform resistance change is required.

B—A semi-logarithmic curve used as tone control or audio circuit control.

C—A logarithmic curve. Used as audio circuit control or antenna shunt control.

D—Tapered at both ends to provide control of grid bias and antenna circuit. Used where control of grid bias is of prime importance in controlling volume.

E—Used as a rheostat in cathode circuit to control grid bias.

F—Tapered at both ends to provide control of grid bias and antenna circuit. Used where control of grid bias is essential in controlling volume. Generally used where the control changes the grid bias of only one or two tubes. Must not be used with heavy currents.

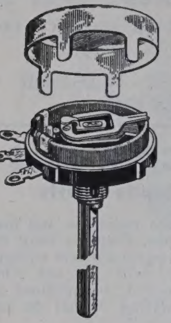
G—A logarithmic curve with very gradual change in resistance from left terminal. Used as audio circuit control or antenna shunt control.

H—A tapped logarithmic curve used as audio level control for automatic bass compensation.

IRC VOLUME CONTROLS

Preferred for Performance

TYPE W WIRE WOUND CONTROLS



A dependable wire wound control of uniform resistance change for power requirements up to 2 watts. Tight, uniform windings assure utmost accuracy. Spiral Spring Connector between rotor arm and center terminal eliminates noise. Diameter 1¼"; depth behind panel $\frac{9}{16}$"; shaft length $2\frac{15}{16}$" from control face. Illustration shows cover removed, although covers are supplied with controls.

List without switch, $1.25

IRC Control No.	Resistance Ohms	Max. Current (Amps.)	IRC Control No.	Resistance Ohms	Max. Current (Amps.)
W-2	2	1.000	W-100	100	.142
W-3	3	.815	W-200	200	.100
W-5	5	.630	W-300	300	.083
W-6	6	.560	W-400	400	.071
W-8	8	.500	W-500	500	.063
W-10	10	.450	W-750	750	.052
W-15	15	.370	W-1000	1000	.045
W-20	20	.320	W-2000	2000	.032
W-25	25	.285	W-3000	3000	.026
W-30	30	.260	W-4000	4000	.022
W-40	40	.225	W-5000	5000	.020
W-50	50	.200	W-7500	7500	.016
W-60	60	.183	W-10000	10000	.014
W-75	75	.164			

Television Focusing Controls

		List
W20X10	20 ohms—center tap	
W10X5	10 ohms—center tap	$1.85

Type W Switches

	List
No. 51—S. P., S. T.	$0.60
No. 52—D. P., S. T.	.75
No. 53—S. P., D. T.	.75
No. 54—Three Point	.75
No. 55—Four Pont	.75
No. 56—S. P., D. T. at clockwse postion	.75
No. 57—S. P., S. T., with dummy lug	.75

Plain and Insulated Shaft Couplers

For use with standard controls to meet special shaft requirements. Two set screws give rigid connection.

TYPE C2—Insulated coupler for use with square type shaft used by Motorola. **List $0.30**

TYPE C3—Plain coupler to couple ¼" shafts: insert allows coupling of ¼" shaft to $\frac{3}{16}$" shaft. **List $0.30**

INDUSTRY RED BOOK

IRC control replacements are fully listed in the new "Radio Industry Red Book of Replacement Parts." The correct IRC control replacement for any receiver manufactured from 1938 to 1948 is included. Installation notes are given where necessary.

RADIO INDUSTRY
RED BOOK
REPLACEMENT PARTS
BUYERS GUIDE

9 IRC TYPE J CONTROLS FOR MANY SPECIAL REQUIREMENTS!

IRC sales records show that these 9 most popular special controls will handle nearly one-third of your requirements for exact duplicate controls. The group includes concentric duals, and special shaft units. For a more complete stock, carry at least one of each:

DJ-4—2.0 meg (tap 500M ohms)/1.0 meg. RCA: RC-351, A, B, C, D, E, F, M, R, RC-352, A, B, C, RC-386, B ch. Sears-Roebuck: 126.208 Ch. Westinghouse Elec. Supply: WR-264. **List $3.75**

DJ-5—2.0 meg/1.0 meg. Zenith: 5637, 5803 Chassis (Dual Control). **List $3.75**

J-15—32M ohms. Stewart-Warner: R-100A, B, E, (AC), 950 series (AC). **List $1.85**

J-107—10M/50M ohms. General Electric: T-41. Graybar: GB-678. Pilot: K-117. RCA: R14, R15, RE17, 42 (Radiola), 48 (Radiola). Westinghouse Elec. & Mfg.: WR-4. **List $3.10**

J-127—3800/3800 ohms. RCA: R32, RE45, R52, RE75, 145. **List $3.10**

J-296—225M/5M ohms. Philco: 70, 70A below B22,000, 90, 90A (Two 45's), 270, 270A, 370, 470, 470A, 570. **List $3.10**

J-777—350M ohms. Chrysler: C1423. Ford: T9, FT9, FT9X, F1440, F1442. Graham: G1418, G1435. Lincoln: L1420, L1424, L1425, L1427, L1429, L1460. Nash: T12-NT 12X, NT 12 X2, T15 NT 15, NT15X, N1418, N1433 H, N1434 H, N1514. Packard: P1417, P1517. Philco: 811 PA, PB, PV, 816, 817, 818, 821P, 821PV, 826, 827, 827K, 828, 828K. Reo: R1415. Studebaker: T12-ST12, T15-ST15, S1431, S1437, S1516. Willys Overland: W1419. **List $1.85**

J-823—150M/250M ohms (Tap 125M ohms). General Elec.: A-82, A-86, A-87. **List $3.10**

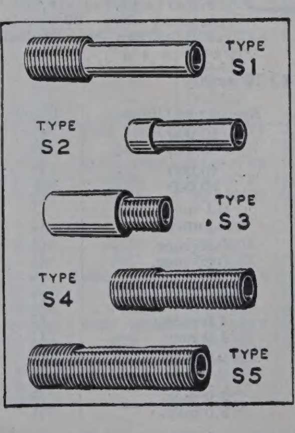
J-843—350M ohms (tap 75M ohms). Chrysler T10-CT10, T11-CT11, C1450, C1452. DeSoto: T10-CT10, T11-CT11. Dodge: T11-CT11. Hupmobile: HT11X. Lincoln: LT 14X3. Packard: T14-PT14, P1422, P1430, P1432 H, P1439. Pierce-Arrow: T14-MT14X4. Reo: T11-CT11, T14-R14X. **List $1.85**

EXTENSION SHAFTS

These shafts attach to regular shafts, thus extending length to any needed size, and frequently make it possible to use standard controls for "special" jobs.

	List
Shaft No. 441—4" x ¼" dia. x $\frac{1}{32}$" flat	$0.40
Shaft No. 442—4" x ¼" dia. x $\frac{3}{32}$" flat	.40
Shaft No. 443—4" x $\frac{3}{16}$" dia. x $\frac{1}{64}$" flat	.40
Shaft No. 444—8" x ¼" dia. x $\frac{3}{32}$" flat for 4" length	.40

SLEEVE BUSHINGS



TYPE S1—For use with standard controls.

TYPE S2—To provide bearing for switching mechanism.

	S1	S2
List	$0.45	$0.30

TYPE S3—For use with standard controls to set control back from chassis or mounting bracket. 1½"—⅛" dia. for 1" unthd—⅜" dia. for ½" 32 thd—.344 flat. **List $0.60**

TYPE S4—For use with standard controls to provide $\frac{7}{16}$" dia. bushing. 1⅝"—thd $\frac{7}{16}$"—28 full length—1.375 dbl flat. **List $0.60**

TYPE S5—For use with standard controls to provide ½" dia. bushing. 2¼"—½"—28 full length—.437 flat. **List $0.60**

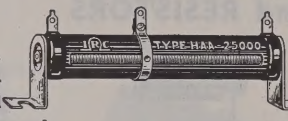
POWER RESISTORS

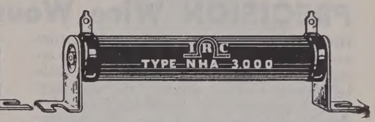
IRC

Preferred for Performance

"PREFERRED FOR PERFORMANCE"

Not only do these famous resistors excel electrically, but their "climate-proofed" cement coating provides the most dependable protection yet devised for resistors for heavy duty work. Both fixed and adjustable types are available. Mounting Brackets are packed with all resistors from 25 watts and up. One Adjustable Band is furnished with each adjustable resistor. The new Type X Band (described below) is included as standard on units of 25 watts and above. Extra bands supplied at prices indicated.





FIXED TYPES

10 WATTS Type AB

1¾" x 5/16"
List $0.58

Ohms	Max. m. a.
1	3150
2	2210
3	1830
5	1420
7.5	1150
10	1000
15	820
20	720
25	640
50	440
75	360
100	315
150	260
200	220
250	200
300	175
350	169
400	157
500	140
600	125
750	115
800	112
1,000	100
List $0.63	
1,250	90
1,450	83
1,500	82
2,000	71
2,250	67
2,500	63
3,000	57
3,500	53
4,000	50
4,500	47
5,000	45
List $0.72	
6,000	41
7,000	37
7,500	36
8,000	35
8,500	34
9,000	33
10,000	31
List $0.80	
11,000	30
12,000	28
12,500	28
14,300	25
15,000	25
20,000	22
List $0.86	
25,000	20

20 WATTS Type DG

2" x 9/16"
List $0.75

Ohms	Max. m. a.
1	4400
5	2000
10	1415
25	895
50	633
75	517
100	447
150	365
200	316
250	282
300	258
350	238
400	224
500	200
750	163
800	158
850	153
1,000	141
List $0.78	
1,200	129
1,250	126
1,500	115
1,750	107
1,850	104
2,000	100
2,250	94
2,500	89
3,000	81
3,500	75
4,000	70
4,500	66
5,000	63
List $0.88	
6,000	57
7,000	53
7,500	51
8,000	50
8,500	48
9,000	46
10,000	43
List $0.94	
11,000	41
12,000	40
12,500	39
15,000	35
20,000	30
List $1.08	
25,000	28
30,000	25
35,000	23
40,000	22
List $1.25	
50,000	20

50 WATTS Type EP

4½" x ¾"
List $1.37

Ohms	Max. m. a.
5	3165
10	2230
25	1390
50	1000
100	700
200	500
250	440
500	300
750	250
1,000	215
List $1.45	
1,500	175
2,000	155
2,500	135
3,000	120
4,000	105
5,000	95
List $1.58	
6,000	85
7,000	78
7,500	77
8,000	75
10,000	66
List $1.75	
12,000	63
12,500	60
15,000	56
20,000	48
List $1.95	
25,000	43
30,000	39
40,000	34
List $2.14	
50,000	30
60,000	28
List $2.45	
75,000	25
List $2.65	
0.1 meg.	21

80 WATTS Type ES

6½" x ¾"
List $1.67

Ohms	Max. m. a.
5	4000
10	2730
25	1730
50	1220
100	865
200	612
250	545
500	387
750	316
1,000	274
List $1.75	
1,500	223
2,000	193
2,500	173
3,000	158
4,000	137
5,000	122
List $1.89	
6,000	112
7,500	100
8,000	98
10,000	86
List $2.03	
15,000	70
20,000	61
List $2.30	
25,000	55
30,000	50
40,000	43
List $2.38	
50,000	39
60,000	35
List $2.67	
75,000	31
List $3.00	
0.1 meg.	27

100 WATTS Type HA

6½" x 1⅛"
List $2.03

Ohms	Max. m. a.
25	2000
50	1414
75	1155
100	1000
150	815
250	632
500	447
750	365
1,000	315
List $2.08	
1,250	280
1,500	250
2,000	220
2,500	200
3,000	180
5,000	140
List $2.25	
7,500	115
10,000	100
List $2.47	
15,000	80
20,000	70
List $2.67	
25,000	63
30,000	58
40,000	50
List $2.81	
50,000	44
60,000	41
List $3.00	
75,000	36
List $3.17	
0.1 meg.	31

200 WATTS Type HO

10½" x 1⅛"
List $2.70

Ohms	Max. m. a.
25	2830
50	2000
100	1414
250	804
500	632
750	515
1,000	447
List $2.75	
1,500	365
2,000	316
2,500	283
3,000	258
5,000	200
List $2.95	
7,500	163
10,000	141
List $3.13	
15,000	115
20,000	100
List $3.25	
25,000	90
30,000	81
40,000	70
List $3.36	
50,000	63
60,000	57
List $3.55	
75,000	51
List $3.75	
0.1 meg.	44

ADJUSTABLE TYPES

10 WATTS Type ABA

1¾" x 5/16"
List $1.20

Ohms	Max. m. a.
1	3150
2	2210
3	1830
5	1420
7.5	1150
10	1000
15	820
20	720
25	640
50	440
75	360
100	315
150	260
200	220
250	200
300	175
350	160
400	157
500	140
600	125
750	115
800	112
1,000	100
List $1.25	
1,250	99
1,450	83
1,500	82
2,000	71
2,250	67
2,500	63
3,000	57
3,500	53
4,000	50
4,500	47
5,000	45
List $1.33	
6,000	41
7,000	37
7,500	36
8,000	35
8,500	34
9,000	33
10,000	31

25 WATTS Type DHA

2½" x 9/16"
List $1.56

Ohms	Max. m. a.
1	5000
3	2850
5	2200
10	1580
15	1290
25	1000
50	710
75	575
100	500
150	400
200	353
250	320
300	289
400	250
500	224
750	182
800	177
1,000	158
List $1.58	
1,250	141
1,500	129
2,000	112
2,250	105
2,500	100
3,000	91
3,500	84
4,000	79
5,000	71
List $1.70	
6,000	64
7,500	58
8,000	56
9,000	53
10,000	50
List $1.75	
12,000	45
15,000	41
20,000	35
List $1.89	
25,000	32

50 WATTS Type EPA

4½" x ¾"
List $1.97

Ohms	Max. m. a.
5	3165
10	2230
25	1390
50	1000
75	810
100	700
150	550
200	500
250	440
300	375
400	350
500	300
750	250
800	248
1,000	215
List $2.05	
1,250	195
1,500	175
2,000	155
2,500	135
3,000	120
4,000	105
5,000	95
List $2.19	
7,500	77
8,000	75
10,000	66
List $2.36	
12,000	63
15,000	56
20,000	48
List $2.55	
25,000	43
30,000	39
40,000	34
List $2.75	
50,000	30
60,000	28
List $3.06	
75,000	25
List $3.25	
0.1 meg.	21

80 WATTS Type ESA

6½" x ¾"
List $2.27

Ohms	Max. m. a.
5	4000
10	2730
15	2230
25	1730
50	1220
100	865
200	612
250	545
300	500
400	430
500	387
750	316
800	305
1,000	274
List $2.36	
1,500	223
2,000	193
2,500	173
3,000	158
3,500	145
4,000	137
5,000	122
List $2.50	
6,000	112
7,500	110
8,000	98
10,000	86
List $2.65	
15,000	70
20,000	61
List $2.92	
25,000	55
30,000	50
35,000	47
40,000	43
List $3.00	
45,000	41
50,000	39
60,000	35
List $3.28	
80,000	30
List $3.62	
0.1 meg.	27

100 WATTS Type HAA

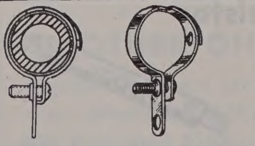
6½" x 1⅛"

Ohms	Max. m. a.
List $2.97	
100	1000
200	710
400	500
500	447
750	365
1,000	315
List $3.05	
1,500	250
2,000	220
2,500	200
3,000	180
4,000	155
5,000	140
List $3.22	
6,000	130
7,500	115
8,000	110
10,000	100
List $3.42	
15,000	80
20,000	70
List $3.64	
25,000	63
30,000	58
40,000	50
List $3.78	
50,000	44
60,000	41
List $3.97	
75,000	36
List $4.13	
0.1 meg.	31

200 WATTS Type HOA

10½" x 1⅛"
List $3.64

Ohms	Max. m. a.
100	1414
500	632
1,000	447
List $3.70	
1,500	365
2,000	316
2,500	283
3,000	258
5,000	200
List $3.92	
10,000	141
List $4.12	
15,000	115
20,000	100
List $4.20	
25,000	90
30,000	81
40,000	70
List $4.30	
50,000	68
60,000	57
List $4.53	
75,000	51
List $4.72	
0.1 meg.	44



No more wire damage when the sliding contact band is moved on adjustable resistors. No corrosion at point of contact! The new IRC Type X Positive Pressure Contact Band removes these troubles once and for all. Silver contact button is attached to constant-pressure steel spring.

TYPE X BANDS

Resistor	Band	List
DHA	"X2"	$0.20
EPA-ESA	"X3"	.20
HAA-HOA-	"X4"	.25
Resistor	Band	List

STANDARD BAND

Resistor	Band	List
ABA	"A"	$0.20

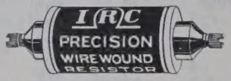
RESISTORS

Preferred for Performance

PRECISION Wire Wound RESISTORS

IRC
PRECISION
WIREWOUND
RESISTOR

Type WW-3
$\frac{9}{16}$" x $\frac{9}{16}$"
Type WW-4
$\frac{9}{16}$" x 1"
Type WW-5
¾" x 1¼"



Type WW-2
⅞" x 2$\frac{15}{16}$"

IRC Precision Wire Wound Resistors are scientifically designed and constructed of highest quality materials to combine the utmost in accuracy with dependability. Winding forms are of a non-hygroscopic ceramic having high insulation qualities, high mechanical strength and low-coefficient of expansion. Because of the special sectional construction which permits the winding of adjacent sections in opposite directions, a noninductive winding is made possible. Minimum temperature coefficient of .002% per degree C. now available on all IRC Precisions at no extra cost.

These units are used by the leading instrument manufacturers for dependable precision meter multipliers and shunts, decade boxes and calibrated gain controls. 1% accuracy is standard. Closer tolerances available at slightly higher prices as follows: for ½% tolerance, add 10%: for ¼% accuracy, add 15%; and for 1/10 of 1%, add 25% to list prices. Tolerances of 1/10 of 1% are measured to new International Ohm, and so indicated on label.

TYPES WW3, WW4, WW5

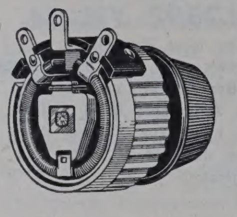
	List
0.1, 0.2 and 1. ohm	$1.75
10, 25, 50, 100, 200, 250, 300, 500, 1,000, 1,500, 2,000 and 2,500 ohms	1.70
4,000, 5,000, 7,500, 10,000, 12,500 and 15,000 ohms	1.75
20,000, 22,500, 25,000, 30,000, 40,000 and 50,000 ohms	1.90
60,000 and 75,000 ohms	2.25
0.1 megohm	2.45
0.125 and 0.15 megohms	2.80
0.175 and 0.2 megohms	3.20
0.225 and 0.25 megohms	3.50
0.3 megohms	3.80
0.4 megohms	4.70
0.5 megohms	5.00
0.6 megohms	6.35
0.75 megohms	7.50
0.9 megohms	8.65
1.0 megohms	9.35

Note—Minimum stock range: WW3—1 ohm WW5—0.6 megohms.
Maximum stock range: WW3—0.15 megohms;
WW4—0.5 megohms.

TYPE WW2

	List
0.6 megohms	$ 7.00
0.75 megohms	7.65
0.9 megohms	9.00
1.0 megohms	9.65
1.5 megohms	15.35
2.0 megohms	20.00
2.5 megohms	24.20

ALL-METAL RHEOSTATS



PR-25 (25 Watts)
1$\frac{21}{32}$" diam. Depth
behind panel, $\frac{31}{32}$"

PR-50 (50 Watts)
2⅜" diam. Depth
behind panel, 1⅜"

Operating temperatures are cut almost in half by the unique, all-metal aluminum construction of these new IRC Rheostats. They dissipate heat more rapidly—give ample safety factor. Ratings based on hottest spot temp. rise of only 140 degrees C. with max. load distributed over entire element. With full load applied to as little as 25% of element, rise is only 160 degrees C. Exclusive IRC Spiral Connector gives positive contact between rotor arm and center terminal.

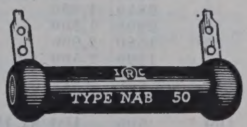
PR-25—25 Watts

Ohms	Max. m.a.	List Price
1	5,000	$5.85
2	3,450	5.20
3	2,880	5.20
6	2,040	5.20
8	1,770	5.20
10	1,580	5.20
15	1,290	5.20
25	1,000	5.20
35	845	5.20
50	709	5.20
75	575	5.20
100	500	5.20
125	445	5.20
175	375	5.20
250	315	5.20
350	267	5.20
500	222	5.20
750	173	5.20
1,000	155	5.85
1,500	129	5.85
2,500	100	5.85
3,500	84	6.18
5,000	70	6.18

PR-50—50 Watts

Ohms	Max. m.a.	List Price
0.5	10,000	$6.50
1	7,070	6.50
2	5,000	5.85
4	3,520	5.85
6	2,880	5.85
8	2,500	5.85
12	2,040	5.85
16	1,770	5.85
22	1,500	5.85
35	1,190	5.85
50	1,000	5.85
80	790	5.85
125	630	5.85
150	575	5.85
225	470	5.85
300	407	5.85
500	315	5.85
800	250	6.18
1,000	223	6.18
1,600	177	6.18
2,500	140	6.18
3,500	120	6.50
5,000	100	6.50
8,000	79	6.50
10,000	70	6.50

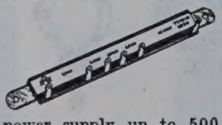
Type NAB Parasitic Suppressors



IRC Type NAB Non-Inductive Wire Wound Resistors are designed for use, one in each grid of audio driver or power amplifier tubes when paralleled, to prevent parasitic oscillations. 10 watts.

Type NAB—50 ohms.
List $1.20 each

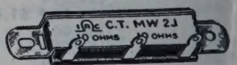
Bleeder Resistor



Type M-1034—25,000 ohms, overall resistance, tapped at 7,500, 10,000, 12,500 and 15,000 ohms. 18 watts rating attached flat to chassis, 9 watts free air rating. Used as bleeder in any power supply up to 500 volts. Sealed in bakelite and insulated for 1,000 volts to ground. Bracket supplied.

M-1034—IRC Bleeder Resistor.................................**List $1.25 each**

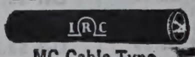
Center Tap Insulated Wire Wounds



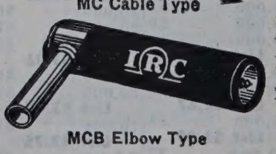
Completely enclosed in molded bakelite and capable of standing high temperatures. Due to high power rating, these resistors may be used in balancing circuits for radio receivers or transmitters. They will carry up to five watts if mounted on chassis, using the detachable mounting bracket and heat-dissipating metal strip; or two and one-half watts if mounted in open air. May be mounted anywhere without danger to units from heat or grounding. **Dimensions:** Length of molded unit 2". With bracket mounting centers 2½". Six standard ranges: 10 ohms, [illegible] ohms, 50 ohms, 75 ohms, 100 ohms and 200 ohms.

Type MW-2J—Center Tap Resistors.................................**List 35c each**

Type MC and MCB Suppressors



MC Cable Type



MCB Elbow Type

IRC Suppressors are designed for the elimination of ignition noise in automobile and motorboat radio installations—and oil burner interference in home receivers.

Either Type ....List 30c

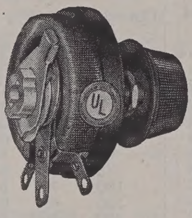
Printed in U.S.A.

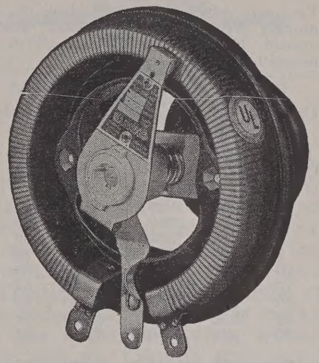
BE RIGHT WITH OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

OHMITE RHEOSTATS

All-Porcelain — Vitreous-Enameled

The design and construction of these sturdy, compact Ohmite Rheostats insure permanently smooth, gradual, close control. The wire is wound over a porcelain core, bonded to porcelain base, and permanently locked in place by special Ohmite Vitreous Enamel. Nothing to smoke, char, shrink, or shift. Dissipates heat rapidly. Insulated shafts and bushings. Copper graphite contacts. Ratings are for "free air" use. Time-proved through long trouble-free service in countless installations the world over. Underwriters' Laboratories Listed.





MODEL "H" 25 Watt

Diameter 1⁹⁄₁₆". Depth behind panel 1⅜"

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0140	1	5,000	**$5.85**	0152	125	445	**$5.20**
0141	2	3,540	**5.20**	0153	175	375	**5.20**
0142	3	2,880	**5.20**	0154	250	316	**5.20**
0143	6	2,040	**5.20**	0155	350	267	**5.20**
0144	8	1,770	**5.20**	0156	500	222	**5.20**
0145	10	1,580	**5.20**	0157	750	182	**5.20**
0146	15	1,290	**5.20**	0158	1,000	155	**5.85**
0147	25	1,000	**5.20**	0159	1,500	129	**5.85**
0148	35	845	**5.20**	0160	2,500	100	**5.85**
0149	50	707	**5.20**	0161	3,500	84	**6.18**
0150	75	575	**5.20**	0162	5,000	70	**6.18**
0151	100	500	**5.20**				

MODEL "J" 50 Watt

Diameter 2⁵⁄₁₆". Depth behind panel 1⅜"

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0308	0.5	10,000	**$6.50**	0321	150	575	**$5.85**
0309	1	7,070	**6.50**	0322	225	470	**5.85**
0310	2	5,000	**6.50**	0323	300	408	**5.85**
0311	4	3,530	**5.85**	0324	500	316	**5.85**
0312	6	2,880	**5.85**	0325	800	250	**6.18**
0313	8	2,500	**5.85**	0326	1,000	224	**6.18**
0314	12	2,040	**5.85**	0327	1,600	176	**6.18**
0315	16	1,760	**5.85**	0328	2,500	141	**6.18**
0316	22	1,500	**5.85**	0329	3,500	119	**6.50**
0317	35	1,190	**5.85**	0330	5,000	100	**6.50**
0318	50	1,000	**5.85**	0331	8,000	79	**6.50**
0319	80	790	**5.85**	0332	10,000	70	**6.50**
0320	125	630	**5.85**				

MODEL "K" 100 Watt

Diameter 3⅛". Depth behind panel 1¾"

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0440	0.5	14,100	**$9.75**	0452	200	707	**$9.10**
0441	1	10,000	**9.75**	0453	300	575	**9.10**
0442	2	7,070	**9.75**	0454	400	500	**9.10**
0443	3	5,750	**9.75**	0455	500	447	**9.10**
0444	5	4,470	**9.75**	0456	750	365	**9.10**
0445	7.5	3,650	**9.10**	0457	1,000	316	**9.75**
0446	10	3,160	**9.10**	0458	1,500	258	**9.75**
0447	16	2,500	**9.10**	0459	2,000	224	**9.75**
0448	25	2,000	**9.10**	0460	2,500	200	**9.75**
0449	50	1,410	**9.10**	0461	5,000	141	**10.40**
0450	75	1,150	**9.10**	0462	7,500	115	**11.05**
0451	100	1,000	**9.10**	0463	10,000	100	**11.70**

MODEL "L" 150 Watt

Diameter 4". Depth behind panel 2"

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0524	0.5	17,300	**$12.35**	0537	150	1,000	**$11.70**
0525	1	12,300	**12.35**	0538	200	865	**11.70**
0526	2	8,650	**12.35**	0539	250	775	**11.70**
0527	3	7,070	**12.35**	0540	350	655	**11.70**
0528	5	5,480	**12.35**	0541	500	548	**11.70**
0529	7.5	4,470	**12.35**	0542	750	447	**12.35**
0530	10	3,880	**11.70**	0543	1,250	346	**12.35**
0531	15	3,163	**11.70**	0544	1,800	288	**13.00**
0532	25	2,450	**11.70**	0545	2,250	259	**13.00**
0533	35	2,070	**11.70**	0546	3,000	224	**13.00**
0534	50	1,735	**11.70**	0547	4,500	182	**13.65**
0535	75	1,415	**11.70**	0548	7,500	141	**14.30**
0536	100	1,225	**11.70**	0549	10,000	122	**15.60**

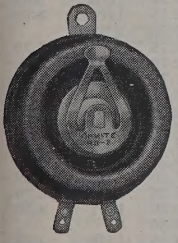
MODEL "N" 300 Wat

Diameter 6". Depth behind panel 2⅜"

Stock No.	Ohms	Max. Mils.	List Price	Stock No.	Ohms	Max. Mils.	List Price
0650	1	17,320	**$17.55**	0661	100	1,730	**$17.55**
0651	2	12,240	**17.55**	0662	150	1,410	**17.55**
0652	3	10,000	**17.55**	0663	200	1,220	**17.55**
0653	4	8,660	**17.55**	0664	300	1,000	**17.55**
0654	5	7,750	**17.55**	0665	400	866	**17.55**
0655	7.5	6,320	**17.55**	0666	700	655	**17.55**
0656	10	5,480	**17.55**	0667	900	578	**17.55**
0657	15	4,470	**17.55**	0668	1,200	500	**17.55**
0658	25	3,460	**17.55**	0669	1,500	447	**17.55**
0659	50	2,450	**17.55**	0670	1,750	414	**17.55**
0660	75	2,000	**17.55**	0671	2,500	346	**17.55**

DIRECTION INDICATOR

POTENTIOMETER—MODEL RB-2



A compact, low cost unit which is used in a simple 6 volt potentiometer circuit as a transmitting element, to indicate, remotely the position of a rotary beam antenna, or other device. The indicating meter can be any ordinary 0-1 M.A., 0-1.5 M.A. or 0-2 M.A. direct current milliammeter (with marked scale). The potentiometer is 2-5/16" in diameter and extends 1⅜" behind the mounting surface. Single hole mounted by means of a ⅜-32 threaded bushing. Complete 360° rotation.

Stock No. RB-2, Potentiometer

List Price $8.13

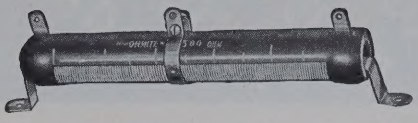
OTHER OHMITE RHEOSTATS

Ohmite Rheostats are also available in Model G, 75 Watt; Model P, 225 Watt; Model R, 500 Watt; Model T, 750 Watt; and Model U, 1,000 Watt units, in many resistance values. Special Rheostats with tapered windings, etc., can be supplied; also Special Rheostats for Model Train Control. Cages and other accessories also available.

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

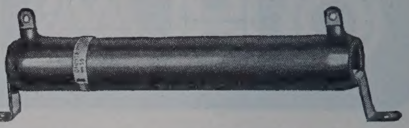
OHMITE DIVIDOHM RESISTORS

OHMITE FIXED RESISTORS



All-Porcelain

Vitreous-Enameled



You can adjust the resistance or secure odd resistance values quickly with these Dividohms; easily put on more taps where needed. Ideal voltage dividers. With one adjustable lug and with mounting brackets.

Extra-sturdy, wire-wound, all-porcelain resistors with the permanent protection of Ohmite Vitreous Enamel. Widely used for heavy duty applications to assure continuous trouble-free service. With mounting brackets.

10 WATTS

Core Size 1¾″ x 5/16″ Mounting Centers 2¼″

Adjustable Res.			Adjustable Res.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils	Stock No.
1	3,150	1001	750	115	1021
2	2,235	1002	800	111	1022
3	1,825	1003	1,000	100	1023
5	1,415	1004	1,250	89	1024
7.5	1,155	1005	1,500	79	1025
10	1,000	1006	2,000	69	1026
15	816	1007	2,250	64	1027
20	707	1008	2,500	63	1028
25	632	1009	3,000	56	1029
50	447	1010	3,500	51	1030
75	365	1011	4,000	47	1031
100	316	1012	4,500	45	1032
150	258	1013	5,000	43	1033
200	223	1014	6,000	38	1034
250	200	1015	7,000	34	1035
300	182	1016	7,500	33	1036
350	169	1017	8,000	31	1037
400	158	1018	8,500	29	1038
500	141	1019	9,000	28	1039
600	129	1020	10,000	26	1040

List Price, 1 to 1000 ohms $1.20

List Price, 1,250 to 5,000 ohms 1.25

List Price, 6,000 to 10,000 ohms 1.33

25 WATTS

Core Size 2″x 9/16″ Mounting Centers 2¾″

		Fixed Resist.		Adj. Resist.	
Res. Ohms	Max. Mils.	Stock No.	List Price	Stock No.	List Price
1	5,000	0200J	$0.80	0360	$1.56
2	3,535	0200K	.80	0360B	1.56
3	2,885	0200L	.80	0361	1.56
5	2,235	0200A	.80	0362	1.56
7.5	1,825			0362B	1.56
10	1,580	0200B	.80	0363	1.56
15	1,290	0200R	.80	0364	1.56
20	1,117			0364B	1.56
25	1,000	0200C	.80	0365	1.56
50	707	0200D	.80	0366	1.56
75	577	0200E	.80	0367	1.56
100	500	0200F	.80	0368	1.56
150	408	0200G	.80	0369	1.56
200	353	0200H	.80	0370	1.56
250	316	0201	.80	0371	1.56
300	288			0371B	1.56
400	250			0371C	1.56
500	223	0202	.80	0372	1.56
750	182	0203	.80	0373	1.56
800	176	0204	.80	0374	1.56
1,000	158	0205	.80	0375	1.56
1,250	141			0375B	1.58
1,500	129	0206	.86	0376	1.58
2,000	111	0207	.86	0377	1.58
2,250	105			0377B	1.58
2,500	100	0208	.86	0378	1.58
3,000	91	0209	.86	0379	1.58
3,500	84	0210	.86	0380	1.58
4,000	79	0211	.86	0381	1.58
4,500	74			0381B	1.58
5,000	70	0212	.86	0382	1.58
6,000	64	0213	.94	0383	1.70
7,000	60			0383B	1.70
7,200	59			0383C	1.70
7,500	57	0214	.94	0384	1.70
8,000	55			0384B	1.70
9,000	52			0384C	1.70
10,000	50	0215	.94	0385	1.70
12,000	42	0216	1.00	0386	1.75
15,000	34	0217	1.00	0387	1.75
20,000	26	0218	1.00	0388	1.75
25,000	21	0219	1.13	0389	1.89
40,000	14	0222	1.13		
50,000	12	0224	1.30		
100,000	7	0229	1.74		

50 WATTS

Core Size 4″x 9/16″ Mounting Centers 4¾″

		Fixed Resist.		Adj. Resist.	
Res. Ohms	Max. Mils.	Stock No.	List Price	Stock No.	List Price
5	3,160	0400A	$1.37	0560	$1.97
10	2,235	0400B	1.37	0561	1.97
25	1,414	0400C	1.37	0562	1.97
50	1,000	0400D	1.37	0563	1.97
75	816	0400E	1.37	0564	1.97
100	707	0400F	1.37	0565	1.97
150	577	0400G	1.37	0566	1.97
200	500	0400H	1.37	0567	1.97
250	447	0401	1.37	0568	1.97
300	408			0568B	1.97
400	353			0568C	1.97
500	316	0402	1.37	0569	1.97
750	258	0403	1.37	0570	1.97
1,000	223	0405	1.37	0572	1.97
1,250	200			0572B	2.05
1,500	182	0406	1.45	0573	2.05
2,000	158	0407	1.45	0574	2.05
2,500	141	0408	1.45	0575	2.05
3,000	129	0409	1.45	0576	2.05
3,500	119			0576B	2.05
4,000	111	0410	1.45	0577	2.05
4,500	105			0577B	2.05
5,000	100	0411	1.45	0578	2.05
6,000	91			0578B	2.19
7,000	84			0578C	2.19
7,500	81	0412	1.58	0579	2.19
8,000	79	0413	1.58	0580	2.19
9,000	74			0580B	2.19
10,000	70	0414	1.58	0581	2.19
12,000	64	0415	1.75	0582	2.36
15,000	57	0416	1.75	0583	2.36
20,000	48	0417	1.75	0584	2.36
25,000	41	0418	1.95	0585	2.55
30,000	36			0586	2.55
35,000	32	0419	1.95		
40,000	28			0587	2.55
50,000	23	0420	2.14	0588	2.75
60,000	19			0589	2.75
75,000	16	0421	2.45		
80,000	15			0590	3.06
100,000	12	0422	2.65	0591	3.25

75 WATTS

Core Size 6″ x 9/16″ Mounting Centers 6¾″

Adjustable Res.			Adjustable Res.		
Res. Ohms	Max. Mils.	Stock No.	Res. Ohms	Max. Mils	Stock No.
5	3,870	0769	5,000	122	0783
10	2,735	0770	6,000	111	0783B
15	2,236	0771	7,000	103	0783C
25	1,732	0772	7,500	100	0784
50	1,224	0773	8,000	96	0784B
100	866	0774	9,000	91	0784C
200	612	0774B	10,000	86	0785
250	547	0775	12,000	79	0785B
300	500	0775B	15,000	70	0786
400	433	0775C	20,000	61	0787
500	387	0776	25,000	49	0788
750	316	0777	30,000	42	0789
1,000	273	0778	35,000	36	0790
1,250	245	0778B	40,000	32	0791
1,500	223	0779	45,000	29	0792
2,000	193	0780	50,000	26	0793
2,500	173	0781	60,000	22	0794
3,000	158	0781B	80,000	17	0795
3,500	146	0782	100,000	13	0796
4,000	136	0782B			

List Price, 5 to 1,000 ohms $2.27

List Price, 1,250 to 5,000 ohms 2.36

List Price, 6,000 to 10,000 ohms 2.50

List Price, 12,000 to 20,000 ohms 2.65

List Price, 25,000 to 40,000 ohms 2.92

List Price, 45,000 to 60,000 ohms 3.00

List Price, 80,000 ohms 3.28

List Price, 100,000 ohms 3.61

100 WATTS

Core Size 6½″x¾″ Mounting Centers 7⅜″

		Fixed Resist.		Adj. Resist.	
Res. Ohms	Max. Mils.	Stock No.	List Price	Stock No.	List Price
5	4,470	0600A	$2.03	0956	$2.97
10	3,160	0600B	2.03	0957	2.97
25	2,000	0601	2.03	0958	2.97
50	1,414	0602	2.03	0959	2.97
75	1,153	0603	2.03		
100	1,000	0604	2.03	0960	2.97
150	816	0605	2.03		
250	632	0606	2.03	0960B	2.97
500	447	0607	2.03	0961	2.97
750	365	0608	2.03		
1,000	316	0609	2.03	0962	2.97
1,500	258	0610	2.08	0962B	3.05
2,000	223	0611	2.08		
2,500	200	0612	2.08	0963	3.05
3,000	182	0613	2.08		
5,000	141	0614	2.08	0964	3.05
7,500	115	0615	2.25		
10,000	100	0616	2.25	0965	3.22
15,000	81	0617	2.47	0966	3.42
20,000	70	0618	2.47	0967	3.42
25,000	53	0619	2.67	0968	3.64
30,000	47	0620	2.67	0969	3.64
40,000	36	0621	2.67	0970	3.64
50,000	29	0622	2.81	0971	3.78
60,000	24	0623	2.81		
75,000	19	0624	3.00	0972	3.97
100,000	15	0625	3.17	0973	4.13

160 Watt Resistors—Core Size 8½″ x 1⅛″. Mounting Centers 9⅜″ available in same resistances as the 200 Watt Resistors.

Ohms	Fixed Res. List Price	Adj. Res. List Price
5	$3.47	$4.45
10 to 1,000	2.48	3.45
1,500 to 5,000	2.53	3.50
7,500 & 10,000	2.75	3.70
15,000 & 20,000	2.95	3.92
20,000 to 40,000	3.03	4.00
50,000 & 60,000	3.13	4.12
75,000	3.36	4.30
100,000	3.55	4.53

200 WATTS

Core Size 10½″x1⅛″ M'nt'ng Centers 11⅜″

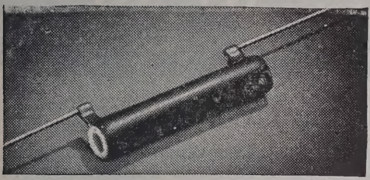
5	6,320	0900A	$3.75	1356	$4.72
10	4,470	0900B	2.70	1357	3.64
25	2,828	0901	2.70	1358	3.64
50	2,000	0902	2.70	1359	3.64
75	1,635	0903	2.70		
100	1,414	0904	2.70	1360	3.64
150	1,153	0905	2.70		
250	894	0906	2.70	1360B	3.64
500	632	0907	2.70	1361	3.64
750	516	0908	2.70		
1,000	447	0909	2.70	1362	3.64
1,500	365	0910	2.75	1362B	3.70
2,000	316	0911	2.75		
2,500	283	0912	2.75	1363	3.70
3,000	258	0913	2.75		
5,000	200	0914	2.75	1364	3.70
7,500	163	0915	2.95		
10,000	141	0916	2.95	1365	3.92
15,000	115	0917	3.13	1366	4.12
20,000	100	0918	3.13	1367	4.12
25,000	80	0919	3.25	1368	4.20
30,000	81	0920	3.25	1369	4.20
40,000	61	0921	3.25	1370	4.20
50,000	49	0922	3.36	1371	4.30
60,000	41	0923	3.36		
75,000	33	0924	3.55	1372	4.53
100,000	25	0925	3.75	1373	4.72

ADJUSTABLE LUGS

Bakelite Knob			Screw Driver Type		
Res. Dia.	Stock No.	List Price	Res. Dia.	Stock No.	List Price
9/16″	0359	$0.30	5/16″	1058	$0.20
¾″	1959	.40	9/16″	0358	.20
1⅛″	2159	.40	¾″	1958	.25
			1⅛″	2158	.25

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

Popular OHMITE "BROWN DEVIL" RESISTORS



High quality, small size, wire-wound resistors ideal for voltage dropping, bias units, bleeders, etc. They're extra-sturdy, all-ceramic, vitreous enameled. They give time-proved protection against shock, vibration, heat and humidity. Their long record of continuous trouble-free service—their wide use in all climates of the world—prove their complete reliability and economy. All units can be conveniently mounted by means of their 1½″ tinned wire leads. The standard resistance tolerance is ±10%.

The all-welded construction of the 5 watt unit makes it possible to extend the resistance range to 10,000 ohms, an unusually high value for a vitreous enameled stock unit.

5 Watt—1″ x 5/16″ Core Size

Ohms	Mils.	Ohms	Mils.	Ohms	Mils.
1	2,236	125	200	1,250	63
1.5	1,820	150	182	1,500	57
2	1,580	200	158	1,750	53
3	1,290	225	149	2,000	49
4	1,120	250	141	2,250	46
5	1,000	300	129	2,500	44
7.5	818	350	120	3,000	39
10	707	400	112	3,500	36
12	645	450	105	4,000	33
15	575	500	100	4,500	31
20	500	600	91	5,000	29
25	447	700	84	6,000	26
30	408	750	81	7,000	24
35	378	800	79	7,500	22
40	353	900	74	8,000	21
50	316	1,000	70	9,000	19
75	258	1,100	67	10,000	18
100	224	1,200	64		

List Price, 1 to 1,000 ohms............$0.53
List Price, 1,100 to 5,000 ohms.........   .57
List Price, 6,000 to 10,000 ohms........   .61

10 Watt—1¾″ x 5/16″ Core Size

Ohms	Mils,	Ohms	Mils.	Ohms	Mils.
1	3,160	350	169	6,000	38
2	2,235	400	158	7,000	34
3	1,825	450	149	7,500	32
4	1,580	500	141	8,000	31
5	1,414	600	129	8,500	29
7.5	1,155	700	119	10,000	26
10	1,000	750	115	11,000	24
12	910	800	111	12,000	23
15	816	900	105	12,500	22
20	707	1,000	100	13,500	21
25	632	1,100	95	14,300	20
30	575	1,200	91	15,000	19
35	535	1,250	89	16,000	18
40	500	1,500	79	17,500	17
50	447	1,750	74	18,000	17
75	365	2,000	69	20,000	16
100	316	2,250	64	22,500	15
125	283	2,500	63	25,000	14
150	258	3,000	56	*30,000	8
200	223	3,500	51	*35,000	7
225	217	4,000	47	*40,000	7
250	200	4,500	45	*45,000	6
300	182	5,000	43	*50,000	6

List Price, 1 to 1,000 ohms............$0.58
List Price, 1,100 to 5,000 ohms.........   .63
List Price, 6,000 to 10,000 ohms........   .72
List Price, 11,000 to 20,000 ohms.......   .80
List Price, 22,500 & 25,000 ohms.......   .86
List Price, 30,000 to 50,000 ohms.......   .97

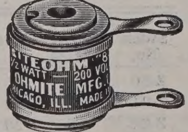
20 Watt—2″ x 7/16″ Core Size

Ohms	Mils.	Ohms	Mils.	Ohms.	Mils.
5	2,000	1,250	126	15,000	30
10	1,414	1,500	115	20,000	24
25	894	1,750	107	25,000	20
50	632	1,850	104	30,000	17
75	516	2,000	100	35,000	15
100	447	2,250	94	40,000	14
150	365	2,400	91	45,000	13
200	316	2,500	89	50,000	12
250	283	2,750	85	*55,000	8.0
300	258	3,000	81	*60,000	8.0
350	239	3,500	75	*65,000	7.0
400	223	4,000	70	*70,000	7.0
500	200	4,500	66	*75,000	7.0
650	175	5,000	63	*80,000	7.0
700	169	6,000	57	*85,000	6.0
750	163	7,000	53	*90,000	6.0
800	158	7,500	51	*95,000	6.0
850	153	8,000	50	*100,000	6.0
1,000	141	10,000	43		
1,200	129	12,500	35		

List Price, 5 to 1,000 ohms............$0.75
List Price, 1,200 to 5,000 ohms.........   .78
List Price, 6,000 to 10,000 ohms........   .88
List Price, 12,500 to 20,000 ohms.......   .94
List Price, 25,000 to 40,000 ohms....... 1.08
List Price, 45,000 to 60,000 ohms....... 1.25
List Price, 65,000 to 80,000 ohms....... 1.46
List Price, 85,000 to 100,000 ohms...... 1.69

*The units marked with an asterisk are coated with a low temperature enamel.

RITEOHM SERIES "84" PRECISION RESISTORS



High quality, 1% tolerance, 1 watt, non-inductive, pie-wound units for meter multipliers, lab. equipment, etc.

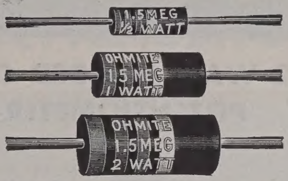
Ohms	Max. Voltage	Ohms	Max. Voltage	Ohms	Max. Voltage
*0.1	.316	4,000	44.70	.125 Meg.	200
0.5	.500	5,000	50.00	.150 Meg.	200
1	.707	7,500	61.20	.175 Meg.	200
10	2.24	10,000	70.70	.200 Meg.	200
25	3.54	12,500	79.00	*.225 Meg.	400
50	5.00	15,000	86.60	*.250 Meg.	400
100	7.07	20,000	100	*.300 Meg.	400
200	10.00	22,500	106	*.400 Meg.	400
250	11.20	25,000	112	†.500 Meg.	400
300	12.20	30,000	122	†.600 Meg.	400
500	15.80	40,000	141	†.750 Meg.	400
1000	22.40	50,000	158	†.900 Meg.	400
1500	27.40	60,000	173	†1.0 Meg.	400
2000	31.60	75,000	194	†1.5 Meg.	400
2500	35.40	.1 Meg.	200		

*Type 844-A 4 Pie—1 Watt Size 9/16″ x 7/8″
†Type 844-B 4 Pie—1 Watt Size ¾″ x 1 3/16″
All others Type 842-A 2 Pie—½ Watt Size 9/16″ x 9/16″

Ohms	List Price	Ohms	List Price
0.1 to 500	**$1.11**	.225 to .25 Meg.	**$3.38**
1,000 to 2,500	**1.17**	.3 megohm	**3.71**
4,000 to 10,000	**1.30**	.4 megohm	**3.90**
12,500 to 15,000	**1.43**	.5 megohm	**4.42**
20,000 to 50,000	**1.76**	.6 megohm	**5.53**
60,000 to 75,000	**2.08**	.75 megohm	**5.85**
.1 megohm	**2.41**	.9 megohm	**6.18**
.125 megohm	**2.73**	1.0 megohm	**6.83**
15 to .2 megohm	**3.06**	1.5 megohm	**9.75**

Complete Listings in Bulletin 126

OHMITE "LITTLE DEVIL" RESISTORS



Ohmite "LITTLE DEVILS" are full ½ Watt, 1 Watt and 2 Watt Insulated Composition Resistors and can be used at their full wattage ratings at 70° C. (158° F.) ambient temperature. They meet requirements of specification JAN-R-11. All units are color coded. Each resistor is marked with the resistance value, wattage rating and the Ohmite trade-mark. "LITTLE DEVILS" are available from stock in ½, 1 and 2 watt sizes with ±10% or ±5% tolerance. The standard RMA values, 10 ohms to 22 megohms can be furnished.

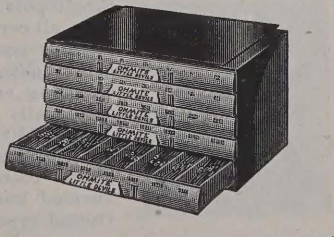
±10% Tolerance — RMA Values

Ohms	Ohms	Ohms	Ohms	Megohms
*2.7	68	1,800	47,000	1.2
*3.3	82	2,200	56,000	1.5
*3.9	100	2,700	68,000	1.8
*4.7	120	3,300	82,000	2.2
*5.6	150	3,900	0.1 Meg.	2.7
*6.8	180	4,700	0.12 Meg.	3.3
*8.2	220	5,600	0.15 Meg.	3.9
10	270	6,800	0.18 Meg.	4.7
12	330	8,200	0.22 Meg.	5.6
15	390	10,000	0.27 Meg.	6.8
18	470	12,000	0.33 Meg.	8.2
22	560	15,000	0.39 Meg.	10.0
27	680	18,000	0.47 Meg.	12.0
33	820	22,000	0.56 Meg.	15.0
39	1,000	27,000	0.68 Meg.	18.0
47	1,200	33,000	0.82 Meg.	22.0
56	1,500	39,000	1.00 Meg.	

*1 Watt Size Only.

Type	Size Length	Size Diam.	Maximum Volts	List Price
½ Watt	⅜″	9/64″	350	$0.17
1 Watt	9/16″	7/32″	500	.25
2 Watt	11/16″	5/16″	1000	.33

New! 125 "LITTLEDEVILS" IN PLASTIC CABINET



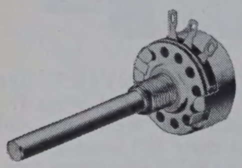
Serviceman's assortment of 125 Ohmite "Little Devil," ½-watt, insulated composition resistors, in the 40 values (10 ohms to 10 megohms) most frequently used by servicemen. The assortment is offered at the price of the resistors alone—the cabinet is furnished without extra cost!

Stock No. CAB-1 Net Price, $12.50

For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

BE RIGHT WITH OHMITE ★ RHEOSTATS RESISTORS SWITCHES CHOKES

2 WATT MOLDED COMPOSITION POTENTIOMETER—TYPE AB



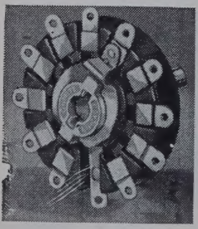
The Type AB Potentiometer is an exceptionally high quality unit designed especially for industrial, laboratory, radio service and other uses where reliability is particularly important. Because the resistor element is molded, the unit has an exceptionally large safety factor. The power rating of 2 watts is unusual for a unit of such small size. The unit has a very low noise level and low voltage coefficient. It will pass the Army-Navy 200 hour salt spray test, specification AN-QQ-S-91. The unit is 1 1/16″ diameter and extends 9/16″ behind the panel. The standard shaft length is 2″ including the ⅜″ long mounting bushing. A SPST switch, to be attached to the back of the control, can be supplied extra.

Total Resistance- ±10% Except as Noted	Resistance Rotation Characteristics (Taper)		
	Type U Linear Stock No.	Type A Clockwise Log. Stock No.	Type B Counterclock. Log. Stock No.
50 Ohms	CU 5001		
100 Ohms	CU 1011		
250 Ohms	CU 2511		
500 Ohms	CU 5011		
1,000 Ohms	CU 1021		
2,500 Ohms	CU 2521		
5,000 Ohms	CU 5021		
10,000 Ohms	CU 1031		CB 1031
25,000 Ohms	CU 2531		CB 2531
50,000 Ohms	CU 5031		CB 5031
.10 Meg.	CU 1041	CA 1041	
.25 Meg.	CU 2541	CA 2541	
.5 Meg.	CU 5041	CA 5041	
1.0 Meg. ±20%	CU 1052	CA 1052	
2.5 Meg. ±20%	CU 2552	CA 2552	
5.0 Meg. ±20%	CU 5052		

Type AB Potentiometer.. **List Price $3.00**

Stock No. CS-1, Switch only for above unit (supplied unmounted).................... **List Price .90**

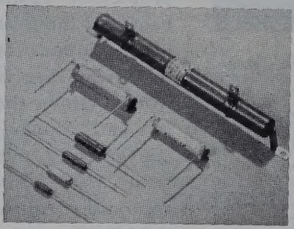
NON-SHORTING TYPE ROTARY POWER TAP SWITCH



Single-pole, multi-position switch with all-ceramic insulation, silver-to-silver contacts and "slow-break" action designed especially for alternating current. Switch shaft is electrically "dead". A.C. rating 10 amps., 150 volts. Diameter 1¾″—Depth behind panel 1⅛″—Shaft diameter ¼″ — Recommended knob, stock number 4500 (round type) or 4516 (bar type).

Number of Taps	Total Rotation	Stock Number	List Price Less Knob
11	300°	111-11	**3.90**
10	270°	111-10	**3.77**
9	240°	111- 9	**3.77**
8	210°	111- 8	**3.64**
7	180°	111- 7	**3.64**
6	150°	111- 6	**3.51**
5	120°	111- 5	**3.51**
4	90°	111-4	**3.38**
3	60°	111-3	**3.38**
2	30°	111-2	**3.38**

OHMITE R.F. PLATE CHOKES



The new series of seven Ohmite single layer wound solenoid radio frequency plate chokes covers the entire frequency range of 3 to 520 megacycles. The new chokes replace the former series of chokes, Z-0, Z-1, Z-2, and Z-3 with units that accomplish the same results but are much smaller in physical size with one exception, the new Z-7 choke, which is identical to the former Z-3, the number only having been changed.

The four highest frequency chokes are wound on low power factor plastic cores while the other three units are wound on steatite tubes. Windings are insulated and protected by a moisture-proof coating. The single layer winding is designed to avoid adverse harmonic effects within the recommended operating range and also prevents breakdown from high r.f. potentials.

Stock Number	Operating Range Megacycles	Micro-henries	Core Dimension	List Price
Z-7	3 to 20 Mc.	84.0	6″ x 9/16″	**$1.56**
Z-14	7 to 35 Mc.	44.0	2″ x 7/16″	**.68**
Z-28	20 to 60 Mc.	21.0	1¾″ x 5/16″	**.44**
Z-50	35 to 110 Mc.	7.0	⅞″ x 9/32″	**.33**
Z-144	80 to 200 Mc.	1.8	¾″ x 3/16″	**.33**
Z-235	160 to 350 Mc.	0.84	¾″ x 3/16″	**.33**
Z-460	320 to 520 Mc.	0.20	½″ x 5/32″	**.33**

Non-magnetic Brackets Furnished with Z-7.
All chokes 1000 ma. rating except Z-14 and Z-28. These are rated at 600 ma.

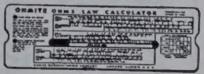
OHMITE POWER LINE CHOKES

Prevents high-frequency currents of radio transmitters, diathermy and therapeutic equipment from going out over the power lines and interfering with nearby radio receiving sets. Used as a filter in connection with two grounding condensers of 0.1 microfarad capacity each. The Z-20 Choke is also used at radio receivers to keep out interference. All chokes consist of two single-layer windings on a single ceramic core—insulated and protected by moisture-proof coating. Recommended for use in suppressing radio (not audio) frequency interference.

Stock No.	Micro-henries	Current Rating	Total D.C. Resistance Ohms	Lgth.	Tube Dia.	List Price
Z-20	14	5 Amperes	0.15	4″	9/16″	**$2.15**
Z-21	15	10 Amperes	0.07	6½″	¾″	**3.58**
Z-22	18	20 Amperes	0.045	8½″	1⅛″	**5.20**

NEW OHM'S LAW CALCULATOR

Pocket Size



Solves Ohm's Law problems with only one setting of the slide. No decimal points to cause confusion—all values are direct reading. Requires no slide rule knowledge.

Ohmite Ohm's Law Calculator....NET Price $0.25

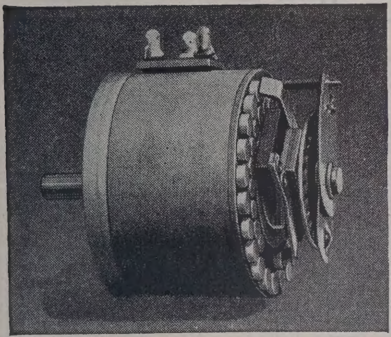
For more complete information on OHMITE PRODUCTS, ask for Ohmite Stock Catalog.

ELECTRICAL INSTRUMENTS
•
RESISTORS
•
VARIABLE ATTENUATORS
•
SWITCHES

SHALLCROSS MANUFACTURING CO.

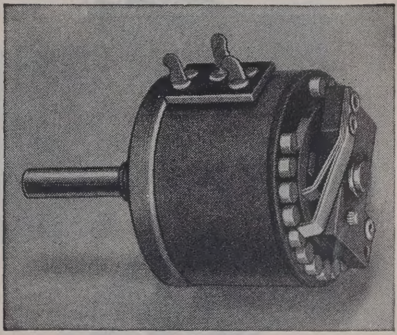
COLLINGDALE, PENNSYLVANIA

SHALLCROSS AUDIO ATTENUATORS



◄ SHALLCROSS ATTENUATOR NO. 420-2B2

SHALLCROSS ATTENUATOR NO. C720-2A3 ►



These Shallcross Features Mean

✓ BETTER PERFORMANCE

✓ BIGGER VALUE

- ✓ Off position attenuation well in excess of 100 db.
- ✓ 25% to 50% fewer soldered joints.
- ✓ Noise level ratings that are factual. (130 db or more below zero level).
- ✓ Non-inductive Shallcross precision resistors used throughout assure flat attenuation to and beyond 30 kc.
- ✓ Types and sizes engineered for all needs. Attenuation accuracies of 1%, resistor accuracies of 0.1%, on special order.

Shallcross Audio Attenuators are available in either variable or fixed units, the former often being referred to as a "control" and the latter, as a "pad".

Controls are available with as few as 5 steps or as many as 52 steps with an attenuation as small as 0.1 db per step. The total attenuation for a single control does not exceed about 125 db since such high attenuation approaches the noise level of the switching mechanism.

The complete story of Shallcross attenuators may be found in Shallcross Engineering Bulletin #4, copies of which are available on request. Specifications and prices are given below for a few of the most popular variable attenuators.

IMPEDANCE: 150, 500, 250/500, 600 ohms, except potentiometers, which are 100,000 and 250,000 ohms.

RESISTORS: All non-inductively wirewound, ±5% tolerance, except types preceded with "C", which are composition selected to ±5%.

ATTENUATION: Increases for counter-clockwise rotation of knob end of shaft.

FREQUENCY RESPONSE: Flat over entire audio range.

SWITCH MECHANISM: Multi-leaf wiper arms collector rings and contacts available in tarnish resistant silver alloy or brass. Noise level -130 db.

DETENT: Indexing mechanism available on any unit for $0.50 list. Back of panel depth is then increased 5/16".

DIALS: $1.00 list each additional.

KNOBS (VA-16906): $0.50 list each additional.

120-2A3 **$8.00 silver** **7.00 brass**	Ladder attenuator, 20 steps, 2 db per step, tapered on last 3 steps to off. MOUNTING: single hole, ⅜"-32 threaded bushing or two hole, 6-32 screws, 1⅜" centers. DIMENSIONS: 1¾" diameter, 1¾" back of panel depth. CONTACT SPACING: 15°.
C720-2A3 **$8.00 silver** **7.00 brass**	Potentiometer, 20 steps, 2 db per step, tapered on last 3 steps to off. MOUNTING: single hole, ⅜"-32 threaded bushing or two hole, 6-32 screws, 1⅜" centers. DIMENSIONS: 1¾" diameter, 1¾" back of panel depth. CONTACT SPACING: 15°.
132-1.5B3 **$13.50 silver** **12.00 brass**	Ladder attenuator, 32 steps, 1.5 db per step, tapered on last 3 steps to off. MOUNTING: two hole, 6-32 or 8-32 screws, 1¼" or 1½" centers. DIMENSIONS: 2⅛" diameter, 1¾" back of panel depth. CONTACT SPACING: 10°.
430-1C1 **$21.00 silver** **19.00 brass**	Bridged T attenuator, 30 steps, 1 db. per step, 30 db total. MOUNTING: two hole, 6-32 or 8-32 screws, 1¼" or 1½" centers. DIMENSIONS: 2½" diameter, 1¾" back of panel depth. CONTACT SPACING: 11¼°.
432-1.5C3 **$21.00 silver** **19.00 brass**	Bridged T attenuator, 32 steps, 1.5 db per step, tapered on last 5 steps to off. MOUNTING: two hole, 6-32 or 8-32 screws, 1¼" or 1½" centers. DIMENSIONS: 2½" diameter, 2-5/16" back of panel depth. CONTACT SPACING: 10°.
420-2B2 **$16.00 silver** **14.00 brass**	Bridged T attenuator, 20 steps, 2 db per step, attenuation linear with off on last step. MOUNTING: two hole, 8-32 or 6-32 screws, 1¼" or 1½" centers. DIMENSIONS: 2⅛" diameter, 1¾" back of panel depth. CONTACT SPACING: 15°.
C820-2B2 **$16.00 silver** **14.00 brass**	Dual potentiometer, each section 20 steps, 2 db per step, attenuation linear with off on last step. MOUNTING: two hole, 6-32 or 8-32 screws, 1¼" or 1½" centers. DIMENSIONS: 2⅛" diameter, 1¾" back of panel depth. CONTACT SPACING: 15°.

SHALLCROSS V.U. METER RANGE EXTENDING ATTENUATORS

IMPEDANCE: Available with input impedances of 3900-7100-7500 ohms. Output impedance is 3900 ohms to match Weston Type 30B or General Electric Type DO 61 V.U. meters.

TOLERANCE: ±1% except "C" types which are ±5%.

INSERTION LOSS: Zero.

DETENT: All units supplied with indexing mechanism; back of panel depth includes detent.

C35-4A4 **$12.00 silver** **11.00 brass**	T attenuator, +4 to +24 V.U., 5 steps, 4 V.U. per step. MOUNTING: single hole, ⅜"-32 threaded bushing. DIMENSIONS: 1¾" diameter, 2-1/16" back of panel depth. CONTACT SPACING: 30°.
C35-4A5 **$12.00 silver** **11.00 brass**	T attenuator, +4 to +20 V.U. and OFF, 5 steps, 4 V.U. per step. MOUNTING: single hole, ⅜"-32 threaded bushing. DIMENSIONS: 1¾" diameter, 2-1/16" back of panel depth. CONTACT SPACING: 30°.
320-2C4 **$21.50 silver** **20.50 brass**	T attenuator, +4 to +44 V.U., 20 steps, 2 V.U. per step. MOUNTING: two hole, 8-32 screws, 1½" centers. DIMENSIONS: 2½" diameter, 2-1/16" back of panel depth. CONTACT SPACING: 15°.
320-2C5 **$21.50 silver** **20.50 brass**	T attenuator, +4 to +42 V.U. and OFF, 20 steps, 2 V.U. per step. MOUNTING: two hole, 8-32 screws, 1½" centers. DIMENSIONS: 2½" diameter, 2-1/16" back of panel depth. CONTACT SPACING: 15°.
412-2B4 **$16.50 silver** **14.50 brass**	Bridged T attenuator, +4 to +28 V.U., 12 steps, 2 V.U. per step. MOUNTING: two hole, 8-32 screws, 1½" centers. DIMENSIONS: 2⅛" diameter, 2-1/16" back of panel depth. CONTACT SPACING: 12°.
412-2B5 **$16.50 silver** **14.50 brass**	Bridged T attenuator, +4 to +26 V.U. and OFF, 12 steps, 2 V.U. per step. MOUNTING: two hole, 8-32 screws, 1½" centers. DIMENSIONS: 2⅛" diameter, 2-1/16" back of panel depth. CONTACT SPACING: 12°.

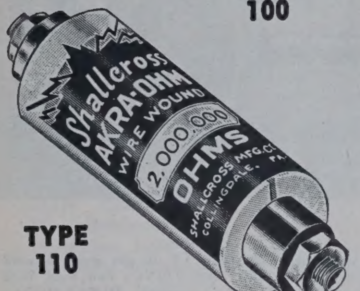
SHALLCROSS MANUFACTURING CO.
COLLINGDALE, PENNSYLVANIA

ELECTRICAL INSTRUMENTS • RESISTORS • VARIABLE ATTENUATORS • SWITCHES

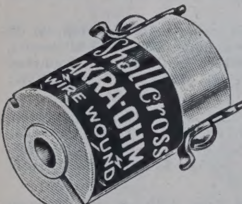
SHALLCROSS AKRA-OHM RESISTORS

Shallcross
AKRA-OHM
WIRE WOUND

TYPE 100



TYPE 110



TYPES 140 160

Shallcross
AKRA-OHM
WIRE WOUND

TYPES 196 116

SHALLCROSS
Mfg. Co.
Collingdale
Pa.

TYPE 183 A

Shallcross
AKRA-OHM
WIRE WOUND

TYPE 193

LIST PRICES—Standard BX Types, ±1% Tolerance

Resistance Range to and including	Types BX110, BX116, BX160	Types BX196	Types BX183A	Types BX100, BX140, BX193
0.5 ohms to 1000 ohms	$2.15	$1.65	$1.00	$1.40
Up to 5000 ohms	2.30	1.75	1.05	1.50
Up to 10,000 ohms	2.40	1.85	1.15	1.60
Up to 15,000 ohms	2.50	1.85	1.25	1.60
Up to 30,000 ohms	2.60	2.00	1.40	1.75
Up to 50,000 ohms	2.70	2.00	1.55	1.75
Up to 75,000 ohms	2.90	2.25	1.75	2.00
Up to 100M	3.20	2.50	2.00	2.25
Up to 125,000	3.35	2.60	2.15	2.35
Up to 150,000	3.55	2.75	2.15	2.50
Up to 200,000	3.85	3.05	2.40	2.75
Up to 250,000	4.15	3.35	2.65	3.00
Up to 300,000	4.45	3.65	2.90	3.25
Up to 400,000	5.10	4.20	3.15	3.75
Up to 500,000	5.70	4.75	3.65	4.25
Up to 600,000	6.00	5.05	4.40	4.50
Up to 700,000	6.15	5.20	4.50	4.60
Up to 750,000	6.35	5.40	4.65	4.75
Up to 900,000	6.65	5.70	4.90	5.00
Up to 1 megohm	6.95	6.00	5.15	5.25
Up to 1.5 megohms	9.80	8.25		
Up to 2 megohms	14.15	11.25		
Up to 2.5 megohms	16.40	14.00		
Up to 3 megohms	18.40	16.75		
Up to 4 megohms	22.40	21.25		
Up to 5 megohms	26.40	25.75		
Up to 6 megohms	30.40			
Up to 7 megohms	35.40			
Up to 8 megohms	40.40			
Up to 9 megohms	45.40			
Up to 10 megohms	50.40			

SPECIAL TOLERANCE

Resistors to closer tolerances can be supplied at higher prices. Add to list prices as follows:

±½%, add 5%
±¼%, add 10%
±2/10%, add 15%
±1/10%, add 25%
±.05%, add 50%

BX impregnated resistors will be furnished unless order specifies "without BX". Following price reductions will be made from the list price for resistors furnished without vacuum impregnation:

Type 110, 116 & 160	$.40
" 196	.25
" 183	.15
" 100, 140 & 193	.25

Prices shown are for Manganin Wire used in resistances to 1,000 ohms and for Nickel-Chromium-Iron Wire used in resistances above 1,000 ohms.

TYPES BX183A AND BX193—±1% IN COMMON VALUES—IN STOCK

In addition to the popular standard types listed here, Shallcross Akra-Ohm Resistors are made in a complete line of standard and special designs for precise electronic equipment demanding great stability and long life even under difficult conditions of temperature and humidity.

Shallcross achievements include the development of really practical hermetically-sealed units; BX processed resistors "tropicalized" against moisture and fungus; the use of spun glass insulated wire for applications where considerable power must be dissipated; bifilar wound resistors, 1000 ohms or less, for exacting instrument use; heavy-duty surge resistors; accurate heavy-duty power resistors, and various others. Write for the Shallcross "Engineering Data" wall and file Chart.

ACCURATE FIXED WIRE-WOUND TYPES (JAN R93) PRICES ON REQUEST.

Shallcross Type	** JAN Style	Wattage	* Maximum Ohms	Std. Terminal	Mounting	Dimensions Length—Diam.
100	RB21	1	750,000	#8 screw	5 amp. fuse clip	2 1/16" x 9/16"
110	RB22	2	2 Meg.	#8 screw	5 amp. fuse clip	2⅞" x ¾"
116	RB14	1	2 Meg.	Solder lugs	#6 screw	2 5/32" x ¾"
140	RB41	0.5	350,000	Solder lugs	#6 screw	1¼" x 11/16"
160	RB42	1	500,000	Solder lugs	#6 screw	1 9/16" x 11/16"
183A	RB11	0.5	300,000	Solder lugs	#6 screw	⅝" x ½"
193	RB12	1	400,000	Solder lugs	#6 screw	1" x ½"
196	RB13	1	1 Meg.	Solder lugs	#6 screw	1¼" x ¾"
△1196	RB13	1	1 Meg.	Solder lugs	#6 screw	1¼" x ⅞"

* Based on use of .0014" diameter nickel chromium wire. Smaller wire sizes will greatly increase maximum allowable resistance on any form.
** JAN style refers to Joint Army-Navy Specification R93. Price depends on wire size and specification.
△ Hermetically sealed. Other sizes available.

SEND FOR RESISTOR ENGINEERING CHART FOR COMPLETE DATA

SHALLCROSS MANUFACTURING CO.
COLLINGDALE, PENNSYLVANIA

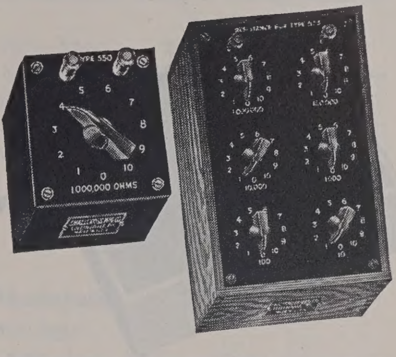
ELECTRICAL INSTRUMENTS
•
RESISTORS
•
VARIABLE ATTENUATORS
•
SWITCHES

SHALLCROSS DECADE RESISTANCE BOXES

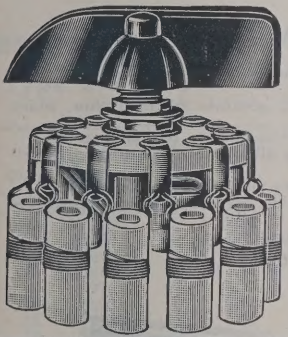
The large assortment and wide range of resistance available makes the Shallcross line of Resistance Boxes unique in the instrument field. They are used extensively as laboratory standards, AC and DC Bridge and ratio arms, voltage dividers, etc.

Accuracy adjustment of Resistors as follows:
0.1 ohm...... 1% 1. ohm..... 0.25% all others...... 0.1%

No.	No. Dials	Ohm Steps	Ohms Total Resistance	Price	No.	No. Dials	Ohm Steps	Ohms Total Resistance	Price
543	1	0.1	1	$13.50	821	3	10	11,100	$39.50
544	1	1.0	10	13.50	822	3	100	111,000	44.50
545	1	10	100	13.50	823	3	1,000	1,110,000	58.00
546	1	100	1,000	13.50	824	3	10,000	11,100,000	91.00
547	1	1,000	10,000	16.50	825	4	1	11,110	51.00
548	1	10,000	100,000	19.50	826	4	10	111,100	56.00
549	1	100,000	1,000,000	27.00	827	4	100	1,111,000	69.50
550	1	1,000,000	10,000,000	50.00	828	4	1,000	11,110,000	105.50
817	3	.01	11.1	45.00	8285	5	0.1	11,111	62.50
817A	4	.01	111.1	56.50	829	5	1	111,110	67.50
817B	5	.01	1,111.1	71.00	830	5	10	1,111,100	81.00
818	3	0.1	111	36.50	831	5	100	11,111,000	117.00
819	4	0.1	1,111	48.00	832	6	1	1,111,110	91.50
820	3	1	1,110	36.50	833	6	10	11,111,100	127.50



UNMOUNTED DECADE RESISTANCES

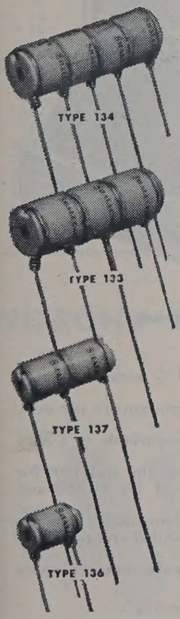


In response to a demand from engineers, manufacturers and physicists who design and construct their own electrical measuring instruments, we have made the Shallcross Unmounted Decade Resistances available. They are of the same construction as those used in the popular Shallcross Resistance Decades described above and consist of ten Shallcross Resistors mounted on a ceramic instrument switch.

SPECIFICATIONS

Type No.	Total Resistance Ohms	Unit Resistance Ohms	Switch No.	Accuracy	Price
435	1.0	.1	536	1.0%	$9.00
436	10	1.0	531	0.25%	9.00
437	100	10	531	0.1	9.00
438	1,000	100	531	0.1	9.00
439	10,000	1,000	531	0.1	12.00
440	100,000	10,000	531	0.1	14.00
441	1 Meg.	100,000	531	0.1	22.50
442	10 Meg.	1 Meg.	531	0.1	45.00

Mounting: Single ⅜″ Hole Mounting—Panels Up to 3/16″ Thick. Any of the above may be obtained with aluminum dust cover and shield at $1.50 additional cost.



SHALLCROSS AKRA-OHM PRECISION RESISTORS

for "Miniaturization" applications

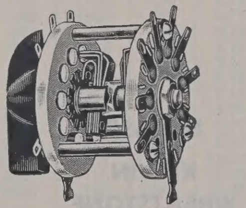
UNUSUAL ACCURACY IN SMALL SPACE

These new Shallcross Okra-Ohm Wire-Wound Precision Resistors have been designed to meet the needs of modern, miniature equipment. Standard tolerance is 1%. Closer tolerances can be furnished on special order.

The units offer unusually high and accurate resistance values in small space and are light enough to be suspended by their own tinned copper leads, or may be secured with mounting screw.

Type	Sections	Size	Watts	Maximum Resistance per section Ohms	Minimum Resistance per section Ohms
136	1	13/32″ x ¼″	0.25	150,000	1.
137	2	45/64″ x ¼″	0.25	150,000	1.
133	3	1 5/32″ x ⅜″	0.25	550,000	1.
134	4	1¼″ x ⅜″	0.25	375,000	1.

Prices on application.



SHALLCROSS ROTARY SELECTOR SWITCHES

Like other Shallcross instrument components, these Rotary Selector Switches are designed to cover a very wide field of application in both shorting and non-shorting types, and can be modified to control a variety of circuits. Details on any type for practically any application on request. Suffixes B and S denote Brass and Silver contacts and contact arms.

Poles	Positions	Contact Plate Material	Shorting	Non-Shorting
1	11	Steatite	4605-B	4610-B
2	11	Steatite	4620-B	4615-B
1	11	Steatite	4605-S	4610-S
2	11	Steatite	4620-S	4615-S
1	12	Bakelite	5550-B	5620-B
1	12	Bakelite	5550-S	5620-S
1	15	Steatite	5610-B	4225-B
2	15	Steatite	5615-B	4980-B
1	15	Steatite	5610-S	4225-S
2	15	Steatite	5615-S	4980-S
1	18	Steatite	5155-B	5625-B
1	18	Steatite	5155-S	5625-S
1	24	Bakelite	5630-B	5570-B
1	24	Bakelite	5630-S	5570-S
1	36	Bakelite	4815-B	4850-B
1	36	Bakelite	4815-S	4850-S
1	48	Bakelite	4640-B	
1	48	Bakelite	4640-S	
1	60	Bakelite		5935-B
1	60	Bakelite		5935-S

Large Rotating Tap Switch—12 Brass Contacts—number 2240-2 Shorting only

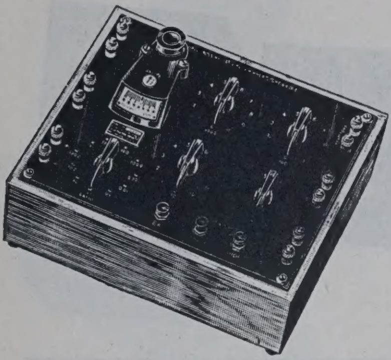
Prices on application.

ELECTRICAL
INSTRUMENTS
•
RESISTORS
•
VARIABLE
ATTENUATORS
•
SWITCHES

SHALLCROSS MANUFACTURING CO.

COLLINGDALE, PENNSYLVANIA

SHALLCROSS D-C BRIDGES



No. 638-2-4

KELVIN WHEATSTONE BRIDGE

Resistance range 0.0001 ohm to 11.11 megohms

SPECIFICATIONS

ACCURACY—0.3% between 1.0 ohm and .1111 megohms. Below and above this range—2%.

GALVANOMETER—Built-in—sensitivity 1 micro-ampere per millimeter division.

RHEOSTAT ARM—Four decades—1.0 ohm steps in Wheatstone and 1.0 micro-ohm steps in Kelvin ranges.

RESISTANCE BOX—Binding posts allow using rheostat as Resistance Box.

SEPARATE KEYS—Provided for battery and galvanometer circuits.

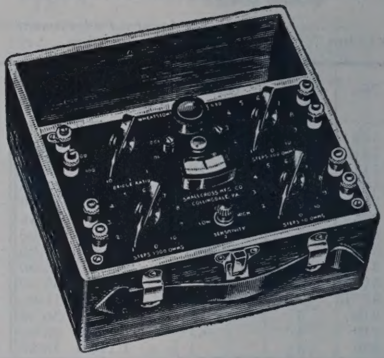
CASE—Carrying type with removable cover (not illustrated) and compartment for 4½ volt battery (not supplied) for Wheatstone range measurements.

DIMENSIONS—Length 12¼″, width 10⅛″, height 6½″.

WEIGHT—Approx. 9 lbs. Price $195.00.

No. 630

WHEATSTONE BRIDGE



Resistance range from 0.1 ohm to 11.1 megohms

SPECIFICATIONS

ACCURACY—1.0% between 10 ohms and 1.0 megohm—2% over 1 megohm.

COMPONENT RESISTORS—0.1% accurate except 1 ohm, which are 0.25%.

RHEOSTAT ARM—Three decades—variable in 10.0 ohm steps.

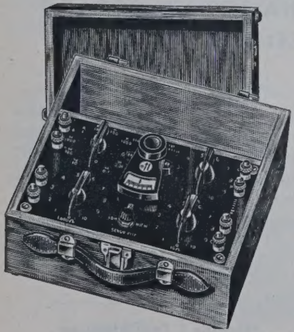
RESISTANCE BOX—Binding posts allow using rheostat as Resistance Box.

CAM SWITCH—Provided for battery and galvanometer circuits.

CASE—Carrying type with removable cover and compartment for batteries and leads (not supplied).

DIMENSIONS—Length 10″, width 9¾″, height 5¼″.

WEIGHT—Approx. 6 lbs. Price $110.00.



No. 637

KELVIN WHEATSTONE BRIDGE

Resistance range 0.001 ohm to 11.1 megohms

SPECIFICATIONS—Same as No. 638-2 except:

ACCURACY—1.0% between 1.0 ohm and 1.0 megohm; 2.0% above 1.0 megohm; and 3.0% below 0.1 ohm.

GALVANOMETER—Sensitivity 1.0 micro-ampere per millimeter division. Built-in.

RHEOSTAT ARM—Three decades—10 ohm steps in Wheatstone and 10 micro-ohm steps in Kelvin ranges.

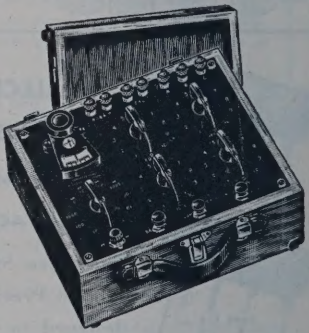
CANNOT be used as Resistance Box.

DIMENSIONS—Length 10″, width 9¾″, height 5¼″.

WEIGHT—Approx. 7 lbs. Price $140.00.

No. 629

FAULT LOCATION BRIDGE



Resistance range 0.1 ohm to 11.11 megohms

SPECIFICATIONS

ACCURACY—COMPONENT RESISTORS—0.1% accurate except 1.0 ohm, which are 0.25%.

GALVANOMETER—Built-in—sensitivity 1.0 micro-ampere per mm. division.

RHEOSTAT ARM—Four decades—11,110 ohms—variable in 1 ohm steps.

RATIO DIAL—Marked 0.001, 0.01, 0.1, 1.0, 10.0, 100 and 1000 for resistance measurements and Varley tests. M1, M 10, M 100 and M 1000 for Murray tests.

SEPARATE KEYS—Provided for battery and galvanometer circuits.

CASE—Carrying type with removable cover, concealed compartment for 4½ volt battery (not supplied).

BINDING POSTS—Provided for use of external galvanometer where required.

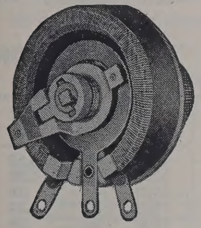
DIMENSIONS—Length 10⅜″, width 8⅝″, height 5⅝″.

WEIGHT—Approx. 7 lbs. Price $130.00.

VOLTAGE DIVIDERS (DECADE POTENTIOMETERS)

No.	Dials	Total Resistance	Price	No.	Dials	Total Resistance	Price
835	4	10,000 ohms	**$100.00**	845	3	1,000 ohms	**$74.00**
836	4	100,000 ohms	**110.00**	846	3	10,000 ohms	**79.50**
837	4	1,000 ohms	**95.00**	850	3	100,000 ohms	**92.50**

VITROHM RING TYPE RHEOSTATS



The core and base of Ward Leonard Ring Type Rheostats are made of the highest grade ceramic materials. The resistance wire is wound toroidally on the core, and is coated with a tough, heat resistant, acid resistant, crazeless vitreous enamel.

The contact is a special alloy and is of large area to avoid sticking, pitting, local heating, or oxidation when setting remains fixed for a long period of time.

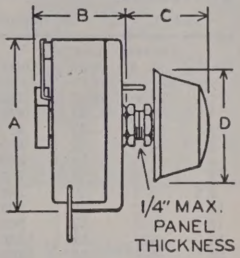
Watt Ratings

Based on continuous operation in free air with a temperature rise not to exceed 300° C, which is within the limits specified by Underwriters' Laboratories and NEMA.

Number of Steps

Each turn of resistance wire on the core of a Vitrohm Ring Type Rheostat constitutes a step of change in the resistance value.

Vitrohm Ring Type Rheostats are made with three terminals with no "off" position, and can be used as potentiometers or rheostats, as desired. Rheostats with an "off" position can be furnished on special order.



Heavy Duty Rheostats

Pressed steel plate type.

300 watts — 1 to 2500 ohms, 20 steps, 6″ diameter.
500 watts — 1 to 5000 ohms, 33 steps, 8″ diameter.

25 WATTS Type 25R

Dimensions
A — 1 9/16″
B — 1 3/16″
C — 1″
D — 1 1/8″

Ohms	Current m. a.	Approx. No. of Steps	List Price
0.5	7070	27	$5.85
1	5000	27	5.85
2	3540	27	5.20
3	2880	27	5.20
6	2040	81	5.20
8	1770	90	5.20
10	1580	90	5.20
15	1280	103	5.20
25	1000	103	5.20
35	840	108	5.20
50	707	137	5.20
75	574	137	5.20
100	500	171	5.20
150	407	171	5.20
250	316	240	5.20
350	267	274	5.20
500	223	308	5.20
750	181	308	5.20
1000	158	390	5.85
1500	128	376	5.85
2500	100	520	5.85
3500	84	520	6.18
5000	70	520	6.18

50 WATTS Type 50R

Dimensions
A — 2 5/16″
B — 1 5/16″
C — 1 1/8″
D — 1 1/2″

Ohms	Current m. a.	Approx. No. of Steps	List Price
0.5	10000	30	$6.50
1	7070	49	6.50
2	5000	49	6.50
4	3540	59	5.85
6	2880	108	5.85
8	2500	113	5.85
10	2230	150	5.85
15	1810	150	5.85
25	1415	188	5.85
35	1190	119	5.85
50	1000	188	5.85
75	812	188	5.85
100	707	225	5.85
150	574	225	5.85
250	447	300	5.85
350	374	338	5.85
500	316	375	5.85
750	256	450	6.18
1000	223	450	6.18
1500	181	570	6.18
2500	141	570	6.18
3500	119	713	6.50
5000	100	713	6.50
7500	81	855	6.50
10000	70	998	6.50

100 WATTS Type 100R

Dimensions
A — 3 5/32″
B — 1 3/4″
C — 1 1/8″
D — 1 1/2″

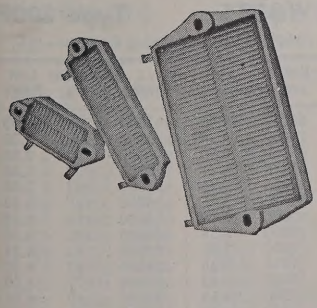
Ohms	Current m. a.	Approx. No. of Steps	List Price
0.5	14100	41	$9.75
1	10000	41	9.75
2	7070	41	9.75
3	5740	72	9.75
5	4470	82	9.75
7.5	3640	82	9.10
10	3160	72	9.10
15	2560	156	9.10
25	2000	196	9.10
50	1415	274	9.10
75	1150	313	9.10
100	1000	274	9.10
200	707	313	9.10
300	574	353	9.10
400	500	392	9.10
500	447	392	9.10
750	364	464	9.10
1000	316	470	9.75
2000	223	595	9.75
2500	200	744	9.75
5000	141	893	10.40
7500	115	893	11.05
10000	100	1041	11.70

150 WATTS Type 150R

Dimensions
A — 3 13/16″
B — 2″
C — 1 1/8″
D — 1 1/2″

Ohms	Current m. a.	Approx. No. of Steps	List Price
0.5	17320	43	$12.35
1	12240	43	12.35
2	8660	43	12.35
3	7070	54	12.35
5	5470	107	12.35
7.5	4470	107	12.35
10	3870	107	11.70
15	3160	107	11.70
25	2440	204	11.70
50	1730	245	11.70
75	1415	286	11.70
100	1224	367	11.70
200	866	326	11.70
300	707	408	11.70
400	612	408	11.70
500	547	489	11.70
750	447	489	12.35
1000	387	620	12.35
2000	273	775	13.00
2500	244	775	13.00
5000	173	930	13.65
7500	141	1240	14.30
10000	122	1240	15.60

VITROHM PLAQUE RESISTORS



Vitrohm Plaque Resistors are flat in form. The resistance wire is arranged on a rectangular ceramic base to give the lowest obtainable values of inductance and distributed capacitance. Inductance at frequencies up to 1000 kilocycles and distributed capacitance up to 5 megacycles are so low in value that they are negligible.

Vitrohm Plaque Resistors are rated 20, 40, and 125 watts with full ventilation. Since full ventilation is usually impossible to attain, the watt rating should be decreased to compensate for the reduction in ventilation. A single plaque resistor mounted on a panel should operate safely about 80% of the full watt rating.

	20 WATTS TYPE 20P		40 WATTS TYPE 40P		125 WATTS TYPE 125P	
Ohms	Current m. a.	List Price	Current m. a.	List Price	Current m. a.	List Price
0.64	5590	$1.95	7910	$2.60	14000	$3.90
1.00	4470	1.95	6320	2.60	11200	3.90
1.6	3540	1.95	5000	2.60	8800	3.90
2.5	2830	1.95	4000	2.60	7050	3.90
4.0	2240	1.95	3160	2.60	5600	3.90
6.4	1770	1.95	2500	2.60	4400	3.90
10	1415	1.95	2000	2.60	3500	3.90
16	1120	1.95	1580	2.60	2800	3.90
25	895	1.95	1260	2.60	2200	3.90
40	705	1.95	1000	2.60	1770	3.90
50	630	1.95	895	2.60	1580	3.90
64	560	1.95	790	2.60	1400	3.90
100	445	1.95	630	2.60	1120	3.90
160	355	1.95	500	2.60	880	3.90
250	285	1.95	400	2.60	705	3.90
400	225	1.95	315	2.60	560	3.90
640	175	1.95	250	2.60	440	3.90
1,000	140	1.95	200	2.60	350	3.90
1,600	110	1.95	160	2.60	280	3.90
2,500	90	1.95	125	2.60	220	3.90
4,000	70	1.95	100	2.60	177	3.90
5,000	65	1.95	90	2.60	158	3.90
6,400			80	2.60	140	3.90
10,000			65	2.60	112	3.90

WARD LEONARD · VITROHM RESISTORS and RHEOSTATS

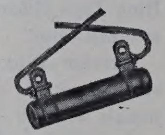
VITROHM FIXED RESISTORS

Wire wound resistors, sturdy construction, using low temperature coefficient materials. Coated with Ward Leonard's own crazeless Green Enamel.

5 WATTS Type 5F

Size 1" x 5/16" No Mounting Brackets

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	2230	$0.52	350	119	$0.52
1.5	1820	.52	400	112	.52
2	1580	.52	450	105	.52
3	1290	.52	500	100	.52
4	1117	.52	600	91	.52
5	1000	.52	700	84	.52
7.5	811	.52	750	81	.52
10	707	.52	800	79	.52
12	644	.52	900	74	.52
15	577	.52	1000	70	.52
20	500	.52	1100	67	.52
25	450	.52	1200	64	.52
30	408	.52	1250	63	.52
35	378	.52	1500	57	.52
40	353	.52	1750	53	.52
50	316	.52	2000	50	.52
75	257	.52	2250	47	.52
100	223	.52	2500	45	.52
125	200	.52	3000	40	.52
150	182	.52	3500	37	.52
200	158	.52	4000	35	.52
250	141	.52	4500	33	.52
300	129	.52	5000	31	.52



5-watt, 10-watt, 20-watt

Types 5F, 10F, and 20F are furnished with wire terminal leads — no brackets.

Order by Type Number and Resistance Value.

10 WATTS Type 10F

Size—1¾" x 5/16" No Mounting Brackets

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	3160	$0.59	150	258	$0.59	4500	47	$0.59
1.5	2580	.59	200	224	.59	5000	45	.59
2	2235	.59	225	211	.59	6000	41	.59
3	1825	.59	250	200	.59	7000	38	.59
4	1580	.59	300	182	.59	7500	36	.59
5	1415	.59	350	169	.59	8000	35	.59
7.5	1155	.59	400	158	.59	8500	34	.59
10	1000	.59	450	149	.59	9000	33	.59
12	913	.59	500	142	.59	10000	30	.59
15	815	.59	600	129	.59	11000	27	.65
20	707	.59	700	120	.59	12000	25	.65
25	630	.59	750	115	.59	12500	24	.65
30	577	.59	800	110	.59	13500	22	.65
35	534	.59	900	105	.59	14300	21	.65
40	500	.59	1000	100	.59	15000	20	.65
50	450	.59	1100	95	.59	16000	19	.65
75	365	.59	1200	91	.59	17500	17	.65
100	316	.59	1250	89	.59	18000	16	.65
125	283	.59	1500	81	.59	20000	15	.65
			1750	75	.59	22500	13	.65
			2000	70	.59	25000	12	.65
			2250	66	.59	30000*	13	.65
			2500	63	.59	35000*	12	.65
			3000	58	.59	40000*	11	.65
			3500	53	.59	45000*	10.5	.65
			4000	50	.59	50000*	10	.65

*Operated at Low Temperature. Rated 5 Watts.

20 WATTS Type 20F

Size 2" x 9/16" No Mounting Brackets

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	4480	$0.91	2500	90	$0.91
3	2580	.91	2750	85	.91
5	2000	.91	3000	80	.91
10	1410	.91	3500	76	.91
15	1150	.91	4000	70	.91
25	900	.91	4500	67	.91
50	630	.91	5000	63	.91
75	510	.91	6000	55	.91
100	450	.91	7000	53	.91
150	365	.91	7500	51	.91
175	340	.91	8000	50	.91
200	320	.91	10000	40	.91
250	285	.91	12500	32	.91
300	258	.91	15000	27	.91
350	240	.91	20000	20	1.11
400	220	.91	25000	16	1.11
500	200	.91	30000	13	1.11
650	175	.91	35000	11	1.11
700	169	.91	40000	10	1.11
750	160	.91	45000	9	1.11
800	155	.91	50000	8	1.11
850	153	.91	55000	7	1.43
1000	141	.91	60000*	10.8	1.43
1200	130	.91	65000*	10.5	1.43
1250	125	.91	70000*	10.0	1.43
1500	115	.91	75000*	9.5	1.43
1750	107	.91	80000*	9.3	1.43
1850	104	.91	85000*	9.1	1.43
2000	100	.91	90000*	8.8	1.43
2250	94	.91	95000*	8.6	1.43
2400	91	.91	100000*	8.4	1.43

*Operated at Low Temperature. Rated 7 Watts.

HEAVY DUTY RESISTORS

Mounting brackets and lug type terminals

25 WATTS Type 25F

Size—2" x ⅝" Mounting Centers—2⅝"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	5000	$1.04	2000	112	$1.04
2	3535	1.04	2500	100	1.04
3	2890	1.04	3000	90	1.04
4	2500	1.04	3500	85	1.04
5	2235	1.04	4000	80	1.04
10	1580	1.04	5000	70	1.04
15	1290	1.04	6000	65	1.17
25	1000	1.04	7500	53	1.17
50	710	1.04	8500	47	1.17
75	580	1.04	10000	40	1.17
100	500	1.04	12000	33	1.17
150	410	1.04	15000	27	1.17
200	354	1.04	20000	20	1.43
250	315	1.04	25000	16	1.43
300	289	1.04	30000	13	1.43
400	250	1.04	35000	11	1.43
500	224	1.04	40000	10	1.43
750	182	1.04	50000	8	1.43
800	177	1.04	60000	6.7	1.63
850	170	1.04	70000	5.7	1.76
1000	158	1.04	75000	5.3	1.95
1250	140	1.04	80000	5	1.95
1500	129	1.04	100000	4	2.47

50 WATTS Type 50F

Size—3½" x ¾" Mounting Centers—4¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	7070	$1.56	5000	100	$1.56
2	5000	1.56	6000	91	1.82
3	4080	1.56	7500	82	1.82
4	3535	1.56	8000	79	1.82
5	3160	1.56	10000	70	1.82
10	2235	1.56	12000	64	1.82
25	1415	1.56	12500	56	1.82
50	1000	1.56	15000	47	1.82
75	815	1.56	20000	35	1.82
100	707	1.56	25000	28	1.82
150	575	1.56	30000	23	2.08
300	500	1.56	35000	20	2.08
250	445	1.56	40000	18	2.08
300	408	1.56	45000	17	2.08
400	353	1.56	50000	14	2.08
500	316	1.56	75000	9	2.08
750	258	1.56	100000	7	2.08
800	250	1.56	125000	5	2.86
1000	224	1.56	150000	4.6	3.25
1500	180	1.56	175000	4.0	3.25
2000	160	1.56	200000*	3.5	3.58
2500	141	1.56	225000*	3.1	3.58
3000	130	1.56	250000*	2.8	3.90
4000	110	1.56			

*Operated at Low Temperature. Rated 17 Watts.

100 WATTS Type 100F

Size—6½" x 1⅛" Mounting Centers—7¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	10000	$2.15	2500	200	$2.15
2	7070	2.15	3000	180	2.15
3	5770	2.15	3500	170	2.15
4	5000	2.15	4000	160	2.15
5	4470	2.15	4500	150	2.15
10	3160	2.15	5000	141	2.15
25	2000	2.15	7500	115	2.54
50	1410	2.15	10000	100	2.54
75	1150	2.15	15000	80	2.54
100	1000	2.15	20000	70	2.54
125	895	2.15	25000	60	2.54
150	815	2.15	30000	50	2.86
250	630	2.15	35000	43	2.86
500	447	2.15	40000	37	2.86
750	365	2.15	50000	30	2.86
1000	316	2.15	60000	25	3.25
1250	285	2.15	70000	21	3.25
1500	260	2.15	75000	20	3.25
2000	225	2.15	100000	15	3.58

160 WATTS Type 160F

Size—8½" x 1⅛" Mounting Centers—9¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	12650	$3.77	2500	252	$2.86
2	8940	3.45	3000	230	2.86
3	7300	3.25	3500	215	2.86
4	6320	3.06	4000	200	2.86
5	5650	2.86	4500	185	2.86
10	4000	2.86	5000	178	2.86
15	3265	2.86	7500	146	2.86
25	2525	2.86	10000	126	2.86
50	1785	2.86	15000	105	3.45
75	1460	2.86	20000	90	3.45
100	1265	2.86	25000	80	3.45
150	1035	2.86	30000	67	3.45
200	894	2.86	35000	57	3.45
250	800	2.86	40000	50	3.45
500	565	2.86	50000	40	3.45
750	460	2.86	60000	33	3.90
1000	400	2.86	75000	26	3.90
1500	326	2.86	80000	25	3.90
2000	280	2.86	100000	20	3.90

200 WATTS Type 200F

Size—10½" x 1⅛" Mounting Centers—11¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	14140	$4.68	3500	240	$3.58
2	10000	4.36	4000	225	3.58
3	8162	4.03	4500	210	3.58
4	7070	3.77	5000	200	3.58
5	6325	3.58	7500	163	3.58
10	4470	3.58	10000	141	3.58
25	2825	3.58	15000	115	4.29
50	2000	3.58	20000	100	4.29
75	1630	3.58	25000	90	4.29
100	1414	3.58	30000	82	4.29
150	1150	3.58	35000	71	4.29
250	900	3.58	40000	62	4.29
500	632	3.58	50000	50	4.29
750	515	3.58	60000	42	4.29
1000	447	3.58	75000	33	4.29
1500	365	3.58	100000	25	4.29
2000	315	3.58	125000	20	4.29
2500	282	3.58	150000	16	4.29
3000	260	3.58			

ADJUSTABLE RESISTORS -- ADJUSTOHMS

Adjustohm Resistors are for use in any application where it is necessary or desirable to have one or more intermediate resistance values; or in circuits that need to be changed from time to time to meet varying electrical conditions.

Adjustohm Resistors are built of the highest grade low temperature coefficient materials, and are coated with Ward Leonard's tough crazeless Vitreous Enamel.

10 WATTS Type 10A

Size—1¾" x 5⁄16" No Mounting Brackets

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	3160	$0.98	750	115	$0.98
2	2235	.98	800	110	.98
3	1825	.98	1000	100	.98
5	1415	.98	1250	89	.98
7.5	1155	.98	1500	81	.98
10	1000	.98	2000	70	.98
15	815	.98	2500	63	.98
20	707	.98	3000	58	.98
25	630	.98	3500	53	.98
50	450	.98	4000	50	.98
75	365	.98	4500	47	.98
100	316	.98	5000	45	.98
150	258	.98	6000	41	.98
200	224	.98	7000	38	.98
250	200	.98	7500	36	.98
300	182	.98	8000	35	.98
350	169	.98	8500	34	.98
400	158	.98	9000	33	.98
500	142	.98	10000	30	.98
600	129	.98			

50 WATTS Type 50A

Size—4½" x ¾" Mounting Centers—5⅛"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	7070	$1.95	3000	130	$1.95
2	5000	1.95	3500	120	1.95
3	4080	1.95	4000	110	1.95
4	3535	1.95	4500	105	1.95
5	3160	1.95	5000	100	1.95
10	2235	1.95	6000	91	2.15
25	1415	1.95	7000	85	2.15
50	1000	1.95	7200	83	2.15
75	815	1.95	7500	82	2.15
100	707	1.95	8000	79	2.15
150	575	1.95	9000	75	2.15
200	500	1.95	10000	71	2.15
250	445	1.95	12000	64	2.15
300	408	1.95	15000	58	2.15
400	353	1.95	20000	48	2.15
500	316	1.95	25000	40	2.15
750	258	1.95	30000	33	2.47
800	250	1.95	40000	25	2.47
1000	224	1.95	50000	20	2.47
1250	200	1.95	60000	17	2.86
1500	180	1.95	75000	13	2.86
2000	160	1.95	80000	12	2.86
2250	150	1.95	100000	10	2.86
2500	141	1.95			

160 WATTS Type 160A

Size—8½" x 1⅛" Mounting Centers—9¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	12650	$4.68	3000	230	$3.58
2	8940	4.36	3500	215	3.58
3	7300	4.03	4000	200	3.58
4	6320	3.77	4500	185	3.58
5	5650	3.58	5000	178	3.58
10	4000	3.58	7500	146	3.58
15	3265	3.58	10000	126	3.58
25	2525	3.58	15000	105	4.16
50	1785	3.58	20000	90	4.16
100	1265	3.58	25000	80	4.16
200	894	3.58	30000	67	4.16
250	800	3.58	40000	50	4.16
500	565	3.58	50000	40	4.16
1000	400	3.58	60000	33	4.55
1500	326	3.58	75000	26	4.55
2000	280	3.58	80000	25	4.55
2500	259	3.58	100000	20	4.55

25 WATTS Type 25A

Size—2" x ⅝" Mounting Centers—2⅝"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	5000	$1.24	1250	140	$1.24
2	3535	1.24	1500	129	1.24
3	2890	1.24	2000	112	1.24
5	2230	1.24	2250	105	1.24
7.5	1825	1.24	2500	100	1.24
10	1580	1.24	3000	90	1.24
15	1290	1.24	3500	85	1.24
20	1115	1.24	4000	80	1.24
25	1000	1.24	4500	74	1.24
50	710	1.24	5000	70	1.24
75	580	1.24	6000	65	1.43
100	500	1.24	7000	57	1.43
150	410	1.24	7200	56	1.43
200	354	1.24	7500	53	1.43
250	315	1.24	8000	50	1.43
300	289	1.24	8500	47	1.43
400	250	1.24	9000	44	1.43
500	224	1.24	10000	40	1.43
750	182	1.24	12000	33	1.43
800	177	1.24	15000	27	1.43
850	170	1.24	20000	20	1.56
1000	158	1.24	25000	16	1.56

75 WATTS Type 75A

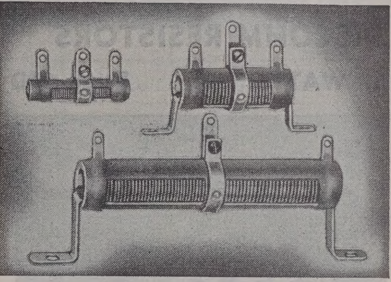
Size—6½" x ¾" Mounting Centers—7¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	8660	$2.54	3000	158	$2.54
2	6120	2.54	3500	146	2.54
3	5000	2.54	4000	137	2.54
4	4330	2.54	4500	129	2.54
5	3870	2.54	5000	122	2.54
10	2740	2.54	6000	111	2.86
15	2235	2.54	7000	103	2.86
25	1730	2.54	7200	102	2.86
50	1220	2.54	7500	100	2.86
75	1000	2.54	8000	97	2.86
100	866	2.54	9000	91	2.86
200	612	2.54	10000	87	2.86
250	550	2.54	15000	71	2.86
300	500	2.54	20000	61	2.86
400	433	2.54	25000	55	2.86
500	387	2.54	30000	50	3.25
750	315	2.54	35000	43	3.25
800	305	2.54	40000	37	3.25
1000	274	2.54	45000	33	3.25
1250	245	2.54	50000	30	3.25
1500	224	2.54	60000	25	3.58
2000	195	2.54	70000	21	3.58
2250	183	2.54	80000	19	3.58
2500	173	2.54	100000	15	3.58

200 WATTS Type 200A

Size—10½" x 1⅛" Mounting Centers—11¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	14140	$5.59	4000	225	$4.29
2	10000	5.20	4500	210	4.29
3	8160	4.88	5000	200	4.29
4	7070	4.55	7500	163	4.29
5	6320	4.29	10000	141	4.29
10	4470	4.29	15000	115	5.01
25	2825	4.29	20000	100	5.01
50	2000	4.29	25000	90	5.01
100	1414	4.29	30000	82	5.01
250	900	4.29	40000	62	5.01
500	632	4.29	50000	50	5.01
1000	447	4.29	60000	42	5.01
1500	365	4.29	75000	33	5.01
2000	315	4.29	100000	25	5.01
2500	282	4.29	125000	20	5.33
3000	260	4.29	150000	16	5.33
3500	240	4.29			



WATT RATINGS

Nominal watt ratings for Adjustohm Resistors apply when the entire resistor is in the circuit. For most practical purposes the watt rating for each part of the resistor is approximately proportional to the amount of the resistance that is in the circuit.

Mounting brackets are furnished with all Adjustohm Resistors, except the 10-watt size, Type 10A.

Price of resistor includes brackets and one adjustable band.

100 WATTS Type 100A

Size—6½" x 1⅛" Mounting Centers—7¼"

Ohms	Current m. a.	List Price	Ohms	Current m. a.	List Price
1	10000	$2.86	2500	200	$2.86
2	7070	2.86	3000	180	2.86
3	5770	2.86	4000	160	2.86
4	5000	2.86	4500	150	2.86
5	4470	2.86	5000	114	2.86
10	3160	2.86	6000	130	3.25
25	2000	2.86	7500	115	3.25
50	1410	2.86	10000	100	3.25
100	1000	2.86	15000	80	3.25
200	707	2.86	20000	70	3.25
250	630	2.86	25000	60	3.25
400	500	2.86	30000	50	3.58
500	447	2.86	40000	37	3.58
750	365	2.86	50000	30	3.58
1000	316	2.86	60000	25	3.90
1500	260	2.86	75000	20	3.90
2000	225	2.86	100000	15	3.90

ADJUSTABLE BANDS

Each Adjustohm Resistor is furnished with one Screw - Driver Type Adjustable Band Terminal (at right in illustration).

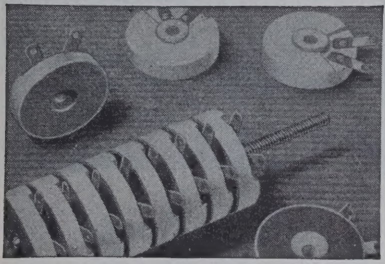
Additional band terminals are available. See list in the accompanying table.

Size of Resistor	Screw Driver Type		Bakelite Knob Type	
	Cat. No.	Price	Cat. No.	Price
10 Watts	507-685	$0.13	....	
25 Watts	507-686	.13	507-691	$0.20
50 Watts	507-688	.13	507-693	.20
75 Watts	507-688	.13	507-693	.20
100 Watts	507-690	.20	507-695	.33
160 Watts	507-690	.20	507-695	.33
200 Watts	507-690	.20	507-695	.33

WARD LEONARD • VITROHM RESISTORS and RHEOSTATS

DISCOHM RESISTORS

18 WATTS Type 18D



Discohms are flat refractory discs having resistance wire arranged to minimize the values of inductance and distributed capacitance.

Discohm Resistors are especially useful in equipments where space is limited and where a power resistor having low value of inductance and distributed capacitance is required.

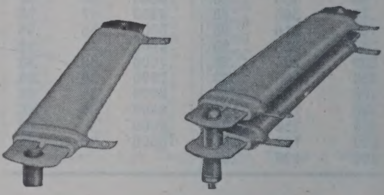
They are mounted by means of a No. 8 wood screw or bolt through the countersunk hole cast in the refractory base. Two or more units can be mounted together to obtain various resistance values and watt ratings.

Discohm Resistors are rated at 18 watts with free ventilation. A single Resistor mounted on a panel should operate safely at 80% of the full watt rating or 90% of the full current rating.

Ohms	Current m. a.	List Price
1.0	4240	$1.95
1.6	3350	1.95
2.5	2680	1.95
4.0	2120	1.95
6.4	1680	1.95
10	1340	1.95
16	1060	1.95
25	850	1.95
40	670	2.21
64	530	2.21
100	420	2.21
160	335	2.34
250	268	2.34
400	212	2.34
640	168	2.34
1000	134	2.34
1600	106	2.34
2500	85	2.34
4000	67	2.34

VITROHM STRIP RESISTORS

Vitrohm Strip Resistors lend themselves readily to applications where space is limited, such as aircraft control circuits, radio instruments, and similar apparatus.

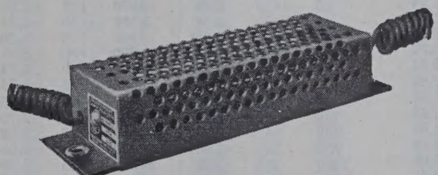


Vitrohm Strip Resistors are built on a strong flat reinforced core that has no sharp angular surfaces, providing a smooth continuous form of the resistance winding. The resistors are vitreous enamel coated.

Each unit is fitted with a self-sustained mounting bracket and spacer, the end pieces being riveted to a metal strip that passes through the core and serves as a conductor for the internal heat generated while the resistor is in service.

LENGTH (Inches)		RESISTANCE		Watt Rating
Resistor Body	Mounting Holes	Min. Ohms	Max. Ohms	
1¼	2	0.45	6,300	30
2	2¾	0.50	15,800	40
3½	4¼	0.70	35,000	55
4¾	5½	1.00	50,000	65
6	6¾	1.40	66,000	75

FLUORESCENT LAMP RESISTORS



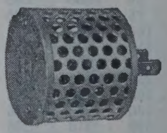
Ward Leonard Fluorescent Lamp Resistors are designed for use in buorescent lamps operating on direct current. They meet the requirements of lamp and fixture manufacturers and are listed as standard by the Underwriters' Laboratories, Inc., and by the New York City Department of Water Supply, Gas and Electricity.

Ward Leonard Fluorescent Lamp Resistors are mounted in well-ventilated metal enclosures for installation on standard fixtures. They are made for use on 115-volt, 120-volt and 220-volt circuits and in various resistance values to meet the requirements of the lamps with which they are to be used.

Long, flexible asbestos covered leads facilitate connections.

Plug-In Type

For Portable Fixtures



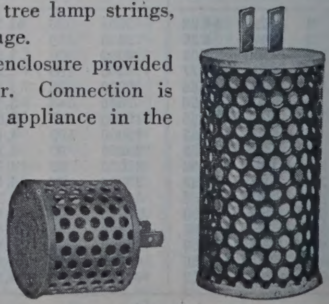
Ward Leonard also provides a Fluorescent Lamp Resistor in a metal enclosure for use with portable lamps operating on 120-volt circuits. It is fitted with a plug on one end for inserting into the line receptacle and a receptacle on the other end into which the plug on the figure is placed.

The Plug-In Resistor is made for use on 15-watt and 20-watt lamp fixtures.

LINE VOLTAGE REDUCERS

Ward Leonard Line Voltage Reducers protect radio sets, soldering irons, Christmas tree lamp strings, and other electrical appliances within the ratings of the Reducers, from high line voltage.

Line Voltage Reducers consist of a resistor network encased in a perforated metal enclosure provided with standard parallel prongs on one end and a standard receptacle on the other. Connection is made by plugging the Reducer into a receptacle and then inserting the plug on the appliance in the receptacle on the enclosure.



Catalog Number	Length Inches	Resis. Ohms	Load	List Price
507-109	1½	25.	For 35-65 watt 115 volt radio set on 115-140 volts....	$2.28
507-109A	1½	10.	For 65-130 watt 115 volt radio set on 115-140 volts...	2.28
507-109B	2¼	4.5	For 130-285 watt 115 volt radio set on 115-140 volts..	2.73
507-109H	5¼	300.	For 60-watt 115 volt radio set on 230 volts..........	3.58

AUTOMATIC AMPERITE REGULATOR

BALLAST TUBE FOR AUTOMATIC REGULATION OF CURRENT AND VOLTAGE

AUTOMATIC
REGULATOR
AMPERITE
BALLAST RESIS
FOR AUTOMATIC R
ULATION OF CURRE
AND VOLTAGE

AMPERITE is an automatic rheostat designed to keep the current in a circuit at a definite value, for example, 0.5 amps. Should the supply voltage increase, the Amperite will automatically increase in resistance enough to take up the increase in supply voltage — keeping the voltage on the load constant.

PRICES: The proper AMPERITE Replacement may be determined by looking up the number under column "FOR" and noting corresponding Amperite in the column "USE AMPERITE". Numbers in "FOR" column run consecutively and then alphabetically.

★The letter code in the center column is interpreted as follows:

a—For 110V. A.C.-D.C. Sets..............List Price $1.25
b—For 2V. Battery Sets.............................. 2.25
c—For 110V. A.C. Sets.............................. 2.25
h—For 220V. A.C.-D.C. Sets......................... 2.25
r—For 110V. A.C. Sets having 70-95V. Primary....... 1.25
s—For special apparatus............................ 3.00

A C. - D. C. SETS

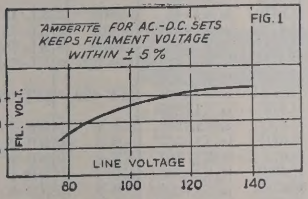


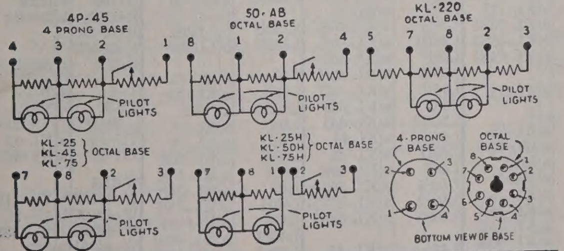
FIG. 1

For A.C.-D.C. Sets

The Amperite Regulators are designed to pass only 0.3A through tube filaments. Filament voltages will be kept within ±5% with line voltage variations of 85 to 140 volts. Due to the fact that Amperite is a real regulator, 2 types of Amperite with four prongs and 2 with octal bases will replace 150—90% of all—so-called ballasts or resistors used in AC.-D.C. sets. No extra resistor required.

Pilot Lights—None, one or two of either 0.150A or 0.250A can be used with same Amperite. Should a pilot light burn out, the set will continue to operate properly without any damage to the Amperite, tubes or other parts. The patented starting resistor in the Amperite prevents overloading and premature burning-out of tubes and pilot lights.
In some sets the ballast socket is purposely wired in such a way that the Pilot Light Resistors of standard ballasts would be burned out if inserted. In such sets special Amperites are required, as shown in table. Avoid burnouts—use proper Amperite.

BASE WIRING OF AMPERITES FOR A.C.-D.C. SETS



AMPERITES
FOR 2-VOLT BATTERY SETS

Two-volt tube filaments are delicate and easily overloaded. Keeping the tube filaments at their proper voltage with a real regulator like Amperite invariably results in considerably more battery and tube life. The same Amperite can be used for dry cell, air cell, or 2 volt storage battery operation. The proper Amperite is determined by the total filament-current drain of the set. e.g.—for 0.5A use Amperite 5E1. etc

REPLACEMENT REGULATORS—A.C.-D.C. SETS. List $1.25

Amperite No.	Amperite Numbers Shown Replace All A.C.-D.C. Ballasts		
	Starting With Letter	With Numbers From	Ending In
KL.25 # **KL.45** **KL.75**	K, L, M or BK BL or BM	10 to 36 36 " 67 67 " 105	A, B, C, or D " "
KL.25H **KL.50H** **KL.75H**	K, L, M, or BK " "	11 to 26 36 " 67 67 " 105	F, G, or H " "
KL.50S1 **KL.50S2** **KL.50S3**	K or L " "	40 to 100 " "	S1 S2 S3
KL.50E	"	36 " 67	E

Except K18B, use Amperite K18B—4Prong Base.

For	*	Use Amperite
.0C2	a	R300
.03G	a	.03G
.038	r	11-20
.042	b	5E1
1-1	r	1-1
1A1	b	5E1
1A2	b	30
1A-10	s	1A-10
1B1	b	3H1
1B2	b	31
1C1	b	7H1
1C2	b	52
1D1	b	2H-1
1D2	b	1D2
1E1	b	5E1
1E2	b	1E2
1F1	b	7-1
1G1	b	4-1
1H-1	b	1H-1
1J1	b	6-1
1K1	b	5H-1
1L1	b	1L1
1N1	b	1N1
1P1	b	1P1
1Q1	b	1Q1
1R1	b	1R1
1S1	b	1S1
1T1	b	1T1
1U1	b	1U1
1V1	b	5H-1
1W1	b	1W1
1Y1	b	
1Z1	b	9-1
2	a	2
2-1	b	2-1
2A10	c	2A10
2CR-241	a	KL-45
2LR-212	a	50AB
2M2	s	2M2
2UR-215	a	KL-45
2UR-224	a	KL-45
2H-1	b	1D1
2H-2E	b	2H-2E
2H-10	c	2H-10
2H-20	r	2H-20
2R67	b	2R67
3	a	4P45
3-1	b	3-1
3-4	s	3-4
3T4	s	3T4
3A10	c	3A10
3-16	s	3-16
3A20	s	3A20
3-25	a	3-25
3-40	a	3-40
3-100	s	3-100
3-150	c	3-150
3-220	h	3-220
3CR-241	a	KL-45
3ER-248	a	KL-45J
3ER-249	h	3ER-249
3H-1	b	1B1
3H-2E	b	3H-2E
3H-10	r	3H-10
3H-20	r	3H-20
3H-150	c	3H-150
3H-220	c	3H-220
3MR-253	a	3MR-253
3MZ-419	a	3MZ-419
3MZ419A	a	3MZ419A
4		4
4-1	a	1G1
4A1	b	4A1
4A 10	b	4A10
4-20	c	4-20
4-150	r	4-150
	c	
4-220	c	4-220
4H-1	b	4H-1
4SR311	a	4SR311
4-TU-9	a	KL-45
5	a	5
5B	a	3-40
5-1	b	5E1
5A10	c	5A10
5-10	r	5-10
5-16	c	5-16
5-20	r	5-20
5-150	c	5-150
5-220	c	5-220
5E1	b	5E1
5H-1	b	5H-1
5H-3	s	5H-3
5H-10	c	5H-10
5H-20	r	5H-20
5H-150	c	5H-150
5H-220	c	5H-220
6	b	1F1
6-1	b	1J1
6-3	s	6-3
6-4	s	6-4
6T4	s	6T4
6H6	s	6H6
6A10	c	6A10
6-11	s	6-11
6-20	c	6-20
6-150	c	6-150
6-220	c	6-220
6AA	b	5E1
6B	a	4P45
6.125	a	KL-45J
6.126	a	KL-45J
6-128	a	KL-45J
6-129	a	KL-45J
6-130	a	6-130
6-133	a	KL-45J
6-134	a	
6-135	a	KL-45J
7	a	7
7-1	b	1F1
7A10	c	7A10
7-20	r	7-20
8	a	4P45
8-1	b	8-1
8A10	c	8A10
8-20	r	8-20
8-150	c	8-150
8-220	c	8-220
9	a	4P45
9-1	b	1Z1
9A10	c	9A10
9-20	r	9-20
9-150	c	9-150
9-220	c	9-220
9M15822	c	9M15822
9M16534	c	9M16534
9V10	c	8A5
10-1	b	10-1
10-4	s	10-4
10A 10	c	10A10
10A	a	10A
10AB	b	5H-1
10V10	c	10V10
10-20	r	10-20
10-23A	a	KL-25
10-25	c	10-25
10-150	c	10-150
10-220	c	10-220
10-610	a	10-610
11A10	c	11A10
11-20	r	11-20
12A10	c	12A10
12-20	r	12-20
12-150	c	12-150
12-220	c	12-220
13-4	s	13-4
13A10	c	13A 10
13-20	r	13-20
14A10	c	14A10
14-20	r	14-20
15A10	c	15A10
15-10	r	15-10
15-20	r	15-20
16A10	c	16A10
17-2	s	17-2
17-3	s	17-3
17A470-303	c	17A470-303
17A485-49	c	17A485-59
17A485-459	c c	17A 485-459
18-10	r	18-10
20-1	s	20-1
20-4	s	20-4
20A5	c	20A5
20-10	r	20-10
22-10	r	22-10
23-55A	a	KL-45
23-55F	a	KL-50H
23-3	s	23-3
23-55A	a	KL25
23-55B	a	KL45
23-55C	a	KL45
23-55D	a	KL45
24-4	s	24-4
30	b	1A2
30A	a	3-25
31	b	1B2
32	a	KL-50H
33AG	a	KL-25
33-310		
3,6D5	a	3,6D5
36A	a	KL-25
397021	c	397021
40	a	3-40
40W	a	3-40
40A2	a	4P45
40B2	a	4P45
40X300	a	4P45
41-7E	s	41-7E
42A	a	3-40
42A1	a	50AB
42A2	a	50AB
42B2	a	50AB
42HA	a	
45W	a	4P45
46A1	a	46A1
46B1	a	46B1
49A	a	4P45
49A1	a	50AB
49A2	a	50AB
49B2	a	50AB
50MG	a	KL50S1
50W	a	4P45
50A2	a	4P45
50A2MG	a	KL50S2
50B2	a	4P45
50B2MG	a	KL50S1
50X3	a	4P45
50X3T	a	4P45
50X300	a	4P45
52	b	1C2
55A	a	KL45
55H	a	KL50H
55LB	a	L55B
55KB	a	KL-45
60-92A	a	KL-75
60R30	a	60R30G
60R30G	a	60R30G
64.23		
67A	a	KL45
69-2027	a	3-40
69-2028	h	3-220
69-2033	a	KL-45
66-2037	a	KL-45
70	r	70
75	a	KL-75
77-109	a	77-109
77-126	a	77-126
77-127	a	77-127
77-128	a	77-128
77-181	a	77-181
80	a	4P45
80R	a	80R
85L75CC	h	85L75CC
90	r	90
92A	a	4P45
95K2	a	KL-45
98	r	9-20
100	r	9-20
100.R8	a	4P45
100-33	a	
100-37	a	KL-45J
100-38	a	KL-45J
100-46	a	100-46
100-47	a	100-47

(Continued on next page)

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s—For special apparatus.	**3.00**

For	*	Use Amperite
100-48	h	3ER249
100-49	h	3ER-249
100-52	b	1D2
100-53	b	1E2
100-55	a	100-55
100-56	a	100-56
100-57	h	3ER-249
100-58	h	3ER-249
100-59	h	3ER-249
100-60	h	3ER-249
100-61	a	100-61
100-62	a	100-62
100-63	a	100-63
100-64	h	3ER-249
100-65	h	3ER-249
100-66	h	3ER-249
100-70	a	KL-45J
100-71	a	KL-45J
100-76	a	100-76
100-77	a	100-77
100-79	a	100-79
100-81	a	100-81
101	r	9-20
105	r	9-20
110	r	11-20
115-14	a	KL-75
115-17	a	115-17
115-1S	a	115-17
115-18	a	115-18
115-19	a	115-19
115-20	a	115-20
115-22	a	KL-45
115-24	a	115-24
115-25	a	115-25
115-26	a	115-26
115-27	a	115-27
115-28	a	KL-45
115-40	a	KL-45
115-41	a	KL-45
115-42	a	KL-25
115-42A	a	115-42A
115-43	h	3ER-249
115-44	h	3ER-249
115-46	a	115-46
115-47	a	
115-49	a	115-49
115-53	a	KL-45
118	c	11A5
120R8	a	4P45
125	c	10A5
126	r	12-20
130R	a	4P45
130R8	a	4P45
130-35		
135K1	a	KL-45
135K1A	a	KL-45
135T380		
140	a	4P45
140R4	a	4P45
140R8	a	4P45
140L4	a	4P45
140L44	a	4P45
140M4	a	4P45
140M8	a	4P45
140KB	a	4P45
140KC	a	4P45
145A	a	145A
150	c	15A5
155	c	
158	r	18-10
160-32	a	KL-45
160-36	a	L55B
160-37	a	160-37
160-40	a	KL-45
160-41	a	
160-42	a	
160-43	a	
160KB	a	4P45
160R4	a	4P45
164	c	7A5
165A	a	4P45
165KB	a	4P45

For	*	Use Amperite
165KC	a	4P45
165LB	a	4P45
165LC	a	4P45
165L4	a	4P45
165L8	a	4P45
165L44	a	4P45
165M4	a	4P45
165M8	a	4P45
165R	a	4P45
165R4	a	4P45
165R8	a	4P45
165R44	a	4P45
169	c	10A5
185A	a	4P45
185KB	a	4P45
185KC	a	4P45
185L4	a	4P45
185L8	a	4P45
185L44	a	4P45
185LB	a	4P45
185LC	a	4P45
185M4	a	4P45
185M8	a	4P45
185R	a	4P45
185R4	a	4P45
185R8	a	4P45
185R44	a	4P45
192A	a	MT650
200R	a	200R
200R4	a	4P45
200R8	a	4P45
203	c	12A5
216	c	11A5
218	r	18-10
245A	a	4P45
245KB	a	4P45
245KC	a	4P45
250A	a	4P45
250KB	a	4P45
250KC	a	4P45
250L4	a	4P45
250L8	a	4P45
250M4	a	4P45
250M8	a	4P45
250R	a	250R
250R4	a	4P45
250R8	a	4P45
250T		
260		
270L4	a	4P45
270L8	a	4P45
270M4	a	4P45
270M8	a	4P45
270R4	a	4P45
270R8	a	4P45
275		
300R	a	4P45
300R4	a	4P45
313	r	13-20
314	r	14-20
315	r	15-20
320R	a	4P45
320R4	a	320R4
350R	a	320R4
380	c	380
400R	a	400R
410		
415	r	11-20
424-90	r	6-20
425	r	13-20
439	r	3H-20
444-90	r	3-20
449	r	14-20
454	r	5-20
460	r	13-20
464-90	r	8-20
464-200	r	3H-20
484-90	r	16-20
484-200	r	7-20
495K1	a	495K1
538	r	9-20
610-10	a	610-10
808-1	a	808-5
808-2	a	808-2

For	*	Use Amperite
808-4	a	808-4
808-5	a	808-5
838	r	9-20
874-R48	a	874-R48
878R48	a	878R48
1916	a	1916
3271	a	3271
3313	a	KL-45
3326	a	KL-45
3334	a	KL-45
3334A	a	KL-45
3614	a	KL-45
5184	a	5184
5459	c	5459
8593	a	KL-45
8595	a	L55B
8598	a	KL-45
8600	a	KL-25
8601	a	KL-50E
8664	a	KL-50E
81963	a	81963
81966	a	KL-45
81973	a	81973
84152	a	84152
86892-9	a	86892-9
26871	a	26871
35000	a	35000
84428	a	84428
397021	c	397021
922337-1	a	922337-1
BBR	c	BBR
B9M16-822	c	B9M16-822
BK42D	a	KL-45
BK49B	a	BK49B
BK49D	a	KL-45
BK55B	a	KL-45
BK55D	a	KL-45
Bkv51dj	a	Bkv51dj
BL42B	a	KL-45
BL42C	a	KL-45
BL42D	a	KL-45
BL49B	a	KL-45
BL49D	a	KL-45
BL55B	a	KL-45
BL55D	a	KL-45
BM42B	a	KL-45
BM42D	a	KL-45
BM49B	a	KL-45
BM49D	a	KL-45
BM55B	a	KL-45
BM55D	a	KL-45
C-9266	a	C-9266
		-
D5-10	s	D5-10
D6-10	s	D6-10
D30	a	D-35
D35	a	D35
D140	a	200R
D150	a	200R
D200	a	200R
D740	a	D740
E157		E-157
FBE-5324	a	FBE-5324
FL-55C	a	FL-55C
FM-370		
H553	a	KL-45
K11A	a	KL-25
K11B	a	KL-25
K11B2	a	25B2
K11D	a	KL-25
K11E	a	KL-25E
K11E1	a	KL-25E
K11F	a	KL-25H
K11G	a	KL-25H

For	*	Use Amperite
K11H	a	KL-25H
K11J	a	KL-25J
K17AJ	a	K17AJ
K17BJ	a	K17BJ
K17E	a	KL25E
K17R	a	K17R
K18A	a	KL25
K18B	a	K18B
K18B2	a	25B2
K18C	a	KL-25
K18D	a	KL-25
K18E	a	KL-25E
K18E1	a	KL-25E
K18F	a	KL-25H
K18G	a	KL-25H
K18H	a	KL-25H
K18J	a	KL-25J
K22A	a	KL-25
K22B	a	KL-25
K22B2	a	K22B2
K22C	a	KL-25
K22D	a	KL-25
K22E	a	KL-25E
K22E1	a	KL-25E
K22F	a	KL-25H
K22G	a	KL-25H
K22H	a	KL-25H
K22J	a	KL-25J
K23E	a	KL-25E
K23AJ	a	KL-45J
K23C	a	KL-25
K26J218	a	K26J218
K30B	a	KL-25
K30B2	a	25B2
K30C	a	KL-25
K30D	a	KL-25
K30E	a	KL-25E
K30E1	a	KL-25E
K30F	a	KL-25H
K30G	a	KL-25H
K30H	a	KL-25H
K30J	a	KL-25J
K36A	a	KL-45
K36B	a	KL-45
K36B2	a	50AB
K36C	a	KL-45
K36D	a	KL-45
K36E	a	KL-50E
K36E1	a	KL-50E
K36F	a	KL-50H
K36G	a	KL-50H
K36H	a	KL-50H
K36J	a	KL-50J
K38B2	a	K38B2
K40B	a	KL-45
K40X	a	4P45
K40Y	a	4P45
K42A	a	KL-45
K42B	a	KL-45
K42B2	a	50AB
K42B-K4	a	K42B-K4
K42C	a	KL-45
K42D	a	KL-45
K42E	a	KL-50E
K42E1	a	KL-50E
K42F	a	KL-50H
K42G	a	KL-50H
K42H	a	KL-50H
K42J	a	KL-50J
K42CG	a	4P45
K43B-2	a	KL-45
K49A	a	KL-45
K49B	a	KL-45
K49B2	a	50AB
K49C	a	KL-45
K49D	a	KL-45
K49D-10	a	KL-45
K49E	a	KL-50E
K49E1	a	KL-50E
K49F	a	KL-50H
K49G	a	KL-50H
K49H	a	KL-50H
K49J	a	KL-50J
K49CG	a	4P45
K49X	a	4P45
K49Y	a	4P45
K49S1	a	KL50S1
K49S2	a	KL-50S2
K49S3	a	KL-50S3
K52H	a	KL-50H
K55A	a	KL-45
K55B	a	L-55B
K55B2	a	50AB
K55C	a	KL-45
K55CP	a	K55CP
K55CPR	a	K55CP
K55D	a	KL-45
K55E	a	KL-50E
K55E1	a	KL-50E
K55F	a	KL-50H
K55G	a	KL-50H
K55H	a	KL-50H

For	*	Use Amperite
K55J	a	KL-50J
K55S1	a	KL-50S1
K55S2	a	KL-50S2
K55S3	a	KL-50S3
K67A	a	KL-45
K67B	a	KL-45
K67B2	a	50AB
K67BJ	a	K67BJ
K67D	a	KL-45
K67E	a	KL-50E
K67E1	a	KL-50E
K67F	a	KL-50H
K67G	a	KL-50H
K67H	a	KL-50H
K67J	a	KL-50J
K67S1	a	KL-50S1
K67S2	a	KL-50S2
K67S3	a	KL-50S3
K72B	a	KL-75
K74A	a	KL-45
K74B	a	KL-45
K74B2	a	50AB
K74C	a	KL-45
K74D	a	KL-45
K74E	a	KL-50E
K74E1	a	KL-50E
K74F	a	KL-50H
K74G	a	KL-50H
K74H	a	KL-50H
K74J	a	KL-50J
K74S1	a	KL-50S1
K74S2	a	KL-50S2
K74S3	a	KL-50S3
K75B	a	KL-75
K78B	a	KL-75
K79B	a	KL-75
K80A	a	KL-75
K80B	a	KL-75
K80B2	a	50AB
K80C	a	KL-75
K80D	a	KL-75
K80E	a	KL-50E
K80E1	a	KL-50E
K80F	a	KL-75H
K80G	a	KL-75H
K80H	a	KL-75H
K80J	a	KL-75J
K80S1	a	KL-50S1
K80S2	a	KL-50S2
K80S3	a	KL-50S3
K83747-6	a	K83747-6
K87A	a	KL-75
K87B	a	KL-75
K87B2	a	75B2
K87C	a	KL-75
K87D	a	KL-75
K87E	a	KL-75E
K87E1	a	KL-75E
K87F	a	KL-75H
K87G	a	KL-75H
K87H	a	KL-75H
K87J	a	KL-75J
K87S1	a	KL-75S1
K87S2	a	KL-75S2
K87S3	a	KL-75S3
K90B	a	KL-75
K90F	a	KL-75H
K92A	a	KL-75
K92B	a	KL-75
K92B2	a	75B2
K92C	a	KL-75
K92D	a	KL-75
K92E	a	KL-75E
K92E1	a	KL-75E
K92F	a	KL-75H
K92G	a	KL-75H
K92H	a	KL-75H
K92J	a	KL-75J
K92S1	a	KL-75S1
K92S2	a	KL-75S2
K92S3	a	KL-75S3
K95B	a	KL-75
K99A	a	KL-75
K99B	a	KL-75
K99B2	a	75B2
K99C	a	KL-75
K99D	a	KL-75
K99E	a	KL-75E
K99E1	a	KL-75E
K99F	a	KL-50H
K99G	a	KL-50H
K99H	a	KL-75H
K99J	a	KL-75J
K99S1	a	KL-75S1
K99S2	a	KL-75S2
K99S3	a	KL-75S3
K1336	a	KL-45
K150A	a	K150A
KX23B	a	60R30G
KX23R	a	878R48

For	*	Use Amperite
KX42A	a	4P45
KX42B	a	4P45
KX42C	a	4P45
KX46A	a	4P45
KX49C	a	4P45
KX55A	a	4P45
KX55B	a	4P45
KX55C	a	4P45
KX55D	a	4P45
KX74A	a	4P45
KX74B	a	4P45
KX74C	a	4P45
KY42A	a	50AB
KY42B	a	50AB
KY42C	a	50AB
KY55A	a	50AB
KY55B	a	50AB
KY55C	a	50AB
KZ49A	a	KL-50S1
KZ49B	a	KL-50S1
KZ49C	a	KL-50S2
L11A	a	KL-25
L11B	a	KL-25
L11B2	a	25B2
L11C	a	KL-25
L11D	a	KL-25
L11E	a	KL-25E
L11E1	a	KL-25E
L11F	a	KL-25H
L11G	a	KL-25H
L11H	a	KL-25H
L11J	a	KL-25J
L18A	a	KL-25
L18B	a	KL-25
L18B2	a	25B2
L18C	a	KL-25
L18D	a	KL-25
L18E	a	KL-25E
L18E1	a	KL-25E
L18F	a	KL-25H
L18G	a	KL-25H
L18H	a	KL-25H
L18J	a	KL-25J
L22A	a	KL-25
L22B	a	KL-25
L22B2	a	25B2
L22C	a	KL-25
L22D	a	KL-25
L22E	a	KL-25E
L22E1	a	KL-25E
L22F	a	KL-25H
L22G	a	KL-25H
L22H	a	KL-25H
L22J	a	KL-25J
L26CC	a	KL-25
L26CC-159	h	L26CC-159
L30A	a	KL-25
L30B	a	KL-25
L30B2	a	25B2
L30C	a	KL-25
L30CC	a	L30CC
L30D	a	KL-25
L30E	a	KL-50E
L30E1	a	KL-50E
L30F	a	KL-25H
L30G	a	KL-25H
L30H	a	KL-25H
L30J	a	KL-25J
L36A	a	KL-25
L36B	a	KL-45
L36BG	a	4P45
L36B2	a	50AB
L36C	a	KL-45
L36D	a	KL-45
L36E	a	KL-50E
L36E1	a	KL-50E
L36F	a	KL-50H
L36G	a	KL-50H
L36H	a	KL-50H
L36J	a	KL-50J
L36DJ	a	KL-45J
L40CT	a	KL-45
L40D	a	KL-45
L40E	a	KL-50E
L40S1	a	KL-50S1
L40S2	a	KL-50S2
L40S3	a	KL-50S3
L42A	a	KL-45
L42B	a	KL-45
L42BG	a	4P-45
L42B2	a	50AB
L42BX	a	L42BX
L42SX	a	220SX
L42C	a	KL-45
L42CJ	a	KL-45J
L42CS4	a	L42CS4
L42D	a	KL-45
L42DX	a	L42BX
L42DSX	h	220SX

For	*	Use Amperite
L42DJ	a	KL-45J
L42E	a	KL-50E
L42E1	a	KL-50E
L42F	a	KL-50H
L42G	a	KL-50H
L42H	a	KL-50H
L42J	a	KL-50J
L42S1	a	KL-50S1
L42S2	a	KL-50S2
L42S3	a	KL-50S3
L49A	a	KL-45
L49B	a	KL-45
L49B2	a	50AB
L49BJ	a	L49BJ
L49BX	a	L49BX
L49BSX	h	220SX
L49C	a	KL-45
L49CJ	a	KL-45J
L49D	a	KL-45
L49DJ	a	KL-45J
L49DX	a	L49BX
L49DSX	h	220SX
L49E	a	KL-50E
L49.55E	a	KL-50E
L49E1	a	KL-50E
L49G	a	KL-50H
L49H	a	KL-50H
L49J	a	KL-50J
L49S1	a	KL-50S1
L49S2	a	KL-50S2
L49S3	a	KL-50S3
L55A	a	KL-45
L55B	a	L55B
L55B2	a	50AB
L55C	a	KL-45
L555.5C	a	KL-45
L55CP	a	K55CP
L55CPR	a	K55CP
L55D	a	KL-45
L55E	a	KL-50E
L55E1	a	KL-50E
L55F	a	KL-50H
L55G	a	KL-50H
L55H	a	KL-50H
L55J	a	KL-50J
L55S1	a	KL-50S1
L55S2	a	KL-50S2
L55S3	a	KL-50S3
L66B	a	KL-45
L67A	a	KL-45
L67B	a	KL-45
L67B2	a	50AB
L67C	a	KL-45
L67D	a	KL-45
L67E	a	KL-50E
L67E1	a	KL-50E
L67F	a	KL-50H
L67G	a	KL-50H
L67H	a	KL-50H
L67J	a	KL-50J
L67S1	a	KL-50S1
L67S2	a	KL-50S2
L67S3	a	KL-50S3
L74A	a	KL-45
L74B	a	KL-75
L74B2	a	50AB
L74C	a	KL-75
L74D	a	KL-75
L74E	a	KL-50E
L74F	a	KL-75H
L74G	a	KL-75H
L74H	a	KL-75H
L74J	a	KL-75J
L74S1	a	KL-50S1
L74S2	a	KL-50S2
L74S3	a	KL-50S3
L75CC	a	KL-45
L150B	h	L150B
L159B	h	L159B
L80A	a	KL-75
L80B	a	KL-75
L80B2	a	72B2
L80C	a	KL-75
L80D	a	KL-75
L80E	a	KL-50E
L80F	a	KL-75H
L80G	a	KL-75H
L80H	a	KL-75H
L80J	a	KL-75J
L80S1	a	KL-50S1
L80S2	a	KL-50S2
L80S3	a	KL-50S3
L85CC	a	KL-75
L87A	a	KL-75
L87B	a	KL-75
L87C	a	KL-75
L87D	a	KL-75
L87E	a	KL-50E
L87F	a	KL-75H
L87G	a	KL-75H
L87H	a	KL-75H

For	*	Use Amperite
L87J	a	KL-50J
L90CC	a	L90CC
L90S1	a	KL-50S1
L90S2	a	KL-50S2
L90S3	a	KL-50S3
L92A	a	KL-75
L92B	a	KL-75
L92D	a	KL-75
L92E	a	KL-75E
L92F	a	KL-75H
L92G	a	KL-75H
L92H	a	KL-75H
L92J	a	KL-75J
L99D	a	KL-75
L100D	a	KL-75
L120-75CC	a	KL-45
L122B	a	KL-75
LLL25	b	5H1
LLL-225	b	5E1
LX42B	a	4P45
LX42C	a	4P45
LX42D	a	4P45
LX49B	a	4P45
LX49C	a	4P45
LX49D	a	4P45
LX55B	a	4P45
LX55C	a	4P45
M17HG	a	KL-25H
M27HG	a	KL-25H
M30HG	a	KL-25H
M36C	a	KL-25
M36H	a	KL-25H
M42B	a	KL-45
M42C	a	KL-45
M42D	a	KL-45
M42HG	a	KL-50H
M42H	a	KL-50H
M45R	a	KL-45
M49B	a	KL-45
M49E1	a	KL-50E
M49H	a	KL-50H
M49HG	a	KL-50H
M50R	a	KL-45
M52H	a	KL-50H
M55B	a	L55B
M55D	a	KL-45
M55E	a	KL-50E
M55E1	a	KL-50E
M55H	a	KL-50H
M55HG	a	KL-50H
M61B	a	KL-45
M80B	a	KL-75
M80H	a	KL-75H
M80HG	a	KL-75H
MT-650	a	MT-650
NB-1	b	NB-1
NB-2	b	NB-2
NB-3	b	NB-3
NB-4	b	NB-4
NB-5	b	NB-5
NB-6	b	NB-6
NB-7	b	NB-7
NB-8	b	NB-8
NTH	a	MT-650
NUA	a	KL-45
NUB	a	KL-45
PB57	a	PB57
P27287	a	KL-50E
P26871	a	P26871
R6V	r	R6V
R1000	a	R1000
R1000R	c	R1000R
R-3003	a	R-3003
R1100	a	BBR
R43B2	a	R43B2
R130-180		
R161-300		
RR782	a	K26J218
T-5	a	T-5
TBR-102D	c	TBR-102D
TU-34	a	KL-45
TU-83	a	KL-45
WRL5		
W-41187	s	W-41187
W-42105	b	3H-1C
W-42520	a	W-42520
W-43251	b	5E1
W-43357	a	KL-45
W-43282	b	6-1
W-44118	b	1G1
W-44338	c	W-44338
W-45788	a	KL-45
W-46773	a	KL-45
W-46416	a	KL-45
W46773	a	KL-45
X35-35	a	KL-45
X55B	a	KL-25
Y-TU-9	a	KL-45

RESISTORS by RESISTORS, INC.

RESISTORS, INC.

Chicago 16, Illinois

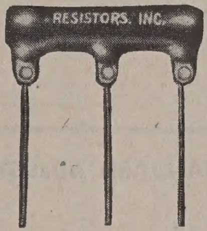
Resistors by RESISTORS, INC. — the choice of engineers and hams alike — enjoy wide acceptance because they are wound right — rated right — merchandised right. The complete range of fixed and adjustable resistors assures you maximum profits and service. Resistors are attractively packaged for eye appeal, a decided sales aid. Silver soldered connections — selected materials —precision fabrication. RESISTORS' Resistors are designed and produced under close personal supervision.

FIXED RESISTORS

RESISTORS, INC.

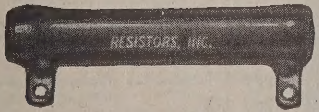
5 WATT
TYPE 1¼F - FIXED
1 thru 10,000 Ohms
$ .50

10 WATT
TYPE 1¾M - FIXED
1 thru 50,000 Ohms
$ .56



10 WATT
TYPE 1¾M - CENTER TAPPED
10 to 200 Ohms
$ .72

Prices do not include mounting brackets



20 WATT - TYPE 2K - FIXED

1 thru 15,000 Ohms	$ .91
20,000 thru 50,000 Ohms	1.07
*60,000 thru 100,000 Ohms	1.42

25 WATT - TYPE 2B - FIXED

1 thru 5,000 Ohms	$1.04
6,000 thru 15,000 Ohms	1.17
20,000 thru 50,000 Ohms	1.42
*60,000 Ohms	1.63
*70,000 thru 80,000 Ohms	1.82
*100,000 Ohms	2.47

50 WATT - TYPE 4½C - FIXED

1 thru 5,000 Ohms	$1.56
6,000 thru 25,000 Ohms	1.77
30,000 thru 80,000 Ohms	2.05
100,000 Ohms	2.08

80 WATT - TYPE 6½C - FIXED

1 thru 5,000 Ohms	$1.95
6,000 thru 25,000 Ohms	2.28
30,000 thru 50,000 Ohms	2.60
60,000 thru 100,000 Ohms	2.93

100 WATT - TYPE6½R - FIXED

1 thru 5,000 Ohms	$2.13
6,000 thru 25,000 Ohms	2.48
30,000 thru 50,000 Ohms	2.85
60,000 thru 80,000 Ohms	3.20
100,000 Ohms	3.55

160 WATT - TYPE 8½R - FIXED

1 Ohm	$3.77
2 Ohm	3.41
3 Ohm	3.02
4 Ohm	3.06
5 thru 10,000 Ohms	2.85
12,000 thru 50,000 Ohms	3.41
60,000 thru 100,000 Ohms	3.84

200 WATT - TYPE 10½R - FIXED

1 Ohm	$4.68
2 Ohm	4.33
3 Ohm	3.98
4 Ohm	3.77
5 thru 10,000 Ohms	3.58
12,000 thru 100,000 Ohms	4.26

*Supplied with low temperature coating. Vitreous enamel coating at higher prices.
20 WATT to 200 WATT inclusive, listed above, supplied with mounting brackets.
PRICES SUBJECT TO CHANGE WITHOUT NOTICE

ADJUSTABLE RESISTORS

(Supplied with mounting brackets)

10 WATT - TYPE 1¾MA - ADJUSTABLE

1 thru 10,000 Ohms	$ .85

25 WATT - TYPE 2BA - ADJUSTABLE

1 thru 5,000 Ohms	$1.21
6,000 thru 15,000 Ohms	1.35
20,000 thru 25,000 Ohms	1.56

50 WATT - TYPE 4½CA - ADJUSTABLE

1 thru 5,000 Ohms	$1.91
6,000 thru 25,000 Oms	2.13
30,000 thru 50,000 Ohms	2.42
60,000 thru 100,000 Ohms	2.86

80 WATT - TYPE 6½CA - ADJUSTABLE

1 thru 5,000 Ohms	$2.48
6,000 thru 25,000 Ohms	2.85
30,000 thru 50,000 Ohms	3.20
60,000 thru 100,000 Ohms	3.55

100 WATT - TYPE 6½RA - ADJUSTABLE

1 thru 5,000 Ohms	$2.85
6,000 thru 25,000 Ohms	3.20
30,000 thru 50,000 Ohms	3.55
60,000 thru 100,000 Ohms	3.90

160 WATT - TYPE 8½RA - ADJUSTABLE

1 Ohm	$4.68
2 Ohm	4.33
3 Ohm	3.98
4 Ohm	3.77
5 thru 10,000 Ohms	3.55
12,000 thru 50,000 Ohms	4.12
60,000 thru 100,000 Ohms	4.55

200 WATT - TYPE 10½RA - ADJUSTABLE

1 Ohm	$5.47
2 Ohm	5.19
3 Ohm	4.84
4 Ohm	4.55
5 thru 10,000 Ohms	4.26
12,000 thru 100,000 Ohms	4.98

STANDARD ADJUSTABLE LUG — SCREW DRIVER TYPE

For 10 Watt	$ .13
For 25 Watt	.13
For 50 and 80 Watt	.20
For 100, 160 and 200 Watt	.20

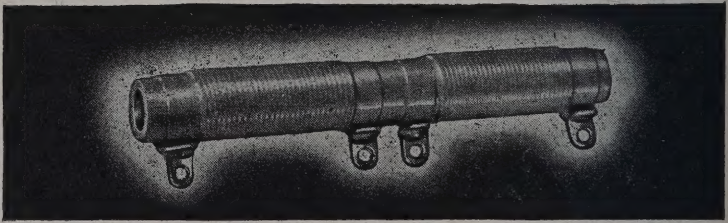
RESISTORS, INC

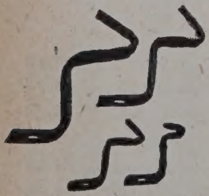
R. F. PLATE CHOKES

Type L-1	$ .33
Type L-2	1.04
Type L-3	1.56
Type L-4	2.15

POWER LINE CHOKES

Type L-10	$2.15
Type L-11	3.58
Type L-12	5.20





MOUNTING BRACKETS

No.	Use with Resistor Type	I. D. of Tube
2	M	3/16"
4	E, K, B, BG	5/16"
6	C	1/2"
8	H, R	3/4"

CENTERING WASHERS

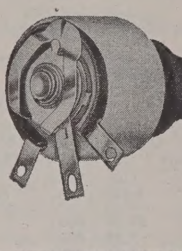
Type No.	I. D. of Tube
1	3/16"
2	5/16"
3	1/2"
4	3/4"

Manufactured by RESISTORS, INC., Chicago 16, Illinois

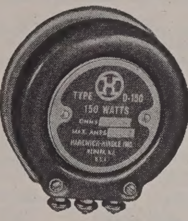
HARDWICK-HINDLE INC.

VITREOUS ENAMELED RHEOSTATS
INSULATED SHAFTS and MOUNTING BUSHINGS

TYPE 2462-F—Designed for relatively low wattage requirements. Resistance wire is wound upon a heat resisting phenolic strip. The wound strip is rigidly attached to a refractory base. Contact arm of beryllium copper—gives uniform pressure, smooth action and long life.



TYPE M (Style 2879-3TC)—Rugged and compact. Has exceptional heat dissipation. Resistance wire is wound on a pure mica form, in a refractory base and embedded in vitreous enamel, bonding winding and base together. A small area of winding is free of enamel for contact purposes. Smooth action metallic contactor.



TYPES B-50, C-100, D-150, E-300 and F-500 embody the latest developments. Contact system separates current handling and contact pressure. Copper-graphite contact brush in porcelain holder travels on inside of winding. Wound ring and contact system assembled to metal base—gives great rigidity, lower panel temperatures.

TABLES OF SIZES AND RATINGS OF RHEOSTATS

TYPE 2462-F—10 W. RHEOSTAT

Stock No.	Total Ohms	Max. Amps.*	List Price
0101	1	3.16	$3.85
0102	1.5	2.58	3.85
0103	2.5	2.00	3.85
0104	5	1.42	3.85
0105	7.5	1.16	3.85
0106	10	1.00	3.85
0107	15	0.815	3.85
0108	25	0.634	3.85
0109	50	0.448	3.85
0110	75	0.366	3.85
0111	100	0.316	3.85
0112	150	0.258	3.85
0113	250	0.200	3.85
0114	500	0.142	3.85
0115	750	0.116	3.85
0116	1000	0.100	3.92
0117	1500	0.081	3.92
0118	2500	0.063	3.92

**Thru all or any part of winding.*
Diameter: 1¾".
Depth Behind Panel: ¾".
Mounting: Single ⅜" Diameter Hole.
Standard Bushing for Panels up to 3/16".

TYPE M—25 WATT RHEOSTAT

Stock No.	Total Ohms	Max. Amps.*	List Price
0201	0.50	7.06	$4.90
0202	0.75	5.77	4.90
0203	1.0	5.00	4.90
0204	1.5	4.08	4.20
0205	2.5	3.16	4.20
0206	5.0	2.22	4.20
0207	7.5	1.82	4.20
0208	10	1.58	4.20
0209	15	1.29	4.20
0210	25	1.00	4.20
0211	50	0.706	4.20
0212	75	0.577	4.20
0213	100	0.500	4.20
0214	150	0.408	4.20
0215	250	0.316	4.20
0216	500	0.222	4.20
0217	750	0.182	4.20
0218	1000	0.158	4.90
0219	1500	0.129	4.90
0220	2500	0.100	4.90
0221	5000	0.070	4.90

**Thru all or any part of winding.*
Diameter: 1⅝".
Depth Behind Panel: 1⅜".
Mounting: Single ⅜" Diameter Hole.
Standard Bushing for Panels up to 3/16".

TYPE B—50 WATT RHEOSTAT

Stock No.	Total Ohms	Max. Amps.*	List Price
0301	0.50	10.0	$6.50
0302	0.75	8.16	6.50
0303	1.0	7.06	6.50
0304	1.5	5.77	6.50
0305	2.5	4.48	5.85
0306	5.0	3.16	5.85
0307	7.5	2.58	5.85
0308	10	2.22	5.85
0309	15	1.82	5.85
0310	25	1.41	5.85
0311	50	1.00	5.85
0312	75	0.816	5.85
0313	100	0.706	5.85
0314	150	0.577	5.85
0315	250	0.488	5.85
0316	500	0.316	5.85
0317	750	0.258	6.18
0318	1000	0.222	6.18
0319	1500	0.182	6.18
0320	2500	0.141	6.18
0321	5000	0.100	6.50
0322	7500	0.082	6.50
0323	10000	0.070	6.50

**Thru all or any part of winding.*
Diameter: 2¼".
Depth Behind Panel: 1".
Mounting: Single ⅜" Diameter Hole.
Standard Bushing for Panels up to 3/16".

TYPE C—100 WATT RHEOSTAT

Stock No.	Total Ohms	Max. Amps.*	List Price
0401	0.50	14.2	$9.75
0402	0.75	11.6	9.75
0403	1.0	10.0	9.75
0404	1.5	8.16	9.75
0405	2.5	6.34	9.75
0406	5.0	4.48	9.75
0407	7.5	3.66	9.10
0408	10	3.16	9.10
0409	15	2.58	9.10
0410	25	2.00	9.10
0411	50	1.42	9.10
0412	75	1.16	9.10
0413	100	1.00	9.10
0414	150	0.816	9.10
0415	250	0.634	9.10
0416	500	0.448	9.10
0417	750	0.366	9.10
0418	1000	0.316	9.75
0419	1500	0.258	9.75
0420	2500	0.200	9.75
0421	5000	0.141	10.40
0422	7500	0.115	11.05
0423	10000	0.100	11.70

**Thru all or any part of winding.*
Diameter: 3⅛".
Depth Behind Panel: 1¾".
Mounting: Single ⅜" Diameter Hole.
Standard Bushing for Panels up to ¼".

TYPE D—150 WATT RHEOSTAT

Stock No.	Total Ohms	Max. Amps*	List Price
0501	0.50	15.00	$12.35
0502	0.75	14.10	12.35
0503	1.00	12.25	12.35
0504	1.5	10.00	12.35
0505	2.5	7.75	12.35
0506	5.0	5.48	12.35
0507	7.5	4.47	12.35
0508	10	3.88	11.70
0509	15	3.16	11.70
0510	25	2.45	11.70
0511	50	1.73	11.70
0512	75	1.41	11.70
0513	100	1.22	11.70
0514	150	1.00	11.70
0515	250	0.775	11.70
0516	500	0.548	11.70
0517	750	0.447	12.35
0518	1000	0.388	12.35
0519	1500	0.316	12.35
0520	2500	0.245	13.00
0521	5000	0.173	13.65
0522	7500	0.141	14.30
0523	10000	0.122	15.60

**Thru all or any part of winding.*
Diameter: 4". Depth Behind Panel: 1¾".
Mounting: Single ⅜" Diameter Hole. Standard Bushing for Panels up to ¼" or 2 6-32 Screws, Each ⅞" from Center of Shaft.

TYPE E—300 WATT RHEOSTAT

Stock No.	Total Ohms	Max. Amps*	List Price
0601	1.0	17.25	$17.55
0602	1.5	14.15	17.55
0603	2.5	10.95	17.55
0604	5.0	7.75	17.55
0605	7.5	6.32	17.55
0606	10	5.48	17.55
0607	15	4.47	17.55
0608	25	3.46	17.55
0609	50	2.45	17.55
0610	75	2.00	17.55
0611	100	1.73	17.55
0612	150	1.41	17.55
0613	250	1.09	17.55
0614	500	0.775	17.55
0615	750	0.633	17.55
0616	1000	0.548	17.55
0617	1500	0.449	17.55
0618	2500	0.346	17.55

**Thru all or any part of winding.*
Diameter: 6". Depth Behind Panel: 2¼".
Mounting: 2 ¼-20 Screws, Each 1-3/16" from Center of Shaft.

TYPE F—500 WATT RHEOSTAT

Stock No.	Total Ohms	Max. Amps*	List Price
0701	1.0	22.3	$25.35
0702	1.5	18.2	25.35
0703	2.5	14.1	25.35
0704	5.0	10.0	25.35
0705	7.5	8.17	25.35
0706	10	7.07	25.35
0707	15	5.77	25.35
0708	25	4.47	25.35
0709	50	3.16	25.35
0710	75	2.58	25.35
0711	100	2.23	25.35
0712	150	1.82	25.35
0713	250	1.41	25.35
0714	500	1.00	25.35
0715	750	.817	25.35
0716	1000	.707	25.35
0717	1500	.577	25.35
0718	2500	.447	25.35

**Thru all or any part of the winding.*
Diameter: 8". Depth Behind Panel: 2½".
Mounting: 2 ¼-20 Screws, Each 1½" from Center of Shaft.

RATING—CURRENT RATINGS SHOWN FOR ALL RHEOSTATS ARE FOR USE IN FREE AIR. WHEN UNITS ARE ENCLOSED VALUES SHOULD BE REDUCED ABOUT 50%.

DATA ON NON-STOCK RHEOSTATS—SPECIAL SHAFTS AND BUSHINGS; VALUES INTERMEDIATE TO THOSE LISTED; TAPERED WINDINGS; TANDEM ASSEMBLIES, ETC., FURNISHED UPON REQUEST.

HARDWICK-HINDLE INC.

FIXED VITREOUS ENAMELED RESISTORS
WITH MOUNTING BRACKETS

Five stock sizes fill a great variety of applications.

Ratings are in accordance with NEMA standards, being based on a temperature rise of 250° C. in free air.

Data on types, sizes and values not listed herein, and for resistors with intermediate taps, special mountings, etc., furnished upon request.

TABLE OF RATINGS

25 WATT SIZE Type 2P5 2" Long x ⅝" O.D. Mounting Centers 2½"			40 WATT SIZE Type 3½L5 3½" Long x ¾" O.D. Mounting Centers 4"			80 WATT SIZE Type 6½L5 6½" Long x ¾" O.D. Mounting Centers 7"			160 WATT SIZE Type 8½FX5 8½" Long x 1⅛" O.D. Mounting Centers 9⅜"			200 WATT SIZE Type 10½FX5 10½" Long x 1⅛" O.D. Mounting Centers 11⅜"		
Stock No.	Ohms	List Price	Stock No.	Ohms	List Price	Stock No.	Ohms	List Price	Stock No.	Ohms	List Price	Stock No.	Ohms	List Price
1001	5	$ .80	2001	5	$1.37	3001	5	$2.03	4001	5	$3.47	5001	5	$3.75
1002	10	.80	2002	10	1.37	3002	10	2.03	4002	10	2.48	5002	10	2.70
1003	25	.80	2003	25	1.37	3003	25	2.03	4003	25	2.48	5003	25	2.70
1004	50	.80	2004	50	1.37	3004	50	2.03	4004	50	2.48	5004	50	2.70
1005	75	.80	2005	75	1.37	3005	75	2.03	4005	75	2.48	5005	75	2.70
1006	100	.80	2006	100	1.37	3006	100	2.03	4006	100	2.48	5006	100	2.70
1007	150	.80	2007	150	1.37	3007	250	2.03	4007	150	2.48	5007	150	2.70
1008	200	.80	2008	200	1.37	3008	500	2.03	4008	250	2.48	5008	250	2.70
1009	250	.80	2009	250	1.37	3009	1000	2.03	4009	500	2.48	5009	500	2.70
1010	500	.80	2010	500	1.37	3010	1500	2.08	4010	750	2.48	5010	750	2.70
1011	750	.80	2011	750	1.37	3011	2000	2.08	4011	1000	2.48	5011	1000	2.70
1012	1000	.80	2012	1000	1.37	3012	2500	2.08	4012	1500	2.53	5012	1500	2.75
1013	1500	.86	2013	1500	1.45	3013	3000	2.08	4013	2000	2.53	5013	2000	2.75
1014	2000	.86	2014	2000	1.45	3014	4000	2.08	4014	2500	2.53	5014	2500	2.75
1015	2500	.86	2015	2500	1.45	3015	5000	2.08	4015	3000	2.53	5015	3000	2.75
1016	3000	.86	2016	3000	1.45	3016	7500	2.25	4016	5000	2.53	5016	5000	2.75
1017	3500	.86	2017	4000	1.45	3017	10000	2.25	4017	7500	2.75	5017	7500	2.95
1018	4000	.86	2018	5000	1.45	3018	15000	2.47	4018	10000	2.75	5018	10000	2.95
1019	5000	.86	2019	7500	1.58	3019	20000	2.47	4019	15000	2.95	5019	15000	3.13
1020	6000	.94	2020	10000	1.58	3020	25000	2.67	4020	20000	2.95	5020	20000	3.13
1021	7500	.94	2021	12500	1.75	3021	30000	2.67	4021	25000	3.03	5021	25000	3.25
1022	10000	.94	2022	15000	1.75	3022	35000	2.67	4022	30000	3.03	5022	30000	3.25
1023	12000	1.00	2023	20000	1.75	3023	40000	2.67	4023	40000	3.03	5023	40000	3.25
1024	15000	1.00	2024	25000	1.95	3024	50000	2.81	4024	50000	3.13	5024	50000	3.36
1025	20000	1.00	2025	35000	1.95	3025	60000	2.81	4025	75000	3.36	5025	75000	3.55
1026	25000	1.13	2026	50000	2.14	3026	75000	3.00	4026	100000	3.55	5026	100000	3.75

ADJUSTABLE VITREOUS ENAMELED RESISTORS
WITH MOUNTING BRACKETS

Embodying features originated by Hardwick, Hindle, Inc., resulting in a Resistor possessing the many advantages of Vitreous Enamel Construction, plus an adjustable feature.

The winding is closely and evenly spaced, assuring ample insulation between turns. Where the winding appears exposed in the track, its underside is tightly embedded in the enamel, the upper surface only being exposed for contact with the adjustable band.

All sizes of Adjustable Resistors listed herein are furnished complete with mounting brackets and with one adjustable contact band.

TABLE OF RATINGS

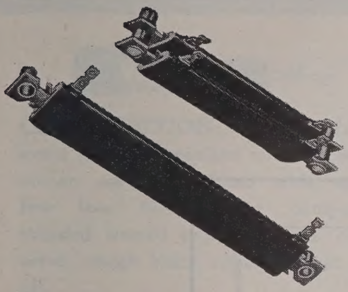
25 WATT SIZE Type K-25 2" Long x ⅝" O.D. Mount. Centers 2½"			50 WATT SIZE Type K-50 4½" Lng. x ⅝" O.D. Mount. Centers 5"			75 WATT SIZE Type K-75 6" Long x ⅝" O.D. Mount. Centers 6½"			100 WATT SIZE Type K-100 6½" Lng.x1⅛" O.D. Mount. Centers 7⅜"			160 WATT SIZE Type K-160 8½" Lng. x 1⅛" O.D. Mount. Centers 9⅜"			200 WATT SIZE Type K-200 10½" Lng.x1⅛" O.D. Mount. Centers 11⅜"		
6001	1	$1.56	7001	5	$1.97	8001	5	$2.27	9001	5	$2.97	9030	5	$4.45	9060	5	$4.72
6002	2	1.56	7002	10	1.97	8002	10	2.27	9002	10	2.97	9031	10	3.45	9061	10	3.64
6003	3	1.56	7003	25	1.97	8003	15	2.27	9003	25	2.97	9032	25	3.45	9062	25	3.64
6004	5	1.56	7004	50	1.97	8004	25	2.27	9004	50	2.97	9033	50	3.45	9063	50	3.64
6005	10	1.56	7005	75	1.97	8005	50	2.27	9005	100	2.97	9034	100	3.45	9064	100	3.64
6006	20	1.56	7006	100	1.97	8006	100	2.27	9006	250	2.97	9035	250	3.45	9065	250	3.64
6007	25	1.56	7007	200	1.97	8007	200	2.27	9007	500	2.97	9036	500	3.45	9066	500	3.64
6008	50	1.56	7008	250	1.97	8008	300	2.27	9008	1000	2.97	9037	1000	3.45	9067	1000	3.64
6009	75	1.56	7009	300	1.97	8009	400	2.27	9009	1500	3.05	9038	1500	3.50	9068	2500	3.70
6010	100	1.56	7010	400	1.97	8010	500	2.27	9010	2500	3.05	9039	2500	3.50	9069	5000	3.70
6011	200	1.56	7011	500	1.97	8011	750	2.27	9011	5000	3.05	9040	5000	3.50	9070	10000	3.92
6012	300	1.56	7012	750	1.97	8012	1000	2.27	9012	10000	3.22	9041	10000	3.70	9071	15000	4.12
6013	400	1.56	7013	800	1.97	8013	1500	2.36	9013	15000	3.42	9042	15000	3.92	9072	20000	4.12
6014	500	1.56	7014	1000	1.97	8014	2000	2.36	9014	20000	3.42	9043	20000	3.92	9073	25000	4.20
6015	750	1.56	7015	1500	2.05	8015	2500	2.36	9015	25000	3.64	9044	25000	4.00	9074	30000	4.20
6016	800	1.56	7016	2000	2.05	8016	3000	2.36	9016	30000	3.64	9045	30000	4.00	9075	40000	4.20
6017	1000	1.56	7017	2500	2.05	8017	4000	2.36	9017	40000	3.64	9046	40000	4.00	9076	50000	4.30
6018	1250	1.58	7018	3000	2.05	8018	5000	2.36	9018	50000	3.78	9047	50000	4.12	9077	75000	4.53
6019	1500	1.58	7019	4000	2.05	8019	6000	2.50	9019	75000	3.97	9048	75000	4.30	9078	100000	4.72
6020	2000	1.58	7020	5000	2.05	8020	7000	2.50	9020	100000	4.13	9049	100000	4.53			
6021	2500	1.58	7021	6000	2.19	8021	7500	2.50									
6022	3000	1.58	7022	7000	2.19	8022	10000	2.50									
6023	3500	1.58	7023	7500	2.19	8023	15000	2.65									
6024	4000	1.58	7024	8000	2.19	8024	20000	2.65									
6025	5000	1.58	7025	9000	2.19	8025	25000	2.92									
6026	6000	1.70	7026	10000	2.19	8026	30000	2.92									
6027	7000	1.70	7027	12000	2.36	8027	40000	2.92									
6028	8000	1.70	7028	15000	2.36	8028	50000	3.00									
6029	10000	1.70	7029	20000	2.36	8029	60000	3.00									
6030	15000	1.75	7030	25000	2.55	8030	80000	3.28									
6031	20000	1.75	7031	30000	2.55	8031	100000	3.61									
6032	25000	1.89	7032	40000	2.55												
			7033	50000	2.75												

ADJUSTABLE CONTACT BANDS

	Diameter of Resistor	Stock No.	List Price
SCREW TYPE	⅝" 1⅛"	1791-6 1793-4	.20 .25
BAKELITE TYPE KNOB	⅝" 1⅛"	1791-6-X 1793-4-X	.30 .40

HARDWICK-HINDLE INC.

BLUE RIBBON RESISTORS



The standard method of mounting Blue Ribbon Resistors is by means of an aluminum thru-bar, which is in intimate contact with the entire internal surface of the ceramic core. The presence of this thru-bar distributes the heat generated by the Resistor uniformly along its entire length, substantially spreading the hot spot normally encountered in tubular resistors with conventional mounting. Mounting studs riveted to the ends of the thru-bar further tend to conduct the heat to the mounting surfaces. These mounting studs are also designed to act as spacers when two or more units are stacked.

In comparison with tubular units of equivalent wattage rating Blue Ribbon Resistors have the following advantages: Higher wattage rating per unit space requirement. Substantial reduction in depth behind mounting surface. Ease and economy of mounting—either singly or stacked. Lower Inductance. Light weight. Resistor and mounting integral unit; cannot rotate or become loose.

TABLE OF RATINGS

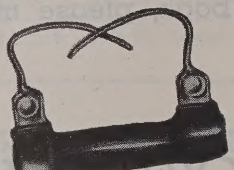
TYPE 1¼″ B 30 Watt Rating* Mounting Centers 2″			TYPE 2″ B 40 Watt Rating* Mounting Centers 2¾″			TYPE 3½″ B 55 Watt Rating* Mounting Centers 4¼″			TYPE 6″ B 75 Watt Rating* Mounting Centers 6¾″		
Stock No.	Ohms	List Price	Stock No.	Ohms	List Price	Stock No.	Ohms	List Price	Stock No.	Ohms	List Price
B101	5	$1.53	B201	5	$1.61	B301	5	$1.85	B601	5	$2.30
B102	10	1.53	B202	10	1.61	B302	10	1.85	B602	10	2.30
B103	15	1.53	B203	15	1.61	B303	15	1.85	B603	15	2.30
B104	25	1.53	B204	25	1.61	B304	25	1.85	B604	25	2.30
B105	50	1.53	B205	50	1.61	B305	50	1.85	B605	50	2.30
B106	100	1.53	B206	100	1.61	B306	100	1.85	B606	100	2.30
B107	150	1.53	B207	150	1.61	B307	150	1.85	B607	150	2.30
B108	250	1.53	B208	250	1.61	B308	250	1.85	B608	250	2.30
B109	500	1.53	B209	500	1.61	B309	500	1.85	B609	500	2.30
B110	1000	1.53	B210	1000	1.61	B310	1000	1.85	B610	1000	2.30
B111	1500	1.53	B211	1500	1.61	B311	1500	1.85	B611	1500	2.30
B112	2500	1.53	B212	2500	1.61	B312	2500	1.85	B612	2500	2.30
B113	5000	1.65	B213	5000	1.72	B313	5000	1.96	B613	5000	2.41
B114	10000	1.65	B214	10000	1.93	B314	10000	2.17	B614	10000	2.61
			B215	15000	2.02	B315	15000	2.26	B615	15000	2.70
						B316	25000	2.48	B616	25000	2.93
									B617	50000	3.30

*This rating based on a maximum temperature rise of 250 degrees C. with the Resistor mounted horizontally on a 10″ x 10″ x .040″ steel plate supported horizontally ½″ above a wooden surface.

When Resistors are mounted on a non-metallic base the nominal watt rating should be reduced by approximately 15%.

All stock numbers in each type listed above are available with adjustable feature complete with one movable contact band.

10 and 20 WATT FIXED VITREOUS ENAMELED RESISTORS



Designed particularly for radio service and replacement use—conservatively rated—wound upon Steatite Tube—combination lug and pigtail terminal connections — Hardwick, Hindle vitreous enamel insulation, insuring permanence of value and proof against moisture. 10 watt and 20 watt sizes available in the range of resistance values shown.

TABLE OF RATINGS

10 WATT 1¾″ Long x ⅜″ O.D.						20 WATT 2″ Long x ½″ O.D.					
Stock No.	Ohms	List Price	Stock No.	Ohms	List Price	Stock No.	Ohms	List Price	Stock No.	Ohms	List Price
A101	1	$ .58	A119	1500	$ .63	A201	5	$ .75	A219	4000	$ .78
A102	3	.58	A120	2000	.63	A202	10	.75	A220	5000	.78
A103	5	.58	A121	2500	.63	A203	25	.75	A221	6000	.88
A104	7.5	.58	A122	3000	.63	A204	50	.75	A222	7500	.88
A105	10	.58	A123	4000	.63	A205	75	.75	A223	10000	.88
A106	15	.58	A124	5000	.63	A206	100	.75	A224	12500	.94
A107	25	.58	A125	7500	.72	A207	150	.75	A225	15000	.94
A108	50	.58	A126	10000	.72	A208	200	.75	A226	25000*	1.08
A109	75	.58	A127	12500*	.80	A209	250	.75	A227	35000*	1.08
A110	100	.58	A128	15000*	.80	A210	400	.75	A228	40000*	1.08
A111	150	.58	A129	20000*	.80	A211	500	.75	A229	50000*	1.25
A112	200	.58	A130	25000*	.86	A212	750	.75	A230	60000*	1.25
A113	250	.58	A131	30000*	.97	A213	1000	.75	A231	70000*	1.46
A114	400	.58	A132	35000*	.97	A214	1250	.78	A232	75000*	1.46
A115	500	.58	A133	40000*	.97	A215	1500	.78	A233	80000*	1.46
A116	750	.58	A134	45000*	.97	A216	2000	.78	A234	90000*	1.69
A117	1000	.58	A135	50000*	.97	A217	2500	.78	A235	100000*	1.69
A118	1250	.63				A218	3000	.78			

* Low Temperature Enamel.

* Low Temperature Enamel.

MADE TO ORDER PRODUCTS

In addition to the standard line of resistor and rheostat products, which are in stock for immediate shipment, Hardwick, Hindle, Inc., is always pleased to receive orders for made to order products, such as, Non-inductive vitreous enameled resistors, Radio frequency chokes, Power line chokes and Soldering Iron controls.

Non-inductive resistors are available in three standard sizes: 25, 50 and 100 watt.

Radio frequency chokes and Power line chokes are also available in three standard sizes.

Soldering iron controls and Photographic lamp controls are made to order in ten different sizes.

Data on the above products can be furnished upon request.

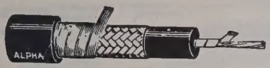
Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

ALPHA WIRE PRODUCTS

CRYSTAL MICROPHONE CABLE

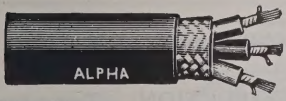


CONSTRUCTION: Single conductor, extra flexible stranded tinned copper, cotton serve, insulated with special low loss SIC rubber compound, braided tinned copper shield, cotton serve, tough black rubber jacket overall.

GENERAL PURPOSE: Low loss design for use with crystal, ribbon, dynamic and velocity microphones, photo-electric cells. Use No. 1248 FOR LAPEL MICROPHONES and phonograph pick-ups.

No.	Put-up	Size	Strand	Max. Capacity Per Ft. Between Cond. & Shield	O.D.
1248	100 Ft. Spool	20	26/34	40 mmf.	.175"
1249	100 Ft. Spool	20	26/34	30 mmf.	.245"

SHIELDED MICROPHONE CABLE

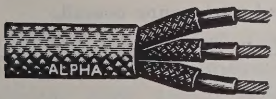


CONSTRUCTION: Each conductor flexible stranded tinned copper, cotton wrap, 1/64" "Hi-Tension" low capacity rubber, color coded, conductors twisted, cushioned with cotton fillers, braided tinned copper shield, cotton wrap, tough black rubber jacket overall.

GENERAL PURPOSE: Adaptable for all indoor and outdoor crystal, carbon and condenser microphones as well as public address systems.

No.	Put-up	Size	Conduc-tors	Max. Capacity Per Ft. Between Cond. & Shield	Conds.	O.D.
1250	100 Ft. Spool	20	2	70 mmf.	38 mmf.	.270"
1250/18	100 Ft. Spool	18	2	75 mmf.	40 mmf.	.300"
1251	100 Ft. Spool	20	3	65 mmf.	38 mmf.	.305"
1252	100 Ft. Spool	20	4	65 mmf.	36 mmf.	.345"
1253	100 Ft. Spool	20	5	60 mmf.	32 mmf.	.350"
1254	100 Ft. Spool	20	6	60 mmf.	30 mmf.	.375"
1255	100 Ft. Spool	20	7	60 mmf.	30 mmf.	.380"
1255/8	100 Ft. Spool	20	8	60 mmf.	30 mmf.	.400"

SHIELDED MULTIPLE CONDUCTOR CABLE



CONSTRUCTION: Each conductor No. 20-10/30 stranded tinned copper, 1/64" rubber, color coded cotton braid, conductors twisted, tinned copper shield overall.

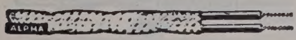
1262—1263—1264—Same specifications except with cotton braid over shield.

GENERAL PURPOSE: For indoor permanent or portable P.A. systems, photo electric cell circuits, sound recording and auto radios.

TINNED SHIELD OVERALL

No.	Put-up	Conduc-tors	Maximum Capacity Per Ft. Between Cond. & Shield	Conds.	O.D.
1256	100 Ft. Spool	2	60.5 mmf.	32 mmf.	.215"
1257	100 Ft. Spool	3	54.0 mmf.	29 mmf.	.240"
1258	100 Ft. Spool	4	48.0 mmf.	26 mmf.	.270"
COTTON BRAID OVER SHIELD					
1262	100 Ft. Spool	2	60.5 mmf.	32 mmf.	.225"
1263	100 Ft. Spool	3	54.0 mmf.	29 mmf.	.245"
1264	100 Ft. Spool	4	48.0 mmf.	26 mmf.	.275"

SHIELDED TWISTED PAIR CABLE



CONSTRUCTION: Two conductors twisted, each #24 16/36 tinned copper, .015" vinyl insulation, color coded, very fine tinned copper shield overall.

GENERAL PURPOSE: Where small diameter is required for sound recording, photo electric cell circuits, public address systems, etc.

No.	Put-up	Conductors	O.D.
1261	1000 Ft. Spool	2	.115"

ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: See Page S-12 for ALL ALPHA Prices and Other Information.

ALPHA WIRE PRODUCTS

SHIELDED DUPLEX SPEAKER CABLE

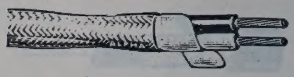
GENERAL PURPOSE: For P.A. systems, photo-electric cell circuits, master control sound systems, etc.

TINNED SHIELD OVERALL

No.	Put-Up	Conductors	Maximum Capacity Per Ft. Between Cond. & Shield	Maximum Capacity Per Ft. Between Conds.	O.D.
1265	500 Ft. Spool	2	65 mmf.	23 mmf.	.250"

WAXED COTTON BRAID OVER SHIELD

No.	Put-Up	Conductors	Maximum Capacity Per Ft. Between Cond. & Shield	Maximum Capacity Per Ft. Between Conds.	O.D.
1266	500 Ft. Spool	2	65 mmf.	23 mmf.	.280"



CONSTRUCTION: Two conductors twisted, each No. 18-16/30 stranded tinned copper, 1/32" "Hi-Tension" rubber, color coded, paper wrap over both conductors, close tinned copper shield overall.

CONSTRUCTION: Same as #1265 except with waxed cotton braid over shield.

SHIELDED TRANSMISSION LINE

GENERAL PURPOSE: For inter-communication, short wave, P.A. systems, etc.

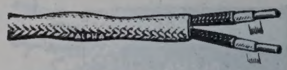
TINNED SHIELD OVERALL

No.	Put-up	Max. Capacity Per Ft.	O.D.
1267	500 Ft. Spool	25 mmf.	.135"

WAXED COTTON BRAID OVER SHIELD

No.	Put-up	Max. Capacity Per Ft.	O.D.
1268	500 Ft. Spool	25 mmf.	.165"

Surge impedance is one-half the above when using shield as common conductor in dual transmission line.



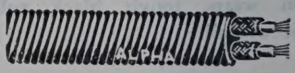
CONSTRUCTION: Two conductors twisted, each No. 20 solid tinned enameled copper, insulated, color coded, shielded braid overall.

CONSTRUCTION: Same as #1267 except with waxed cotton braid over shield.

ARMORED DUPLEX SPEAKER CABLE

GENERAL PURPOSE: For P.A. systems, oil burner installations, automotive wiring, etc.

No.	Put-up	O.D.
1272	500 Ft. Spool	.132" x .182"



CONSTRUCTION: Two conductors parallel, each No. 18-16/30 stranded tinned copper, rubber insulated, color coded, lacquered cotton braid, galvanized steel armor overall.

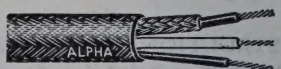
INTER-COMMUNICATION CABLE

3 CONDUCTORS

(1 SHIELDED — 2 UNSHIELDED)

GENERAL PURPOSE: This cable is ideal for general wiring from station to station where a shielded single conductor is essential to eliminate cross talk.

No.	Put-up	O.D.
1242	500 Ft. Spool	.155"

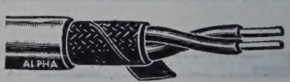


CONSTRUCTION: Three conductors, each conductor No. 22 stranded tinned copper wire, vinyl plastic insulation, color coded; one conductor tinned copper shield and two conductors unshielded; cotton braid overall.

LEAD SHEATHED CABLE

GENERAL PURPOSE: For P.A. systems, communications, traffic control, mines, railroads and many other uses where severe moisture conditions are encountered. For all outdoor use including underground and underwater.

No.	Put-up	O.D.
1271	1,000 Ft. Reel	.325"



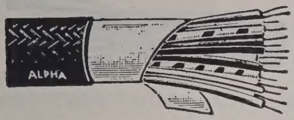
CONSTRUCTION: Two conductors twisted, each No. 19 solid tinned copper, 1/32" "Hi-Tension" rubber, color coded; overall is a pure lead sheath.

ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: See Page S-12 for ALL ALPHA Prices and Other Information.

BRAIDED COMMUNICATION CABLE

(TWISTED PAIRS)



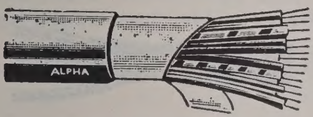
CONSTRUCTION: Each conductor solid tinned copper wire, two cotton reverse serves paraffined, color coded, conductors twisted into pairs, then covered with an impregnated double paper wrap, and overall a cotton braid saturated with a moisture-proof, flame retarding, rodent-proof compound.

GENERAL PURPOSE: For interior use designed for connecting inter-communication systems, annunciators, telephones, etc.

No.	Put-up	Size	Pairs	O.D.
1276/2	1,000 Ft. Reel	22	2 (4 Conductors)	.185"
1276/3	1,000 Ft. Reel	22	3 (6 Conductors)	.210"
1276	1,000 Ft. Reel	22	6 (12 Conductors)	.240"
1277	1,000 Ft. Reel	22	10 (20 Conductors)	.300"
1277/13	1,000 Ft. Reel	22	13 (26 Conductors)	.360"
1277/15	1,000 Ft. Reel	22	15 (30 Conductors)	.380"
1277/25	1,000 Ft. Reel	22	25 (50 Conductors)	.445"

LEAD-COVERED COMMUNICATION CABLE

(TWISTED PAIRS)



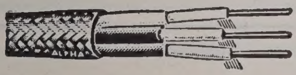
CONSTRUCTION: Similar to Communication System Cable above, but with lead antimony sheath instead of cotton braid over the twisted pairs.

GENERAL PURPOSE: For use indoors, outdoors, underground and in pipes for connecting inter-commnication systems, annunciators, telephones, etc.

No.	Put-up	Size	Pairs	O.D.
1289	1,000 Ft. Reel	22	6 (12 Conductors)	.375"
1291	1,000 Ft. Reel	22	10 (20 Conductors)	.450"
1293	1,000 Ft. Reel	22	15 (30 Conductors)	.510"
1295	1,000 Ft. Reel	22	25 (50 Conductors)	.560"

INTER-COMMUNICATION CABLE

(BRAIDED)

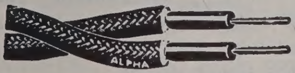


CONSTRUCTION: Each conductor solid bare copper wire, thermo-plastic insulation, color coded, conductors twisted, waxed cotton braid overall.

GENERAL PURPOSE: Designed for interior use for connecting inter-communication systems, annunciators, thermostat controls of oil burners, air conditioners, etc.

No.	Put-up	Size	Conductors	O.D.
1274	500 Ft. Spool	18	2	.150"
1275	500 Ft. Spool	18	3	.165"
1275/4	500 Ft. Spool	18	4	.180"
1275/5	500 Ft. Spool	18	5	.200"
1275/6	500 Ft. Spool	18	6	.220"

OUTDOOR INTER-COMMUNICATION WIRE

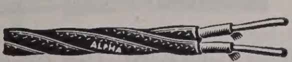


CONSTRUCTION: Each conductor 19 solid tinned copper, 1/64" telephone compound rubber, heavy cotton braid with specially treated compound to make it weather-proof for resistance against rain, snow, hail and cold.

GENERAL PURPOSE: For outdoor and indoor use or in any damp location, for connecting communication systems, telephones, etc.

No.	Put-up	Size	Conductors	O.D.
1279	500 Ft. Spool	19	2	.200"
1280	500 Ft. Spool	19	3	.300"

UNSHIELDED TRANSMISSION LINE



CONSTRUCTION: Two conductors twisted, each No. 20 solid tinned copper, insulated, color coded.

GENERAL PURPOSE: For short wave, inter-communication, annunciator systems, etc., where shielding is not required.

No.	Put-up	O.D.
1269	500 Ft. Spool	.125"

ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: See Page S-12 for ALL ALPHA Prices and Other Information.

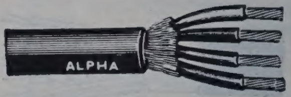
ALPHA WIRE PRODUCTS

MULTI-CONDUCTOR FLEXIBLE CABLE

(RUBBER JACKETED)

GENERAL PURPOSE: For indoor and outdoor speakers, permanent or portable P.A. systems, sound recording and auto radios.

No.	Put-up	Conductors	Capacity Per Ft. Between Conductors	O.D.
1244	100 Ft. Spool	2	22 mmf.	.250"
1245	100 Ft. Spool	3	20 mmf.	.300"
1246	100 Ft. Spool	4	18 mmf.	.320"
1247	100 Ft. Spool	5	17 mmf.	.370"
1247/6	100 Ft. Spool	6	16 mmf.	.400"
1247/8	100 Ft. Spool	8	16 mmf.	.460"



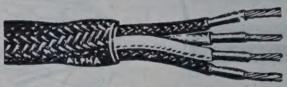
CONSTRUCTION: Each conductor No. 20-26/34 flexible stranded tinned copper, cotton wrap, 1/32" "Hi-Tension" rubber, color coded, conductors twisted, cushioned with cotten fillers, cotton wrap, tough black rubber jacket overall.

MULTI-CONDUCTOR FLEXIBLE CABLE

(COTTON BRAID)

GENERAL PURPOSE: For connecting speakers, analyzers, remote control units, P.A. systems or wherever a multiple circuit hook-up is required.

No.	Put-up	Conductors	Capacity Between Conductors	O.D.
1182	100 Ft. Spool	2	31.5 mmf.	.135"
1183	100 Ft. Spool	3	31.0 mmf.	.170"
1184	100 Ft. Spool	4	30.0 mmf.	.180"
1185	100 Ft. Spool	5	29.5 mmf.	.205"
1186	100 Ft. Spool	6	29.2 mmf.	.225"
1187	100 Ft. Spool	7	28.8 mmf.	.240"
1188	100 Ft. Spool	8	28.5 mmf.	.255"
1189	100 Ft. Spool	9	27.9 mmf.	.275"
1190	100 Ft. Spool	10	27.6 mmf.	.310"
1192	100 Ft. Spool	12	27.0 mmf.	.340"



CONSTRUCTION: Each conductor No. 20-10/30 stranded tinned copper, 1/64" thermoplastic insulation, color coded, conductors twisted, glazed brown cotton braid overall.

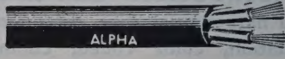
RUBBER SHEATHED SERVICE CORD

(UNDERWRITERS APPROVED)

GENERAL PURPOSE: For amplifiers, sound systems, speakers, vacuum cleaners, electric tools, washing machines, refrigerators, appliances, trouble lights, garage lamps or wherever a rough usage power line is required.

No.	Put-up	Size	Conductors	Type	Current Carrying Capacity	Voltage Rating	O.D.
1951	250 Ft. Spool	18	2	SV	5 amps	300	.250"
1952	250 Ft. Spool	18	2	SJ	5 amps	300	.310"
1953	250 Ft. Spool	16	2	SJ	7 amps	300	.340"
1954	250 Ft. Coil	18	2	S	5 amps	600	.390"
1955	250 Ft. Coil	16	2	S	7 amps	600	.410"
1956	250 Ft. Coil	14	2	S	15 amps	600	.540"
1957	250 Ft. Coil	12	2	S	20 amps	600	.605"
1958	250 Ft. Coil	10	2	S	25 amps	600	.640"

Also Available with Additional Conductors.



CONSTRUCTION: Each conductor stranded bare copper, cotton separator, 1/32" "Hi-Tension rubber, color coded, conductors twisted, cushioned with jute fillers, 40% tough rubber jacket overall.

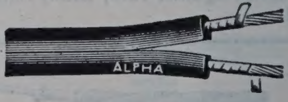
TYPE POSJ—E-Z STRIP LAMP CORD

(UNDERWRITERS APPROVED)

GENERAL PURPOSE: For line cord on radios, lamps, electric clocks, food mixers and other small devices.

No.	Put-up	O.D.
1966	100 Ft. Spool	.235" x .130"
1967	250 Ft. Spool	.235" x .130"

Standard Colors: Brown, Black and Ivory



CONSTRUCTION: Two conductors parallel, each conductor No. 18-41/34 extra flexible bare copper, color coded cotton serve, 40% tough rubber jacket overall. Slit in jacket to permit "E-Z" separation.

ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: See Page S-12 for ALL ALPHA Prices and Other Information.

ALPHA WIRE PRODUCTS

KINKLESS TEST LEAD WIRE

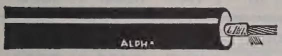
GENERAL PURPOSE: As test leads in analyzers, oscillators and all other types of testing apparatus or wherever an EXTRA FLEXIBLE insulated wire is required.

CONSTRUCTION: Very flexible tinned soft annealed copper, concentric strand, cotton wrap, 3/64" "Super Hi-Tension" rubber, satin finish.

No.	Put-up	Size	Strand	Voltage Breakdown (60 Cycles)	D.C. Insulation Resistance Per Ft. (Megohms)	O.D.
1633	100 Ft. Spool	20	41/36	10,000 V.	710	.140"
1635	500 Ft. Spool	20	41/36	10,000 V.	710	.140"
1636	500 Ft. Spool	18	65/36	12,000 V.	800	.150"

Heavy Duty Type

GENERAL PURPOSE: For television, therapeutic equipment, analyzers, oscillators, etc., or wherever a heavy duty EXTRA FLEXIBLE high voltage line is required.



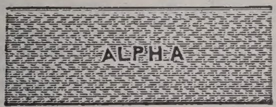
CONSTRUCTION: No. 18 - 65/36 tinned soft annealed copper, concentric strand, cotton wrap, 7/64" "Super Hi-Tension" rubber, satin finish.

No.	Put-up	Voltage Breakdown (60 Cycles)	D.C. Insulation Resistance Per Ft. (Megohms)	O.D.
1637	100 Ft. Spool	22,000 V.	Over 1,000	.245"
1638	500 Ft. Spool	22,000 V.	Over 1,000	.245"

Stock Colors: Red and Black

TINNED COPPER SHIELDING

GENERAL PURPOSE: For shielding speaker leads, lead-ins, amplifier wires, auto radio installations. Also for bonding.

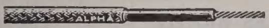


CONSTRUCTION: Composed of very fine soft annealed tinned copper wires braided and rolled flat.

No.	Put-up	I.D.
1229	50 Ft. Spool	1/8"
1230	50 Ft. Spool	3/16"
1231	50 Ft. Spool	1/4"
1232	50 Ft. Spool	3/8"
1233	50 Ft. Spool	5/8"
1234	50 Ft. Spool	3/4"
1235	50 Ft. Spool	1"

SHIELDED PHONO AND GRID WIRE

GENERAL PURPOSE: Extreme flexibility and limpness make this an ideal wire for phonograph pick-up arm cable and grid wire.



CONSTRUCTION: No. 1200 - 24 gauge flexible stranded copper conductor, vinyl plastic insulation, close tinned copper shielded braid overall.

No. 1201 same as No. 1200 plus cotton braid over shield.

No. 1202 same as No. 1200 except two conductor with shield overall.

No.	Put-up	Insulation	O.D.
1200	1000 Ft. Spool	.010"	.080"
1201	1000 Ft. Spool	.010"	.095"
1202	1000 Ft. Spool	.010"	.080" x .115"

SHIELDED LOW LOSS CABLE

GENERAL PURPOSE: For auto radios, lead-ins, short wave receivers and for grid leads in the input stages of P.A. amplifiers.

CONSTRUCTION: Single conductor No. 20 - 10/30 stranded tinned copper, insulated with low loss rubber compound, white silk braid, tinned copper shield overall.

No.	Put-up	Capacity Per Ft.	O.D.
1241	100 Ft. Spool	26.6 mmf.	.225"

SHIELDED HOOK-UP AND LEAD-IN WIRE

GENERAL PURPOSE: To reduce interference caused by motors, high tension wires, x-ray machines or other apparatus that radiates electrical impulses. Ideal for grid-lead use.

CONSTRUCTION: Stranded tinned copper, low loss insulation, highly lacquered braid, close tinned copper shield overall.

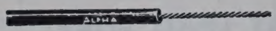
No.	Put-up	Size	Strand	O.D.
1194/22	1000 Ft. Spool	22	7/30	.105"
1194	1000 Ft. Spool	20	10/30	.110"
1196	1000 Ft. Spool	18	16/30	.145"
1197	1000 Ft. Spool	16	26/30	.160"
1198	1000 Ft. Spool	14	41/30	.180"

ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: See Page S-12 for ALL ALPHA Prices and Other Information.

ALPHA WIRE PRODUCTS

PLASTIC SRIR HOOK-UP WIRE



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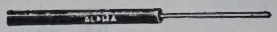


SOLID

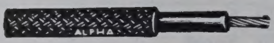
CONSTRUCTION: Single conductor, stranded and solid tinned copper wires with thermoplastic (Vinylite) insulation. High dielectric strength; 80°C (176 F) acid, alkali, oil and moisture resistant. Underwriters approved.

Standard Colors: Black, Red, Green, Yellow, Light Blue, Brown, White, Orange, Slate, Purple, Tan, Pink and Dark Blue

GENERAL PURPOSE: For radio, radar, electronic devices, transmitters, aircraft instruments, fluorescent fixtures, rectifiers, electrical toys, etc.

No.	Put-up	Size	Strand	Insulation	Volt. Breakdown (60 cycles)	D.C. Insulation Resistance per ft. (Megohms)	O.D.
1551	1000 Ft. Spool	22	7/30	1/64"	8000	5000	.065"
1552	100 Ft. Spool	22	7/30	1/64"	8000	5000	.065"
1553	1000 Ft. Spool	20	10/30	1/64"	8000	5000	.072"
1554	100 Ft. Spool	20	10/30	1/64"	8000	5000	.072"
1555	1000 Ft. Spool	18	16/30	1/64"	8000	5000	.087"
1557	1000 Ft. Spool	16	26/30	1/64"	8000	5000	.100"
1561	1000 Ft. Spool	22	Solid	1/64"	8000	5000	.060"
1562	100 Ft. Spool	22	Solid	1/64"	8000	5000	.060"
1563	1000 Ft. Spool	20	Solid	1/64"	8000	5000	.066"
1564	100 Ft. Spool	20	Solid	1/64"	8000	5000	.066"

TYPE WL HOOK-UP WIRE



CONSTRUCTION: Single conductor, stranded tinned copper, vinyl plastic insulation, cotton or glass braid, lacquered, flame retarding and fungi proof.

(*Specification* JAN-C-76)

GENERAL PURPOSE: For aircraft instruments and lighting and power, radio, electronic devices, radar, transmitters, rectifiers, etc.

COTTON BRAID

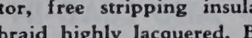
No.	Put-up	Size	Strand	Volt. Breakdown (60 cycles)	D.C. Insulation Resistance per ft. (Megohms)	O.D.
1480	1000 Ft. Spool	22	7/30	1000	200	.090"
1481	1000 Ft. Spool	20	10/30	1000	200	.100"
1482	1000 Ft. Spool	18	16/30	1000	200	.115"
1483	1000 Ft. Spool	16	26/30	1000	200	.130"
1484	1000 Ft. Spool	14	41/30	1000	200	.150"
1485	1000 Ft. Spool	12	65/30	1000	200	.170"

GLASS BRAID

No.	Put-up	Size	Strand	Volt. Breakdown (60 cycles)	D.C. Insulation Resistance per ft. (Megohms)	O.D.
1490	1000 Ft. Spool	22	7/30	1000	200	.085"
1491	1000 Ft. Spool	20	10/30	1000	200	.095"
1492	1000 Ft. Spool	18	16/30	1000	200	.110"
1493	1000 Ft. Spool	16	26/30	1000	200	.125"
1494	1000 Ft. Spool	14	41/30	1000	200	.145"
1495	1000 Ft. Spool	12	65/30	1000	200	.165"

LACQUERED HOOK-UP AND LEAD-IN WIRE

(HIGH GLOSS LACQUERED BRAID)



CONSTRUCTION: Stranded tinned conductor, free stripping insulation, single braid highly lacquered. Bright colors.

Standard Colors: Black, Red, Green, Yellow, Blue, Brown, White

GENERAL PURPOSE: For point to point soldering connections on transformers, amplifiers, panel hook-up, etc., where a low loss dielectric is required. It is not a pushback wire but will strip easily.

No.	Put-up	Size	Strand	Insulation	Volt. Breakdown (60 cycles)	D.C. Insulation Resistance per ft. (Megohms	O.D.
1513	100 Ft. Spool	20	10/30	1/64"	7000	290	.090"
1515	500 Ft. Spool	20	10/30	1/64"	7000	290	.090"
1523	100 Ft. Spool	18	16/30	1/64"	7000	300	.110"
1525	500 Ft. Spool	18	16/30	1/64"	7000	300	.110"
1533	100 Ft. Spool	18	16/30	1/32"	8500	460	.125"
1535	500 Ft. Spool	18	16/30	1/32"	8500	460	.125"
1543	100 Ft. Spool	16	26/30	1/32"	8500	460	.140"
1545	500 Ft. Spool	16	26/30	1/32"	8500	460	.140"

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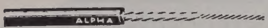
NOTE: See Page S-12 for ALL ALPHA Prices and Other Information.

ALPHA WIRE PRODUCTS

"CL" PUSHBACK WIRE

GENERAL PURPOSE: Pushback hook-up wire in various bright colors for circuit identification; radio, radar, electronics, electrical toys, etc.

No.	Put-up	Size	Strand	Volt. Break-down (60 cycles)	D.C. Insulation Resistance per ft. (Megohms)	O.D.
1460	1000 Ft. Spool	22	7/30	1000	200	.065"
1460Q	100 Ft. Spool	22	7/30	1000	200	.065"
1461	1000 Ft. Spool	20	10/30	1000	200	.070"
1461Q	100 Ft. Spool	20	10/30	1000	200	.070"
1462	1000 Ft. Spool	18	16/30	1000	200	.082"
1462Q	100 Ft. Spool	18	16/30	1000	200	.082"
1463	1000 Ft. Spool	16	26/30	1000	200	.093"
1463Q	100 Ft. Spool	16	26/30	1000	200	.093"
1464	1000 Ft. Spool	14	41/30	1000	200	.105"
1464Q	100 Ft. Spool	14	41/30	1000	200	.105"
1465	1000 Ft. Spool	22	Solid	1000	200	.060"
1465Q	100 Ft. Spool	22	Solid	1000	200	.060"
1466	1000 Ft. Spool	20	Solid	1000	200	.065"
1466Q	100 Ft. Spool	20	Solid	1000	200	.065"
1467	1000 Ft. Spool	18	Solid	1000	200	.075"
1467Q	100 Ft. Spool	18	Solid	1000	200	.075"
1468	1000 Ft. Spool	16	Solid	1000	200	.085"
1468Q	100 Ft. Spool	16	Solid	1000	200	.085"
1469	1000 Ft. Spool	14	Solid	1000	200	.095"
1469Q	100 Ft. Spool	14	Solid	1000	200	.095"



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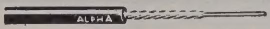


SOLID

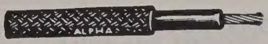
CONSTRUCTION: Single conductor, stranded and solid tinned copper, heavy wrap of cellulose acetate, cotton braid with flame-retarding lacquer.

Standard Colors: Black, Red, Green, Yellow, Blue, Brown, White and Orange

LACQUERED PRIMARY WIRE

GENERAL PURPOSE: For automobile head, tail, side, dashboard lamps, horn, spotlight, instrument leads and general high voltage and primary voltage applications.

No.	Put-up	Size	Strand	Rubber	O.D.
1989	100 Ft. Spool	18	16/30	1/64"	.110"
1991	100 Ft. Spool	18	16/30	1/32"	.125"
1995	100 Ft. Spool	16	26/30	1/32"	.140"
1997	100 Ft. Spool	14	41/30	1/32"	.170"
1999	100 Ft. Spool	12	19/25	1/32"	.190"
1983	100 Ft. Spool	10	19/23	1/32"	.208"



CONSTRUCTION: Stranded soft annealed tinned copper, insulated with rubber, over which is a highly lacquered braid. Oil, heat, and moisture resistant.

7 MM LACQUERED CABLE

GENERAL PURPOSE: For high voltage leads in television receivers, cathode-ray tubes, oscilloscopes, etc.

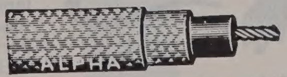
No.	Put-up	O.D.
1981	100 Ft. Spool	.275"

CONSTRUCTION: Single conductor No. 16-19/29 stranded tinned copper, rubber insulated, cotton braid highly lacquered.

7MM SHIELDED IGNITION CABLE

GENERAL PURPOSE: For automotive and aircraft ignition systems requiring grounding to overcome interference.

No.	Put-up	O.D.
1193	100 ft. spool	.300"



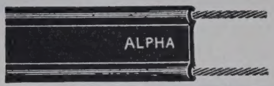
CONSTRUCTION: Single conductor No. 16-19/29 stranded tinned copper, rubber insulated, cotton braid highly lacquered, braided tinned copper shield overall.

ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: See Page S-12 for ALL ALPHA Prices and Other Information.

ALPHA WIRE PRODUCTS

TELEVISION AND FM TWIN-LEAD CABLE

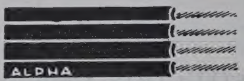


CONSTRUCTION: Two conductors parallel, each conductor 7/28 bare copper flexible stranding, low loss polyethylene plastic insulation, smooth satin finish. Standard color: brown.

GENERAL PURPOSE: For use especially in television and FM as the lead-in from the antenna to the receiver.

No.	Put-up	Impedance (Ohms)	Capacity Per Ft.	O.D.
1150	1000 Ft. Spool	300	4.5 mmf.	.070" x .395"
1151	1000 Ft. Spool	150	9.5 mmf.	.060" x .190"
1152	1000 Ft. Spool	75	20.0 mmf.	.070" x .120"

ROTARY TV-FM CABLE

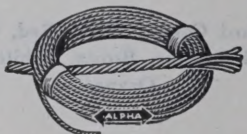


CONSTRUCTION: Conductors flat parallel, each conductor 7/30 stranded copper with one conductor bare and other conductors tinned. Durable rubber insulation.

GENERAL PURPOSE: Designed for use with TV or FM antenna rotators.

No.	Put-up	Conductors	O.D.
1150/3	1,000 Ft. Spool	3	.085" x .265
1150/4	1,000 Ft. Spool	4	.085" x .345"

GUY WIRE

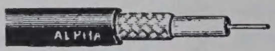


CONSTRUCTION: Stranded galvanized steel wires with great tensile strength.

GENERAL PURPOSE: To prevent sway of F.M., T.V. and radio receiver masts, poles or towers.

No.	Put-up	Strand	Breaking Strength	O.D.
1168	1,000 Ft. Spool	6/18	650 Lbs.	.156"
1169	1,000 Ft. Spool	6/20	470 Lbs.	.105"
1170	100 Ft. Coil	6/20	470 Lbs.	.105"
1171	50 Ft. Coil	6/20	470 Lbs.	.105"

CO-AXIAL CABLE (RG-59U)

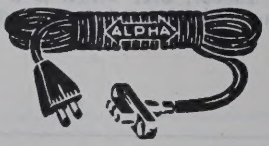


CONSTRUCTION: Single conductor No. 22 solid copperweld, polyethylene insulation, bare copper shield, black vinyl plastic jacket overall.

GENERAL PURPOSE: Co-axial cable is ideal for television, FM and facsimile reception. Is suitable for very high frequency and ultra high frequency ranges.

No.	Put-up	Nom. Imp. (Ohms)	Nom. Cap.	Max. Oper. Volts RMS	O.D.
1157	1000 Ft. Reel	73	21 mmf./F+	2300	.242"

TELEVISION POWER CONNECTOR CORD

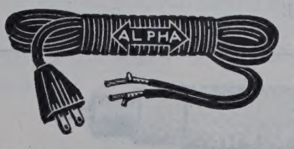


CONSTRUCTION: 6 feet E-Z Strip cord (Type POSJ-64), molded-on rubber plug attached to one end, TV molded-on rubber connector attached to other end.

GENERAL USE: For replacement of worn out or damaged TV cords.

No.	Length
2126	6 Ft. Cord

ALPHA E-Z STRIP LINE CORD

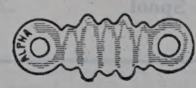


This is the modern and ideal power supply cord for replacement on radios, lamps, fans, etc. It is made of E-Z strip rubber parallel cord (UNDERWRITERS APPROVAL) with a small unbreakable soft rubber attachment plug. Free end stripped and tinned ready to attach.

No.	No.	No.
2106 - 6 Ft.	2109 - 9 Ft.	2112 - 12 Ft.

Cords Available in Any Length

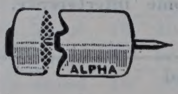
GLASS INSULATOR



Will withstand great strain.

No.	Per Carton
2020	100

NAIL KNOB



A 2 piece knob of glazed porcelain and a heavy nail for secure holding.

No.	Per Carton
2031	100

ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

ALPHA WIRE PRODUCTS

AERIAL KITS

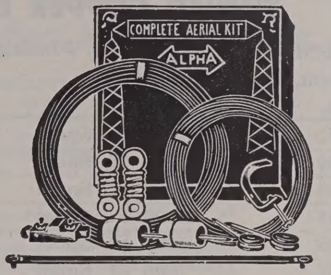
Alpha Aerial Kits are designed to meet the requirements of the various types of radio installations. Each kit is complete and boxed attractively.

No. 301

50 Ft. 7 Strand Copper Aerial
25 Ft. Lead-in Wire
2 No. 2022 Insulators
2 No. 2031 Nail Knobs
1 No. 2012 Ground Clamp
1 No. 2002 Lead-in Strip

No. 304

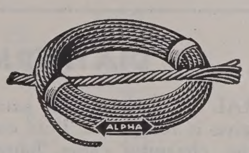
75 Ft. 7/24 Copper Aerial Wire
25 Ft. Lead-in Wire
1 No. 2001 Lightning Arrester
1 No. 2002 Lead-in-Strip
2 No. 2031 Nail Knobs
1 No. 2012 Ground Clamp
2 No. 2022 Insulators



PHOSPHOR BRONZE AERIAL WIRE

GENERAL PURPOSE: Recommended especially for ship, short wave and transmitting aerials where high tensile strength is required.

No.	Put-up	Strand	Breaking Strength	O.D.
1160	500 Ft. Spool	7/22	420 Lbs.	.075″
1161	500 Ft. Spool	7/20	650 Lbs.	.100″
1163	500 Ft. Spool	7/18	1000 Lbs.	.122″
1164	500 Ft. Spool	7/16	1600 Lbs.	.150″
1165	500 Ft. Spool	7/14	2140 Lbs.	.190″
1166	500 Ft. Spool	7/12	3670 Lbs.	.240″

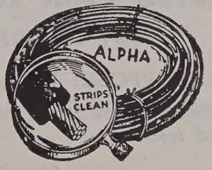


CONSTRUCTION: 7 strands Phosphor Bronze.

LEAD-IN AND GROUND WIRE

GENERAL PURPOSE: Lead-in, ground, hook-up, all purpose wire.

No.	Put-up	Size	Strand	Insulation	O.D.
1114	1000 Ft. Spool	20	10/30	1/32″	.105″
1114E	500 Ft. Spool	20	10/30	1/32″	.105″
1131	500 Ft. Spool	18	16/30	1/32″	.125″



CONSTRUCTION: Stranded tinned or solid tinned copper conductor, insulated with live free stripping rubber, jet black waxed finish overall.

COPPER AERIAL WIRE

STRANDED — BARE

No.		Put-up
101	7/20	100 Ft. Coil
104	7/20	75 Ft. Coil
105	7/20	50 Ft. Coil
106	7/20	1000 Ft. Spool
107	7/22	100 Ft. Coil
110	7/22	75 Ft. Coil
111	7/22	50 Ft. Coil
112	7/22	1000 Ft. Spool
131	7/24	100 Ft. Coil
134	7/24	75 Ft. Coil
135	7/24	50 Ft. Coil
136	7/24	1000 Ft. Spool

STRANDED — TINNED

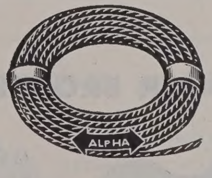
No.		Put-up
161	7/22	100 Ft. Coil
164	7/22	75 Ft. Coil
165	7/22	50 Ft. Coil
166	7/22	1000 Ft. Spool

SOLID — ENAMEL

No.		Put-up
269	14	100 Ft. Coil
274	14	1000 Ft. Spool
275	12	100 Ft. Coil
280	12	1000 Ft. Spool
281	10	100 Ft. Coil
283	10	1000 Ft. Spool

SOLID — TINNED

No.		Put-up
284	14	100 Ft. Coil
286	14	1000 Ft. Spool
287	12	100 Ft. Coil
289	12	1000 Ft. Spool
290	10	100 Ft. Coil
292	10	1000 Ft. Spool

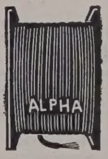


All Alpha Aerial Wire is pure electrolytic copper properly annealed to assure required flexibility and tensile strength.

AC-DC ANTENNA WIRE

GENERAL PURPOSE: Ideal replacement wire for universal midgets, indoor aerials and loop antennas.

No.	Put-up
1281	25 Ft. Disc
1282	100 Ft. Spool
1283	500 Ft. Spool
1284	1000 Ft. Spool



CONSTRUCTION: Single conductor No. 24-16/36 stranded bare copper, extra flexible, covered with dark brown braid or plastic.

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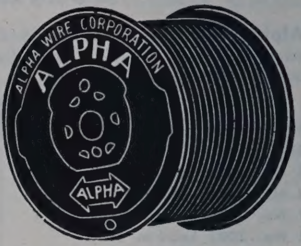
NOTE: See Page S-12 for ALL ALPHA Prices and Other Information.

ALPHA WIRE PRODUCTS

TINNED COPPER BUS-BAR WIRE

GENERAL PURPOSE: Winding of coils, antennas, point to point, bus bar, etc.

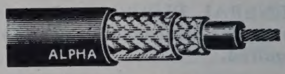
No.	Put-up	Size	O. D.
292	1000 Ft. Spool	10	.103"
289	1000 Ft. Spool	12	.082"
286	1000 Ft. Spool	14	.065"
295	1000 Ft. Spool	16	.051"
296	1000 Ft. Spool	18	.040"
297	1000 Ft. Spool	20	.033"
298	1000 Ft. Spool	22	.025"



DIATHERMY CABLE

GENERAL PURPOSE: Its extreme flexibility and tough rubber jacket give it long life. This cable is used as a lead on therapy apparatus, charging cable, battery lead, underground cable, etc.

No.	Put-up	O.D.
1623	100 Ft. Spool	.300"
1625	1000 Ft. Reel	.300"



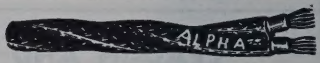
CONSTRUCTION: Single conductor extra flexible No. 14-104/34 copper, paper serve, 3/64" ASTM performance grade rubber, double cotton braid, .040" oil resistant neoprene rubber jacket.

TWISTED PAIR TRANSMISSION LINE

(WEATHERPROOF BRAID)

GENERAL PURPOSE: For inter-com. hook-up. Also suitable for low loss coupling between antenna and receiver as doublet style twisted lead-in.

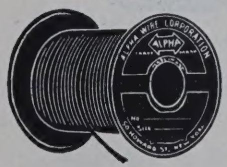
No.	Put-up	Capacity Bet. Conds. Per Ft.	Frequency (KC)	Power Factor Per Cent	O.D.
1146	500 Ft. Spool	21.8 mmf.	3,500	3.75	.175"
1148	100 Ft. Coil				
1149	50 Ft. Coil				
1135	500 Ft. Spool	21.8 mmf.	3,500	3.75	.190"



CONSTRUCTION No. 1146: Two conductors No. 22-7/30 stranded tinned copper, 1/32" "Hi-Tension" rubber, color coded, conductors twisted, cotton braid overall, saturated weather-proof finish.

CONSTRUCTION No. 1135: Two conductors No. 18-16/30 stranded tinned copper, 1/32" "Hi-Tension" rubber, color coded, conductors twisted, cotton braid overall, saturated weather-proof finish.

PHOSPHOR BRONZE DIAL CABLE



CONSTRUCTION: Made of 42 strands (6 x 7 x .004) genuine phosphor bronze wire with a linen center for extra flexibility. Is guaranteed not to warp or stretch.

No.	Put-up	Tensile Strength	O.D.
1689	25 Ft. Spool	50 lbs.	.036"
1691	100 Ft. Spool	50 lbs.	.036"
1692	500 Ft. Spool	50 lbs.	.036"

BRAIDED LINEN DIAL CABLE

ALPHA WIRE CORPORATION
ALPHA

CONSTRUCTION: Made of the finest linen obtainable. Composed of a very strong linen center over which is a smooth black braid.

HEAVY

No.	Put-up	Tensile Strength	O.D.
1694	25 Ft. Spool	40 lbs.	.057"
1695	100 Ft. Spool	40 lbs.	.057"
1696	500 Ft. Spool	40 lbs.	.057"

Longer Lengths Available.

LIGHT

No.	Put-up	Tensile Strength	O.D.
1697	25 Ft. Spool	22.5 lbs.	.036"
1698	100 Ft. Spool	22.5 lbs.	.036"
1699	500 Ft. Spool	22.5 lbs.	.036"

Longer Lengths Available.

EXTRA-THIN

No.	Put-up	Tensile Strength	O.D.
1700	25 Ft. Spool	18 lbs.	.027"

ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: See Page S-12 for ALL ALPHA Prices and Other Information.

ALPHA WIRE PRODUCTS

ALPHA
SPAGHETTI

FLEXIBLE VARNISHED TUBING AND SLEEVING

RADIO VARNISHED TUBING — (Spaghetti). A sleeving with a heavy coat of varnish, in high gloss vivid colors. Average dielectric strength: 4,000 volts.

SATURATED SLEEVING — A fibre yarn sleeving saturated with high grade insulating varnish. Cuts clean and has a smooth interior wall. Average dielectric strength: 2,000 volts.

MAGNETO VARNISHED TUBING—The production of this type of tubing is under rigid control so as to insure a maximum in quality. It is thoroughly impregnated with a varnish of maximum insulating value. It is resistant to heat, oil, gas and acids. Colors are bright and vivid. Average dielectric strength: 7,000 volts.

No.	Approx. I.D.
20	.034"
19	.038"
18	.042"
17	.047"
16	.053"
15	.059"
14	.066"
13	.076"

No.	Approx. I.D.
12	.085"
11	.095"
10	.106"
9	.118"
8	.133"
7	.148"
6	.166"
5	.186"
4	.208"

No.	Approx. I.D.
3	.234"
2	.263"
1	.294"
0	.330"
3/8"	.375"
7/16"	.438"
1/2"	.500"
5/8"	.625"

Tolerances: Sizes:
0 to 2—plus or minus .005"
3 to 13—plus or minus .004"
14 to 20—plus or minus .002"
Lengths—Standard 36"

Standard Colors: Black, Red, Yellow, Green and Brown
Sizes follow the B & S System of gauging wires. For instance, a No. 10 tubing will fit over a No. 10 bare wire or any wire with an insulation of which the O.D. is equivalent to No. 10 B & S gauge. If in doubt, it is best to submit a sample of the wire or product to be covered.

Longer Lengths Available.

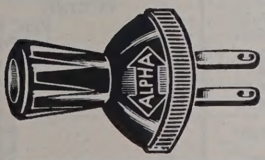
SPAGHETTI TUBING

A superior varnished tubing for radio work. It will retain its dielectric and flexibility indefinitely. Takes up to No. 14 wire.

Colors: Black, Red, Yellow, Green and Brown

No. 2091 — 36" Lengths

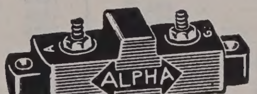
UNBREAKABLE SOFT RUBBER PLUG



Made of sturdy live soft rubber. Brass blades. Unbreakable, easy to attach.

No.	Per Carton
1964	100

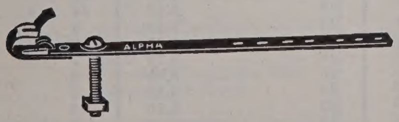
RADIO LIGHTNING ARRESTER



Made of high quality glazed porcelain with nickeled screws and nuts. For indoor or outdoor use.

No. 2001 Individually boxed

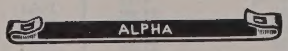
GROUND CLAMP



Heavy gauge strap, Fahnestock terminal and brass screw and nut. This ground clamp makes a quick and positive connection. Fits a 3/8" to 2" pipe.

No.	Type	Per Carton
2012	Strap	50

LEAD-IN STRIP-CLIP TYPE



Strips are waterproofed being fully covered with a heavily lacquered braid. Fahnestock clips are riveted to strap for firm contact.

No.	Length	Per Carton
2002	12"	50

ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

NOTE: See Page S-12 for ALL ALPHA Prices and Other Information.

ALPHA WIRE PRODUCTS

NOTE: USEFUL INFORMATION FOR ORDERING

- All tests on specifications are approximate and subject to normal manufacturing tolerances.
- Lengths other than those regularly listed can be furnished.
- Other wires and cables made to specifications.
- Use the following symbols alongside catalog number for other than standard put-ups.

COILS	COILS	COILS	SPOOLS	SPOOLS	SPOOLS
25 Ft.........H	100 Ft.........K	500 Ft........B	25 Ft.........N	100 Ft.........Q	250 Ft........D
50 Ft.........Z	150 Ft.........L	1000 Ft........C	50 Ft.........T	150 Ft.........R	500 Ft........E
75 Ft.........J	200 Ft.........M	250 Ft........A	75 Ft.........P	200 Ft.........S	1000 Ft. ......F

G — LONGER LENGTHS ON SPOOLS OR REELS

The constant development of new and improved designs and manufacturing processes results in continually changing specifications. In every case where Alpha wires shipped are different in specifications from those shown in this catalog, an improvement will be noted.

Cat. No.	List Price
301	$ 1.20
304	2.25
1114	9.38
1114E	5.13
1131	12.25
1135	20.50
1146	15.00
1148	3.13
1149	1.63
1150/3	32.50
1150/4	45.00
1150	31.25
1151	37.50
1152	35.00
1157	105.00
1160	21.25
1161	35.00
1163	37.50
1164	50.00
1165	77.50
1166	117.50
1168	25.00
1169	15.00
1170	1.63
1171	.88
1182	4.00
1183	5.00
1184	6.50
1185	8.25
1186	10.25
1187	11.75
1188	13.50
1189	15.25
1190	17.50
1192	21.25
1193	15.00
1194/22	37.50
1194	40.00
1196	50.00
1197	62.50
1198	75.00
1200	36.25
1201	40.00
1202	55.00
1229	2.50
1230	2.75
1231	3.25
1232	5.50
1233	8.25
1234	12.00
1235	14.50
1241	10.00
1242	37.50
1244	8.75
1245	10.50
1246	12.00
1247	15.00
1247/6	20.00
1247/8	27.50
1248	7.50
1249	10.00
1250	11.25
1250/18	16.25
1251	13.00
1252	15.50
1253	20.00

Cat. No.	List Price
1254	$22.50
1255	25.00
1255/8	33.75
1256	7.50
1257	10.00
1258	12.50
1261	55.00
1262	8.25
1263	11.50
1264	14.75
1265	40.00
1266	50.00
1267	23.13
1268	30.00
1269	17.50
1271	137.50
1272	37.50
1274	15.00
1275	20.00
1275/4	28.75
1275/5	42.50
1275/6	50.00
1276/2	75.00
1276/3	95.00
1276	180.00
1277	255.00
1277/13	325.00
1277/15	375.00
1277/25	575.00
1279	18.75
1280	28.13
1281	.28
1282	.95
1283	4.13
1284	8.00
1289	350.00
1291	500.00
1293	662.50
1295	937.50
1460	14.38
1460-Q	1.58
1461	16.63
1461-Q	1.80
1462	21.00
1462-Q	2.23
1463	25.88
1463-Q	2.73
1464	34.75
1464-Q	3.60
1465	13.25
1465-Q	1.45
1466	14.25
1466-Q	1.55
1467	18.00
1467-Q	1.93
1468	21.63
1468-Q	2.30
1469	27.88
1469-Q	2.93
1480	21.63
1481	25.25
1482	30.50
1483	38.00
1484	49.50
1485	89.00

Cat. No.	List Price
1490	$22.50
1491	25.88
1492	31.75
1493	40.50
1494	52.13
1495	91.88
1513	2.13
1515	10.00
1523	2.70
1525	12.75
1533	2.95
1535	14.00
1543	4.75
1545	22.50
1551	10.50
1552	1.18
1553	13.13
1554	1.45
1555	17.88
1557	25.25
1559	35.00
1561	8.13
1562	.95
1563	10.25
1564	1.15
1565	14.00
1567	19.13
1569	26.88
1571	18.38
1573	20.75
1575	25.63
1577	34.13
1579	46.50
1581	13.75
1583	16.50
1585	21.00
1587	27.25
1589	35.75
1623	13.13
1625	125.00
1633	2.50
1635	11.25
1636	13.75
1637	6.25
1638	30.00
1689	1.13
1691	3.75
1692	16.25
1694	1.13
1695	3.88
1696	18.00
1697	1.00
1698	3.50
1699	16.88
1700	.68
1951	16.88
1952	18.13
1953	21.88
1954	28.75
1955	32.50
1956	57.50
1957	82.50
1958	112.50
1964	.13
1966	3.63
1967	8.25
1981	8.25
1983	7.75

Cat. No.	List Price
1989	$ 2.75
1991	3.13
1995	4.75
1997	5.00
1999	6.88
2001 ....per C	40.00
2002 ....per C	10.63
2012 ....per C	10.00
2020 ....per C	7.50
2031 ....per C	7.50
2091	.18
2106	.35
2109	.43
2112	.50
2126	.70
101	2.38
104	1.80
105	1.23
106	23.00
107	1.30
110	1.00
111	.67
112	12.25
131	.95
134	.75
135	.50
136	8.75
161	1.68
164	1.28
165	.88
166	16.00
269	1.75
274	16.75
275	2.60
280	25.25
281	3.75
283	36.75
284	1.70
286	16.25
287	2.50
289	24.25
290	3.70
292	36.25
295	12.38
296	10.75
297	6.75
298	4.50

RADIO VARNISHED TUBING

Cat. No.	Per C ft. List Price
24	$ 6.00
20	4.63
19	5.00
18	5.38
17	5.63
16	5.75
15	6.00
14	6.13
13	6.50
12	7.13
11	7.50
10	7.88
9	8.25
8	8.63
7	9.00
6	9.38
5	10.50

Cat. No.	List Price
4	$12.00
3	13.50
2	15.00
1	16.88
0	20.25
3/8	24.38
7/16	29.25
1/2	33.75
5/8	39.38

SATURATED SLEEVING

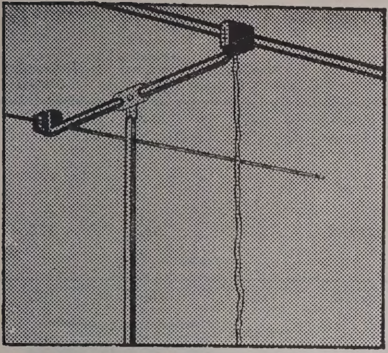
Cat. No.	Per C ft. List Price
24	$ 5.38
20	4.13
19	4.25
18	4.50
17	4.63
16	4.88
15	5.25
14	5.50
13	5.75
12	6.13
11	6.50
10	6.75
9	7.13
8	7.50
7	7.88
6	8.38
5	8.63
4	9.75
3	11.25
2	12.00
1	13.50
0	16.88
3/8	21.75
7/16	26.25
1/2	30.00
5/8	35.63

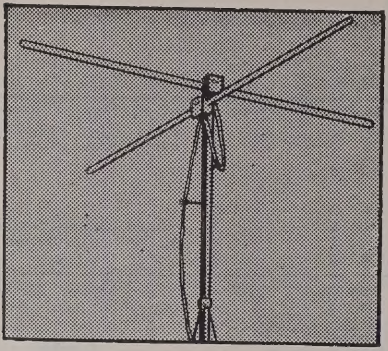
MAGNETO VARNISHED TUBING

Cat. No.	PerC ft. List Price
24	$ 6.00
20	6.00
19	6.00
18	6.00
17	6.00
16	6.38
15	6.75
14	7.13
13	7.25
12	7.50
11	8.63
10	9.38
9	10.13
8	10.75
7	11.75
6	12.88
5	14.00
4	15.13
3	16.25
2	17.63
1	18.75
0	22.50
3/8	28.13
7/16	31.88
1/2	37.50
5/8	43.13

ALL PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

BELDEN • FM antenna systems





- Highly efficient
- Broad response
- Low standing wave ratio
- Perfect matching
- Mechanically strong
- Light in weight
- Factory assembled
- Weather resistant
- Wind resistant

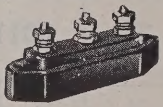
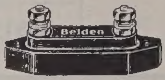
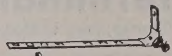
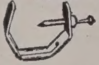
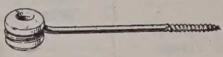
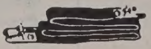
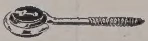
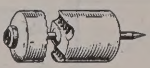
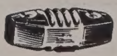
Trade Number	†Pkg.	Description	Net Weight in Lb	Contents
8320	1K	**FM DIPOLE ANTENNA** The Belden FM Dipole Antenna System is scientifically engineered and may be used on all FM radios. It can be used for Standard Broadcast as well as FM reception. Its performance has been proven in laboratory and field service tests. Careful electrical design has resulted in excellent response over the entire FM band. Maximum signal and trouble-free reception are assured.	2.5	1—65′ 300-OHM Transmission Line 8225 1—Aluminum Antenna Element 1—Porcelain Junction Block 1—5′ Aluminum Standard 2—Stand-off Insulators 8126 2—Mounting Straps 1—Instruction Sheet
8321	1K	**FM REFLECTOR** For greater radio signal strength, use the Belden FM Reflector with the No. 8320 Belden FM Dipole Antenna to form an antenna-reflector array. The addition of a reflector improves FM reception for any installation and is necessary in locations where the radio signal is weak, for example, due to its distance from radio stations or its location among buildings. Also, a reduction in interference may be effected to the rear or reflector side of the antenna.	.8	1—Aluminum Reflector Element 1—Porcelain Junction Block 1—Aluminum Cross Member 1—Instruction Sheet

Trade Number	†Pkg.	DESCRIPTION
8304	1 K	1—75′ 7x22 Beldenamel Antenna Wire 8005 1—35′ 16 Stranded Lead-in Wire 8201 1—Arrester 8896 1—Type "C" Ground Clamp 8897 1—12″ Lead-in Strip 8890 2—Antenna Insulators 8103 2—Porcelain Nail-on-knobs 8102 1—Stand-off Insulator 8104 1—Instruction Sheet
8305	1 K	1—75′ 7x22 Bare Copper Antenna Wire 8000 1—35′ 16 Stranded Lead-in Wire 8201 1—Arrester 8896 1—Type "C" Ground Clamp 8897 1—12″ Lead-in Strip 8890 2—Antenna Insulators 8103 2—Porcelain Nail-on-knobs 8102 1—Stand-off Insulator 8104 1—Instruction Sheet
8309	1 K	1—50′ 7x24 Bare Copper Antenna Wire 8002 1—25′ 18 Stranded Lead-in Wire 8200 1—Arrester 8896 1—Type "C" Ground Clamp 8897 2—Antenna Insulators 8103 1—Porcelain Nail-on-knob 8102 1—Stand-off Insulator 8104 1—Instruction Sheet

litz wire

8817	100′ S	For rewinding antenna primaries and for hand-wound r-f coils. 5x44 Celenamel with wrap of nylon.

arresters • ground clamps • lead-in strips • insulators

	Trade Number		DESCRIPTION
	**8895**	1 K	Belden doublet-type bakelite arrester. Listed as approved by Underwriters
	**8896**	1 K	Belden single-type bakelite arrester. Listed as approved by Underwriters
	**8892**	25 K	Ground clamp—8¼″ long
	**8897**	25 K	"C" type ground clamp. Fits pipe up to 1⅜″ OD
	**8104**	10 K	7″ Stand-off insulator
	**8890**	1 K	12″ Single lead-in strip—rubber insulated—clips both ends
	**8126**	10 K	3″ Stand-off insulator for flat transmission line
	**8102**	10 K	Porcelain nail-on-knobs
	**8103**	10 K	Porcelain insulators, 2½″ over-all length

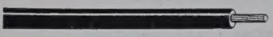
†CK—Coiled in carton K—Carton CR—Crate reel S—Spool C—Coil SK—Spooled in carton

BELDEN • aerial wire • lead-in wire

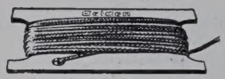
shielded lead-in wire

	Trade Number	Length and †Package	Size	DESCRIPTION	Stranding	Insulation Thickness (inches)	Finished O D (inches)
	8206	250' S	18	Tinned copper, flexible stranding; rubber insulation; tinned copper braid shield	7x27	.040"	.155

lead-in wire

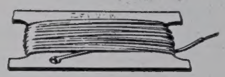
	Trade Number	Length and †Package	Size	DESCRIPTION	Stranding	Insulation Thickness (inches)	Finished O D (inches)
	**8200**	100' S 500' S 1000' S	18	Tinned copper, flexible stranding; rubber insulation	7x27	.040	.126
	8201	50' CK 100' S 250' S 500' S 1000' S	16	Tinned copper, flexible stranding; rubber insulation	7x25	.040	.135

voice coil lead wire

	Trade Number	Length and †Package	Size	DESCRIPTION	Stranding	Insulation Thickness (inches)	Finished O D (inches)
	**8127**	10'***	25	Bare copper wire braided	32x40		.024

****Packaged 10 ft on card, 5 cards in carton.*

indoor aerial wire—EXTRA FLEXIBLE

	Trade Number	Length and †Package	Size	DESCRIPTION	Stranding	Insulation Thickness (inches)	Finished O D (inches)
	**8014**	25'* 500' SK	25	Tinned copper, flexible stranding; chrome vinyl plastic insulation	13x36	.010	.044

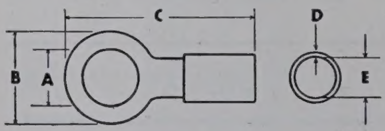
**Packaged 25 ft on card, 5 cards in carton.*

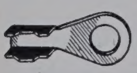
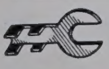
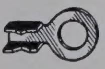
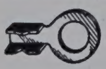
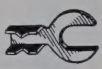
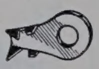
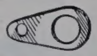
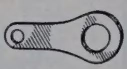
aerial wire (FULL GAUGE AND WEIGHT)

STRANDED BARE COPPER			STRANDED BELDENAMEL			SOLID TINNED COPPER (Bus Bar Wire)			SOLID BELDENAMEL		
Trade Number	Length and †Package	Size	Trade Number	Length and †Package	Size	Trade Number	Length and †Package	Size	Trade Number	Length and †Package	Size
8000	50' C 75' C 100' C 1000' S	7x22	**8005**	75' CK 100' CK 1000' S	7x22	**8011**	100' CK	12	**8008**	100' CK 200' S 500' S	12
						8012	100' CK	14			
8002	50' C 75' C 100' C 1000' S	7x24	**8006**	100' CK 1000' S	7x20	**8013**	100' CK	16	**8009**	100' CK 500' S	14

terminals

Tinned; easy to solder



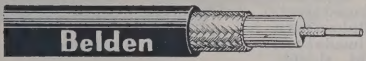
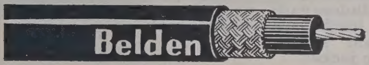
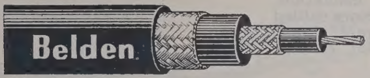
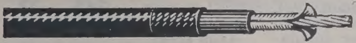
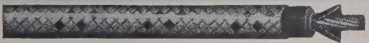
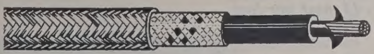
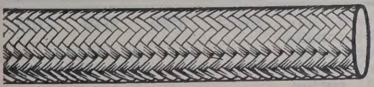
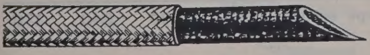
	Trade Number	Quantity and †Package	For Screw Size	DIMENSIONS—INCHES A: Hole Size or Space Opening	B: Over-all Width	C: Over-all Length
	**8989**	*25¢ pkg. 100 K 1000 K	12	.219	3/8	13/16
	**8992**	*25¢ pkg. 100 K 1000 K	8	.165	11/32	25/32
	**8993**	*25¢ pkg. 100 K 1000 K	10	.191	5/16	9/16
	**8995**	*25¢ pkg. 100 K 1000 K	8	.165	5/16	9/16
	**8996**	*25¢ pkg. 100 K 1000 K	10	.191	5/16	9/16
	**8997**	*25¢ pkg. 100 K 1000 K	8	.165	11/32	11/16
	**8998**	*25¢ pkg. 100 K 1000 K	8	.172	1/4	1/2
	**8999**	*25¢ pkg. 100 K 1000 K	8	.172	5/16	3/4
	8994	100 K	100 Assorted Belden Terminals, including 20-8995,25-8997. 10-8996,10-8998, 35-8999			

***25¢ package — Sealed Cellophane Envelopes 20 Envelopes in carton**

†CK—Coiled in carton K—Carton CR—Crate Reel S—Spool C—Coil SK—Spooled in carton

BELDEN • auto and aircraft radio wires and shielding

Belden supplies a complete line of auto radio wires and shielding to handle every wire requirement in installation and servicing. In installations of this type, the use of the correct wire is particularly important. Applications are indicated in the listings below.

ILLUSTRATION AND COLOR	Trade Number	Lengths and †Package	A.W.G.	GENERAL CONSTRUCTION	Stranding	Finished Cable OD (inches)	Nominal Capacitance Per Ft (mmf)
 Black	8664	100′ S	28	.013″ Tinned steel wire, solid; cellulose yarn braid; polyethylene insulation; tinned copper braid shield; black vinyl plastic jacket	solid	.250	14.5
 Black	8667	100′ S	16	Tinned copper, flexible stranding; rubber insulation; cotton braid; lacquer coating	19x29	.280	
 Black	8665	100′ S	19	Stainless steel alloy, flexible stranding; rubber insulation; glass yarn web braid; neoprene jacket; tinned copper braid shield; neoprene jacket	6x.013″+ 1x.011″ steel alloy	.365	
 Black, Blue, Green, Red, Yellow, White	8833	100′ S 1000′ S	18	Tinned copper, flexible stranding; paper wrap; rubber insulation; cellulose acetate yarn braid; lacquer coating	16x30	.136	
Black With One White Tracer	8652	100′ S	16	Tinned copper, flexible stranding; cellophane wrap; rubber insulation; black cotton braid with one white tracer; lacquer coating	19x29	.140	
 Green With Two White Tracers	8651	100′ S	14	Same as 8652 except green cotton braid with two white tracers	19x27	.165	
Red With Three White Tracers	8650	100′ S	12	Same as 8652 except red cotton braid with three white tracers	19x25	.195	
	8656	100′ S	16	Tinned copper, flexible stranding; cellophane wrap; rubber insulation; cotton braid; blue lacquer coating; tinned copper braid shield	19x29	.170	
	8655	100′ S	14		19x27	.195	
	8654	100′ S	12		19x25	.225	
	8660	50′ SK 250′ S		Tinned copper braid in form of tubing	96x34	13/64 I D	
	8668	50′ SK 250′ S			120x34	1/8 I D	
	8661	50′ SK 250′ S			192x34	3/8 I D	
	8669	50′ S 250′ S			336x34	1/2 I D	
	8662	50′ S 250′ S			576x34	25/32 I D	
	8657	50′ CK		Tinned copper braid shield over fabric loom		3/16 I D	
	8658	50′ CK				5/16 I D	

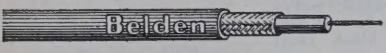
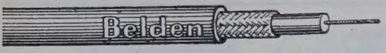
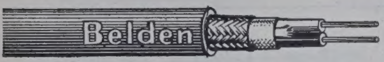
†CK—Coiled in carton K—Carton CR—Crate reel S—Spool C—Coil SK—Spooled in carton

BELDEN • microphone cables

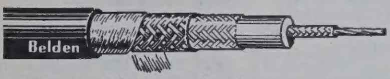
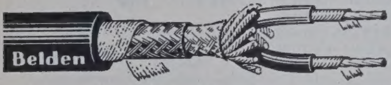
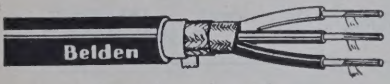
Performance and appearance are the outstanding features built into Belden microphone cables. Polyethylene insulation is used for outstanding dielectric properties and vinyl plastic jackets for protection.

Dielectrically, Belden microphone cables have low capacitance, high insulation resistance, and low attenuation at audio frequencies. In addition, they provide resistance to physical abuse, aging, and moisture.

plastic microphone cable

ILLUSTRATION AND APPLICATION	Trade Number	Lengths †Package and Color	A.W.G. and No. Con-drs.	GENERAL CONSTRUCTION	Stranding	Finished Cable O D (Inches)	Nom. Capacitance Per Ft (mmf)
 For lapel microphones	8411	25′ CK 100′ S Chrome	25-1	Tinned copper and tinned steel, flexible stranding; cellulose yarn braid; polyethylene insulation; tinned copper braid shield; chrome vinyl plastic jacket	3x33 copper plus 4x33 steel	.140	40.
 For crystal, ribbon and carbon microphones	8401	25′ CK 50′ CK 100′ S 500′ S Chrome	25-1	Tinned copper and tinned steel, flexible stranding; cellulose yarn braid; polyethylene insulation; tinned copper braid shield; chrome vinyl plastic jacket	3x33 copper plus 4x33 steel	.200	25.
 For carbon microphones	8422	25′ CK 50′ CK 100′ S 500′ S Chrome	22-2	Tinned copper, flexible stranding; polyethylene insulation, color coded; conductors cabled with fillers; rayon braid; tinned copper braid shield; chrome vinyl plastic jacket	16x34	.235	**28.

rubber microphone cable

 For crystal ribbon and carbon microphones	8410	25′ CK 50′ CK 100′ S 500′ S Black	25-1	Tinned copper and tinned steel, flexible stranding; cellulose yarn braid; waxed; rubber insulation; rayon braid; tinned copper braid shield; rayon wrap; black rubber jacket	3x33 copper plus 4x33 steel	.245	33.
 For carbon microphones	8412	25′ CK 50′ CK 100′ S 500′ S Black	20-2	Tinned copper, flexible stranding; cotton wrap; rubber insulation, color coded; conductors cabled with fillers; rayon braid; tinned copper braid shield; cotton wrap; black rubber jacket	26x34	.280	***63.
 For carbon microphones	8423	50′ CK 250′ S Black	20-3	Tinned copper, flexible stranding; cotton wrap; rubber insulation, color coded; conductors cabled; rayon braid; tinned copper braid shield; cotton wrap; black rubber jacket	26x34	.280	††54.

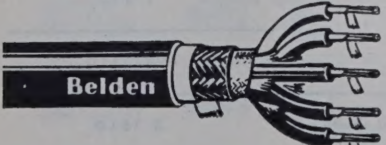
***Between one conductor and other conductor connected to shield. Nominal capacitance between conductors only, 16 mmf per foot.*

****Between one conductor and other conductor connected to shield. Nominal capacitance between conductors only, 36 mmf per foot.*

††Between one conductor and other conductors connected to shield. Nominal capacitance between conductors only, 41 mmf per foot.

shielded multiple conductor cables

Belden multiple conductor cables are developed for long service life, excellent mechanical and electrical characteristics, and uniform quality. These cables are used for a multitude of applications including power and interconnecting cords on radio receivers, electronic devices, speakers, analyzer test equipment, remote control circuits, and press-to-talk microphone circuits.

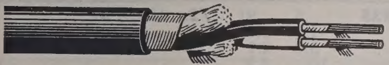
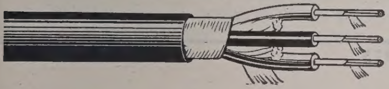
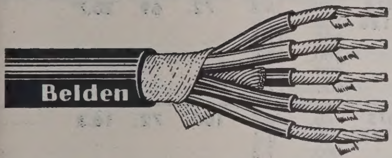
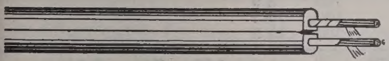
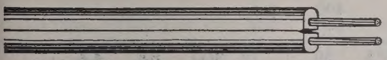
ILLUSTRATION	Trade Number	Lengths †Package and Color	A.W.G. and No. Con-drs.	GENERAL CONSTRUCTION	Stranding	Nom. Insulation Thick. (inches)	Nom. Jacket Thick. (inches)	Finished Cable O D (inches)
	*8424	50′ CK 250′ S Black	20-4	Tinned copper, flexible stranding; cotton wrap; rubber insulation, color coded; conductors cabled; rayon braid; tinned copper braid shield; cotton wrap; black rubber jacket	26x34	.020	.040	.305
	8425	50′ CK 250′ S Black	20-5	Same as 8424 except five conductors	26x34	.020	.040	.335
	8426	100′ S Black	20-6	Same as 8424 except six conductors	26x34	.020	.040	.355
	8427	100′ S Black	20-7	Same as 8424 except seven conductors	26x34	.020	.040	.370

*Also used as microphone cable.

†CK—Coiled in carton K—Carton CR—Crate reel S—Spool C—Coil SK—Spooled in carton

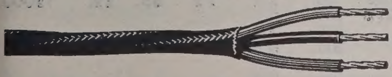
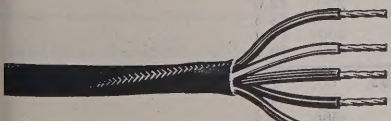
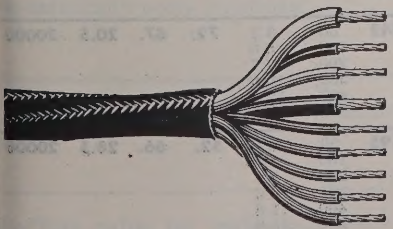
BELDEN • multiple conductor cables

RUBBER-JACKETED PORTABLE CORD

ILLUSTRATION	Trade Number	Lengths †Package and Color	A.W.G. and No. Con-drs.	GENERAL CONSTRUCTION	Stranding	Insula-tion Thick. (inches)	Jacket Thick. (inches)	Fin-ished Cable O. D. (inches)
 Underwriters' Approved Type SV	**8452**	100′ S 500′ S Black	18-2	Bare copper, flexible stranding; cotton wrap; rubber insulation, color coded; conductors cabled with fillers; cotton wrap; black rubber jacket	41x34	1/64	1/32	.245
	**8453**	100′ S 500′ S Black	18-3	Bare copper, flexible stranding; cotton wrap; rubber insulation, color coded; conductors cabled with fillers; cotton wrap; black rubber jacket	41x34	1/64	1/32	.275
	8454	100′ S 500′ S Black	18-4	Same as 8453 except four conductors	41x34	1/64	1/32	.265
	**8455**	100′ S 250′ S Black	20-3 18-2	Bare copper, flexible stranding; cotton wrap; rubber insulation; color coded; conductors cabled with fillers; cotton wrap; black rubber jacket	26x34 41x34	1/64	1/32	.285
 Underwriters' Approved Type POSJ-64	**8462**	100′ S 250′ S Brown	18-2	Bare copper, flexible stranding; cotton wrap, color coded; parallel conductors with rubber insulation and jacket integral	41x34	1/32		.123x .223
 Underwriters' Approved Type POT-64	**8888**	250′ S Black	18-2	One bare and one tinned copper conductor, flexible stranding; parallel conductors with vinyl plastic insulation and jacket integral	41x34	1/32		.114x .231

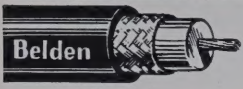
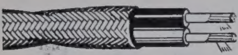
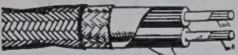
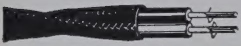
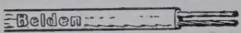
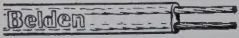
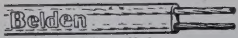
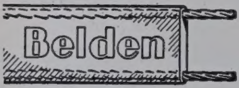
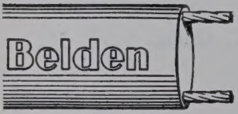
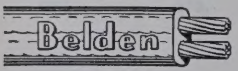
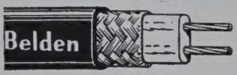
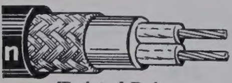
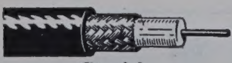
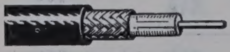
BRAIDED PLASTIC-INSULATED CABLE

Flexible, light weight and small diameter.
Applications include control, annunciator, and communications circuits.
(See intercommunications cables, page 12, for shielded types.)

	**8443**	100′ S 500′ S Brown	22-3	Tinned copper, flexible stranding; vinyl plastic insulation, color coded; conductors cabled; over-all brown cotton braid	7x30	.010		.140
	8444	100′ S 500′ S Brown	22-4	Same as 8443 except four conductors	7x30	.010		.153
	**8445**	100′ S 500′ S Brown	22-5	Same as 8443 except five conductors	7x30	.010		.167
	**8446**	100′ S Brown	22-4 16-2	Tinned copper, flexible stranding; vinyl plastic insulation, color coded; conductors cabled; over-all brown cotton braid	7x30 19x29	.010 .018		.218
	8447	100′ S Brown	22-5 16-2	Same as 8446 except seven conductors	7x30 19x29	.010 .018		.235
	8448	100′ S Brown	22-6 16-2	Same as 8446 except eight conductors	7x30 19x29	.010 .018		.240
	8449	100′ S Brown	22-7 16-2	Same as 8446 except nine conductors	7x30 19x29	.010 .018		.260

†CK—Coiled in carton K—Carton CR—Crate reel S—Spool C—Coil SK—Spooled in carton

BELDEN • transmission line cables

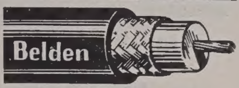
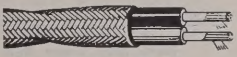
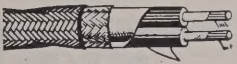
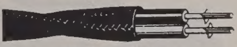
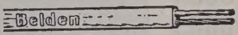
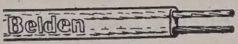
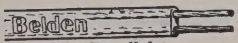
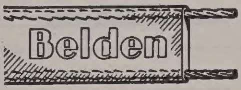
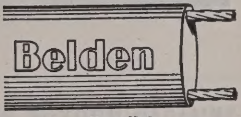
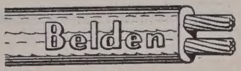
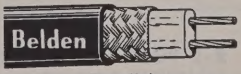
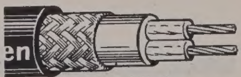
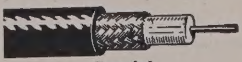
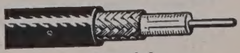
ILLUSTRATION AND TYPE	Trade Number	Lengths and †Package	A.W.G.	GENERAL CONSTRUCTION	Stranding	Finished Cable O.D. (inches)	NOMINAL ELECTRICAL PROPERTIES					
							Frequency (mc)	Attenuation Per 100 Ft (decibels)	Impedance (ohms)	Velocity of Propagation (per cent)	Capacitance Per Ft (mmf)	Puncturing Voltage (volts)
 Coaxial	**8216**	50' S 250' S	14	Tinned copper, flexible stranding; low-loss rubber insulation; tinned copper braid shield; rubber jacket	19x27	**.460**	.5 1.0 5.0 10. 50. 100.	.30 .51 1.8 2.9 10.0 17.0	**72.**	**56.**	**37.**	**30000**
 Twisted Pair	**8204**	500' S	18	Tinned copper, flexible stranding; cotton wrap; low-loss rubber insulation, color coded; two conductors cabled; white cotton braid treated with weather-resistant compound	7x26	**.190**	.5 1.0 5.0 10. 50. 100.	.37 .53 1.4 2.3 7.4 12.3	**72.**	**61.**	**21.**	
 Twisted Pair (Shielded)	**8209**	500' S	18	Tinned copper, flexible stranding; cotton wrap; low-loss rubber insulation, color coded; two conductors cabled; paper wrap; tinned copper braid shield; white cotton braid, treated with weather-resistant compound	7x26	**.235**	.5 1.0 5.0 10. 50. 100.	.91 1.1 2.1 3.2 9.5 14.9	**72.**	**57.**	**32.***	
 Twisted Pair	**8205**	500' S	22	Tinned copper, flexible stranding; paper wrap; rubber insulation, color coded; two conductors cabled; black cotton braid, treated with weather-resistant compound	7x30	**.175**						
 Parallel	**8222**	100' S 500' S	20	One bare and one tinned copper conductor, flexible stranding; conductors parallel; polyethylene plastic insulation	7x28	**.075** **x.128**	50. 100. 200. 300. 400. 500.	5.3 7.7 11.0 13.6 15.9 17.8	**72.**	**69.**	**20.7**	
 Parallel	**8223**	100' S 500' S	20	Same as 8222	7x28	**.075** **x.143**	50. 100. 200. 300. 400. 500.	3.5 5.1 7.2 8.9 10.3 11.5	**100.**	**72.**	**16.3**	
 Parallel	**8224**	100' S 500' S	20	Same as 8222	7x28	**.075** **x.182**	50. 100. 200. 300. 400. 500.	1.9 2.8 4.2 5.4 6.4 7.3	**150.**	**76.**	**9.8**	
 Parallel	**8225**	100' S 500' S 1000' S	20	Same as 8222	7x28	**.075** **x.390**	50. 100. 200. 300. 400. 500.	.72 1.1 1.7 2.2 2.7 3.1	**300.**	**85.**	**4.6**	
 Parallel	**8235**	100' S 500' S	18	Bare copper, flexible stranding; conductors parallel; polyethylene plastic insulation	7x26	**.200** **x.530**	50. 100. 200. 300. 400. 500.	.70 1.10 1.73 2.28 2.74 3.18	**300.**	**82.**	**5.8**	**35000**
 Parallel	**8210**	100' S 500' S	13	Bare copper, flexible stranding; conductors parallel; polyethylene plastic insulation	7x21	**.166** **x.278**	50. 100. 200. 300. 400. 500.	2.2 3.1 4.4 5.5 6.3 7.0	**72.**	**85.**	**22.**	**15000**
 Parallel (Shielded)	**8226**	100' S 500' S	20	One bare and one tinned copper conductor, flexible stranding; conductors parallel; polyethylene plastic insulation; tinned copper braid shield; black vinyl plastic jacket	7x28	**.190** **x.310**	50. 100. 200. 300. 400. 500.	5.8 8.3 12.0 14.8 17.2 19.4	**100.**	**64.**	**18.2***	
 Twisted Pair (Shielded)	**8227**	100' S 250' S	20	One bare and one tinned copper conductor; flexible stranding; polyethylene plastic insulation; two conductors cabled; polyethylene plastic jacket; tinned copper braid shield; black vinyl plastic jacket	7x28	**.335**	50. 100. 200. 300. 400. 500.	2.6 4.1 6.4 8.4 10.2 11.8	**100.**	**62.**	**22.***	
 Coaxial	**8229**	100' S 500' S	22	Bare copper, solid; polyethylene plastic insulation; tinned copper braid shield; black vinyl plastic jacket	solid	**.242**	50. 100. 200. 300. 400. 500.	3.2 5.0 7.7 10.0 12.1 14.1	**72.**	**67.**	**20.5**	**20000**
 Coaxial	**8228**	100' S 500' S	20	Bare copper, solid; polyethylene plastic insulation; tinned copper braid shield; black vinyl plastic jacket	solid	**.195**	50. 100. 200. 300. 400. 500.	2.75 4.45 7.2 9.6 11.8 13.6	**52.**	**66.**	**28.5**	**20000**

*Capacitance between conductors.

†CK—Coiled in carton K—Carton CR—Crate reel S—Spool C—Coil SK—Spooled in carton

Belden transmission cables are available for every receiving and low power transmitting antenna application. Coaxial, twisted pair, and parallel type lines are represented.

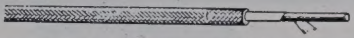
These cables are designed to meet exacting electrical requirements and are mechanically strong, weather resistant, and give long service life. Cables constructed with polyethylene insulation are especially suitable for very high frequency (VHF) and ultra high (UHF) ranges where the losses in ordinary types of transmission line cables are excessive.

TRANSMISSION LINE CABLE APPLICATIONS	Lengths and †Package	A. W. G.	Trade Number	ILLUSTRATION AND TYPE
72-Ohm cable for use with receiving and low power transmitting antenna at low frequencies. Also for heavy-duty high-voltage leads.	50′ S 250′ S	14	**8216**	 Coaxial
72-Ohm cable for use with doublet receiving antenna at low frequencies.	500′ S	18	**8204**	 Twisted Pair
72-Ohm shielded cable for use with doublet receiving antenna at low frequencies to reduce noise pick-up. Also used for long runs in extension speaker installations.	500′ S	18	**8209**	 Twisted Pair (Shielded)
Inexpensive cable for use with doublet receiving antenna at low frequencies. Also used for extension speaker and control circuits.	500′ S	22	**8205**	 Twisted Pair
72-Ohm cable for use with receiving antenna at high frequencies.	100′ S 500′ S	20	**8222**	 Parallel
100-Ohm cable for use with receiving antenna, matching transformer, connecting link between electronic units, and experimental applications at high frequencies.	100′ S 500′ S	20	**8223**	 Parallel
150-Ohm cable for use with receiving antenna, matching transformer and experimental applications at high frequencies.	100′ S 500′ S	20	**8224**	 Parallel
300-Ohm cable especially recommended for use with television and FM receiving antenna. Exceptionally low losses at high frequencies.	100′ S 500′ S 1000′ S	20	**8225**	 Parallel
300-Ohm heavy-duty cable especially recommended for use with television and FM receiving antenna. Also for low power transmitting antenna. Exceptionally low losses at high frequencies.	100′ S 500′ S	18	**8235**	 Parallel
72-Ohm cable for use with low power transmitting antenna at high frequencies.	100′ S 500′ S	13	**8210**	 Parallel
100-Ohm shielded cable for use with television and FM antenna to reduce noise pick-up.	100′ S 500′ S	20	**8226**	 Parallel (Shielded)
100-Ohm shielded cable for use with television and FM antenna in extremely noisy locations.	100′ S 250′ S	20	**8227**	 Twisted Pair (Shielded)
72-Ohm cable for use with television antenna.	100′ S 500′ S	22	**8229**	 Coaxial
52-Ohm cable for radio frequency transmission, video, test equipment, and pulse transmission.	100′ S 500′ S	20	**8228**	 Coaxial

BELDEN • hookup and lead wires

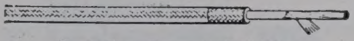
There is a Belden hook-up and lead wire construction for every service requirement—for receivers, transmitters, amplifiers, rectifiers, aircraft radio, geophysical instruments, and in all other types of electric equipment.

HOOKUP WIRE
CELLULOSE BRAID LACQUERED



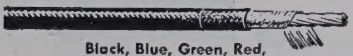
Black, Blue, Green, Red, Yellow, White, Brown, Orange

Black, Blue, Green, Red, Yellow, White



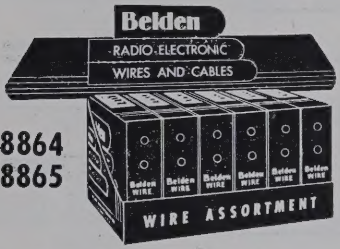
Black, Blue, Green, Red, Yellow, White, Brown, Orange

Black, Blue, Green, Red, Yellow, White



Black, Blue, Green, Red, Yellow, White

Trade Number	Lengths and †Package	A.W.G.	GENERAL CONSTRUCTION AND COLORS	Stranding	Insulation Thick. (inches)	Finished OD (inches)	Nominal *D-C Ins. Res. Per Ft (megohms)	Nominal **Breakdown Voltage (volts)
8941	25′ CK 100′ SK 1000′ S	20	Tinned copper, solid; heavy cellulose acetate yarn wrap; cellulose acetate yarn braid; fungus-resistant lacquer coating	solid		**.072**	200	1000
8945	25′ CK 100′ SK 1000′ S	18		solid		**.080**	200	1000
8943	25′ CK 100′ SK 1000′ S	20	Tinned copper, flexible stranding; heavy cellulose acetate yarn wrap; cellulose acetate yarn braid; fungus-resistant lacquer coating	10x30		**.077**	200	1000
8947	25′ CK 100′ SK 1000′ S	18		16x30		**.087**	200	1000
8942	25′ CK 100′ SK 1000′ S	16		26x30		**.099**	200	1000
8938	25′ CK 100′ SK 500′ S	14	(2 colors only; **Red** or **Black**)	41x30		**.115**	200	1000



8864
8865

DISPLAY ASSORTMENT

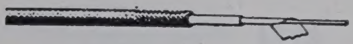
8864 Contents: 6 Rolls 8941. Size 20 solid; cellulose acetate wrap and braid lacquered. One each **Black, Blue, Green, Red, Yellow,** and **White.**

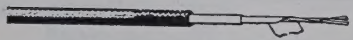
8865 Contents: 6 Rolls 8943. Size 20 flexible; cellulose acetate wrap and braid lacquered. One each **Black, Blue, Green, Red, Yellow,** and **White.**

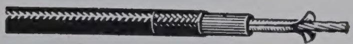
RUBBER-INSULATED PUSH-BACK

Colors:
Black, Blue, Green, Red, Yellow, White

General-use hook-up wire and as leads for transformers, speakers, and controls, in audio and power circuits. Furnished in the following 6 colors: **Black, Blue, Green, Red, Yellow,** and **White.** SPECIFY COLOR.

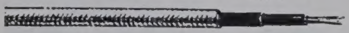






Trade Number	Lengths and †Package	A.W.G.	GENERAL CONSTRUCTION AND COLORS	Stranding	Insulation Thick. (inches)	Finished OD (inches)	Nominal *D-C Ins. Res. Per Ft (megohms)	Nominal **Breakdown Voltage (volts)
8837	25′ CK 100′ SK 1000′ S	20	Tinned copper, solid; cotton wrap; unvulcanized rubber insulation; cellulose acetate yarn braid; fungus-resistant lacquer coating	solid	.010	**.075**	2000	2000
8838	25′ CK 100′ SK 1000′ S	20	"SAME AS 8837 EXCEPT FLEXIBLE STRANDING"	10x30	.010	**.081**	2000	2000
8834	100′ S 1000′ S	20	Tinned copper, flexible stranding; paper wrap, rubber insulation; cellulose acetate yarn braid; fungus-resistant lacquer coating	10x30	.031	**.127**	10000	8000
8833	100′ S 1000′ S	18		16x30	.031	**.136**	10000	8000

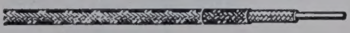
SHIELDED HOOKUP WIRE



Used in circuits where shielded grid return is required and to shield a circuit conductor from stray fields.

Trade Number	Lengths and †Package	A.W.G.	GENERAL CONSTRUCTION AND COLORS	Stranding	Insulation Thick. (inches)	Finished OD (inches)	Nominal *D-C Ins. Res. Per Ft (megohms)	Nominal **Breakdown Voltage (volts)
8885	25′ CK 100′ SK 500′ S	20	Tinned copper, flexible stranding; rubber insulation; cellulose acetate yarn braid; fungus-resistant lacquer coating; tinned copper braid shield	10x30	.015	**.117**	5000	4000

R-F PUSH-BACK WIRE
CELLULOSE ACETATE BRAID WAXED



Used on r-f circuits where low-loss properties are required. Furnished in following colors: **Black, Blue, Green, Red,** each with White Tracer, and **Yellow** and **White,** each with Black Tracer. SPECIFY COLOR.

Trade Number	Lengths and †Package	A.W.G.	GENERAL CONSTRUCTION AND COLORS	Stranding	Insulation Thick. (inches)	Finished OD (inches)	Nominal *D-C Ins. Res. Per Ft (megohms)	Nominal **Breakdown Voltage (volts)
8842	25′ CK 100′ SK 1000′ S	22	Tinned copper, solid; two cellulose acetate yarn braids, waxed Colors: **Black**—White Tracer **Blue**—White Tracer **Green**—White Tracer **Red**—White Tracer **Yellow**—Black Tracer **White**—Black Tracer	solid		**.060**	1000	1000
8841	25′ CK 100′ SK 1000′ S	20		solid		**.067**	1000	1000
8861	25′ CK 100′ SK 1000′ S	18		solid		**.075**	1000	1000
8863	25′ CK 100′ SK 1000′ S	16		solid		**.086**	1000	1000

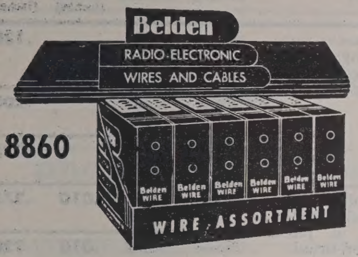
*Measurements for d-c insulation resistance were made by means of a megohm bridge at 300 volts on specimens in mercury after subjection to 90% relative humidity and 100 F for 24 hours.

**Measurements for insulation breakdown were made on specimens in mercury by application of gradually increasing 60-cycle a-c potential.

BELDEN • hook-up and lead wires

R-F PUSH-BACK WIRE
CELLULOSE ACETATE BRAID WAXED

8860



Trade Number	Lengths and †Package	A.W.G.	GENERAL CONSTRUCTION AND COLORS	Stranding	Insulation Thick. (inches)	Finished O D (inches)	Nominal *D-C Ins. Res. per Ft (megohms)	Nominal **Breakdown Voltage (volts)

DISPLAY ASSORTMENT

8860 Contents: 2 Rolls 8941. Size 20 solid; cellulose acetate wrap and braid lacquered, **Black** and **Red**; 2 rolls 8943. Size 20 flexible; cellulose acetate wrap and braid lacquered, **Blue** and **Green**; 2 rolls 8918. Size 20 flexible; vinyl plastic, **Yellow** and **White.**

Trade Number	Lengths and †Package	A.W.G.	GENERAL CONSTRUCTION AND COLORS	Stranding	Insulation Thick. (inches)	Finished O D (inches)	Nominal *D-C Ins. Res. per Ft (megohms)	Nominal **Breakdown Voltage (volts)
8810	25′ CK 100′ SK 1000′ S	22	Tinned copper, flexible stranding; two cellulose acetate yarn braids, waxed Colors: **Black**—White Tracer **Blue**—White Tracer **Green**—White Tracer **Red**—White Tracer **Yellow**—Black Tracer **White**—Black Tracer	7x30		.065	1000	1000
8839	25′ CK 100′ SK 1000′ S	20		10x30		.072	1000	1000
8844	25′ CK 100′ SK 1000′ S	18		16x30		.092	1000	1000
8862	25′ CK 100′ SK 1000′ S	16		26x30		.095	1000	1000

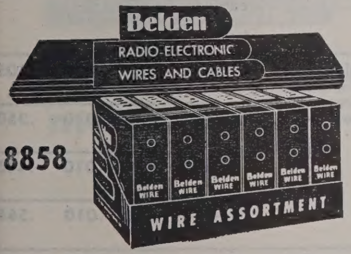
General-use hook-up wire and as leads for radio components such as transformers, chokes, and controls. Furnished in the eight following colors: **Black, Blue, Green, Red, Yellow, White, Brown,** and **Orange.** SPECIFY COLOR.

PLASTIC INSULATED

Wires with 1/64″ plastic insulation are designed for use within the chassis of radio receivers, amplifiers, instruments, controls, and other electronic devices. Wires with .025″ plastic insulation are designed for use inside or outside the chassis but within the radio cabinet. The operating temperature limit for these wires is 80 C (176 F).

Trade Number	Lengths and †Package	A.W.G.	GENERAL CONSTRUCTION AND COLORS	Stranding	Insulation Thick. (inches)	Finished O D (inches)	Nominal *D-C Ins. Res. per Ft (megohms)	Nominal **Breakdown Voltage (volts)
8901	25′ CK 100′ SK 1000′ S	20	Tinned copper, solid; vinyl plastic insulation Colors: **Black, Yellow, Blue, White, Green, Brown, Red, Orange**	solid	.015	.066	5000	8000
8909	25′ CK 100′ SK 1000′ S	20	Tinned copper, solid; vinyl plastic insulation Colors: **Black, Yellow, Blue, White, Green, Brown, Red, Orange**	solid	.025	.086	5000	12000

8858



DISPLAY ASSORTMENT

8858 Contents: 6 Rolls 8909. Size 20 solid vinyl plastic. One each **Black, Blue, Green, Red, Yellow,** and **White.**

Trade Number	Lengths and †Package	A.W.G.	GENERAL CONSTRUCTION AND COLORS	Stranding	Insulation Thick. (inches)	Finished O D (inches)	Nominal *D-C Ins. Res. per Ft (megohms)	Nominal **Breakdown Voltage (volts)
8905	25′ CK 100′ SK 1000′ S	20	Tinned copper, flexible stranding; vinyl plastic insulation Colors: **Black, Yellow, Blue, White, Green, Brown, Red, Orange**	10x30	.015	.075	5000	8000
8913	25′ CK 100′ SK 1000′ S	20	Tinned copper, flexible stranding; vinyl plastic insulation Colors: **Black, Yellow, Blue, White, Green, Brown, Red, Orange**	10x30	.025	.093	5000	12000

8859

Belden
RADIO-ELECTRONIC
WIRES AND CABLES
Belden WIRE
WIRE ASSORTMENT

DISPLAY ASSORTMENT

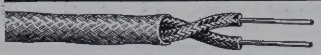
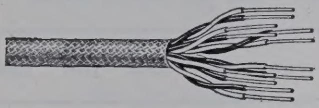
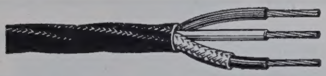
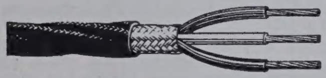
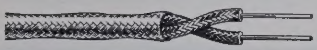
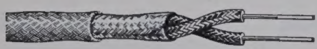
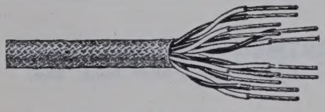
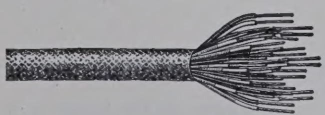
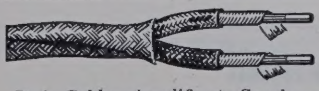
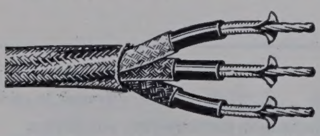
8859 Contents: 6 Rolls 8913 Size 20 flexible; vinyl plastic. One each **Black, Blue, Green, Red, Yellow,** and **White.**

†CK—Coiled in carton K—Carton CR—Crate reel S—Spool C—Coil SK—Spooled in carton

*Measurements for d-c insulation resistance were made by means of a megohm bridge at 300 volts on specimens in mercury after subjection to 90% relative humidity and 100 F for 24 hours.

**Measurements for insulation breakdown were made on specimens in mercury by application of gradually increasing 60-cycle a-c potential.

BELDEN • intercommunicating and sound system cables

ILLUSTRATION AND APPLICATION	Trade Number	Lengths and †Package	A. W. G. and No. Condrs.	No. Pairs	GENERAL CONSTRUCTION	Tinned Copper Shielding	Stranding	Condr. Insulation Thickness (inches)	Finished Cable O D (inches)
 For Station-to-Station and Extension Wiring (Unshielded)	**8740**	100′ S 500′ S	22-2	1	Bare copper, solid; heavy formvar enamel coating; cotton braid; waxed; color coded; conductors cabled; over-all brown cotton braid	None	solid		.130
	8741	100′ S 500′ S	22-4	2		None	solid		.200
	8742	100′ S 500′ S	22-6	3		None	solid		.225
	**8743**	100′ S 500′ S	22-12	6	Tinned copper, solid; vinyl plastic insulated, color coded; conductors cabled in pairs; over-all brown cotton braid	None	solid	.010	.275
	8744	100′ S 500′ S	22-18	9		None	solid	.010	.320
	8745	100′ S 500′ CR	22-30	15		None	solid	.010	.415
	8746	100′ S 500′ CR	22-54	27		None	solid	.010	.535
	**8734**	100′ S 500′ S	22-3	Not paired	Tinned copper, flexible stranding; vinyl plastic insulation, color coded; *three conductors* cabled, one conductor tinned copper braid shield, and two conductors unshielded; over-all brown cotton braid	Over 1 conductor	7x30	.010	.155
	**8735**	100′ S 500′ S	22-3	Not paired	Tinned copper, flexible stranding; vinyl plastic insulation, color coded; *three conductors* cabled; tinned copper braid shield; over-all brown cotton braid	Over 3 cabled conductors	7x30	.010	.170
For Station-to-Station and Extension Wiring (Shielded)	**8737**	100′ S 500′ S	22-2	1	Tinned copper, flexible stranding; vinyl plastic insulation, color coded; conductors cabled; tinned copper braid shield; over-all brown cotton braid	Over 2 cabled conductors	7x30	.010	.155
	**8738**	100′ S 500′ S	22-2	1	Bare copper, solid; heavy formvar enamel coating; cotton braid; waxed; color coded; conductors cabled; tinned copper braid shield	Over 2 cabled conductors	solid		.125
	**8739**	100′ S 500′ S	22-2	1	Same as 8738 plus over-all brown cotton braid	Over 2 cabled conductors	solid		.160
 For Station-to-Terminal Wiring (Unshielded)	**8747**	100′ S	22-12	6	Tinned copper, flexible stranding; vinyl plastic insulation, color coded; conductors cabled in pairs; over-all brown cotton braid	None	7x30	.010	.305
	8748	100′ S	22-18	9		None	7x30	.010	.350
	8749	100′ S	22-30	15		None	7x30	.010	.445
	8750	100′ S	22-54	27		None	7x30	.010	.565
	**8751**	100′ S	25-12 16-2	Not paired	Bare copper, flexible stranding; vinyl plastic insulation, parallel thread for color coding; 12 conductors 25-ga individually shielded, cabled (not paired) with 2 conductors 16-ga unshielded; over-all brown cotton braid	Over each 25-ga conductor only	7x33 19x29	.015 .012	.335
For Station-to-Terminal Wiring (Shielded)	**8752**	100′ S	25-22 16-2	Not paired	Same construction as 8751 except 22 conductors 25-ga individually shielded	Over each 25-ga conductor only	7x33 19x29	.015 .012	.485
 P. A. Cable—Amplifier-to-Speaker	**8799**	100′ S 500′ S	18-2	1	Bare copper, solid; heavy formvar enamel coating; cotton wrap; cotton braid; waxed; color coded; conductors cabled; tinned copper braid shield	Over 2 cabled conductors	solid		.165
	**8432**	100′ S 500′ S	20-2	Not paired	Tinned copper, flexible stranding; paper wrap; rubber insulation; cotton braid; lacquer coating; color coded; conductors cabled; tinned copper braid shield	Over-all	10x30	.015	.215
	8433	100′ S 500′ S	20-3	Not paired		Over-all	10x30	.015	.230

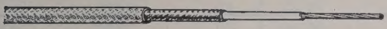
†CK—Coiled in carton K—Carton CR—Crate reel S—Spool C—Coil SK—Spooled in carton

BELDEN • instrument and lead wires

photoelectric cell cable

Trade Number	Lengths †Package and Color	A.W.G.	GENERAL CONSTRUCTION	Stranding		Finished Cable O.D. (inches)	Nominal Capacitance Per Ft (mmf)
8221	100′ S Black	25	Tinned copper and tinned steel, flexible stranding; cellulose yarn braid, polyethylene insulation; tinned copper braid shield; black vinyl plastic jacket	3x33 copper 4x33 steel		.240	20

phonograph pickup arm cable



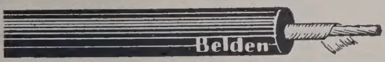
Trade Number	Lengths †Package and Color	A.W.G.	GENERAL CONSTRUCTION	Stranding		Finished Cable O.D. (inches)	Nominal Capacitance Per Ft (mmf)
8431	100′ S Brown	24	Tinned copper, flexible stranding; rubber insulation; tinned copper braid shield; fine brown cotton braid	16x36		.010	.085*
8014	25′ ** 500′ SK Chrome	25	Tinned copper, flexible stranding; chrome vinyl plastic insulation	13x36		.010	.044

***Packaged 25 ft on card, 5 cards in carton*

cathode-ray tube lead cable

Trade Number	Lengths †Package and Color	A.W.G.	GENERAL CONSTRUCTION	Stranding		Finished Cable O.D. (inches)	Nominal Capacitance Per Ft (mmf)
8869	25′ S 100′ S Red with Two White Tracers	20	Tinned copper, flexible stranding; polyethylene plastic insulation, red cotton braid with 2 white tracers; lacquer coating	7x28	.035	.145	10000
8868	25′ S 100′ S Red	20	Same as 8869 except heavier insulation and solid red braid	7x28	1/16	.205	20000

test prod wire



Trade Number	Lengths †Package and Color	A.W.G.	GENERAL CONSTRUCTION	Stranding		Finished Cable O.D. (inches)	Nominal Capacitance Per Ft (mmf)
8899	††14′ CK 100′ S 1000′ S Red Black	18	Tinned copper, extra flexible stranding; cotton wrap; rubber insulation	65x36	.043	.140	5000
8898	100′ S 500′ S Red Black	18		65x36	.088	.230	10000

*Suggested values.

††7′ Red and 7′ Black

magnet wire

BELDENAMEL

Size	Turns Per Linear Inch	Turns Per Square Inch	APPROX. LENGTH IN FEET ¼-Lb Spool	APPROX. LENGTH IN FEET ½-Lb Spool
14	15.2	231	....	40
16	19.1	365	....	62
18	23.9	571	....	100
20	29.9	894	....	160
22	37.4	1399	....	250
24	46.9	2200	....	400
26	59.0	3481	....	638
28	73.8	5446	505	1010
30	92.2	8501	805	1610
32	114.0	12996	1270	2540
34	144.0	20736	2015	4030
36	180.0	32400	3200	6400
38	225.0	50625	5070	....
40	290.0	84100	8050	....

SINGLE COTENAMEL

Size	Turns Per Linear Inch	Turns Per Square Inch	APPROX. LENGTH IN FEET ¼-Lb Spool	APPROX. LENGTH IN FEET ½-Lb Spool
14	14.1	199	....	39
16	17.4	303	....	61
18	21.4	458	....	97
20	26.1	681	....	154
22	31.9	1018	....	241
24	38.6	1490	....	376
26	46.4	2153	295	590
28	55.1	3036	458	916
30	64.7	4186	710	1420
32	74.6	5565	1090	2180
34	86.6	7500	1606	....
36	97.6	9526	2425	....

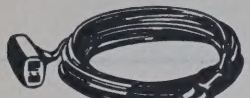
SINGLE NYLTEXENAMEL

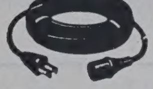
Size	Turns Per Linear Inch	Turns Per Square Inch	APPROX. LENGTH IN FEET ¼-Lb Spool	APPROX. LENGTH IN FEET ½-Lb Spool
22	34.9	1218	....	248
24	43.1	1857	....	390
26	52.9	2798	309	618
28	64.5	4160	487	974
30	78.1	6059	770	1540
32	93.4	8723	1202	2404
34	113.0	12769	1892	....
36	134.2	18009	2854	....

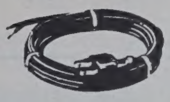
†CK—Coiled in carton K—Carton CR—Crate reel S—Spool C—Coil SK—Spooled in carton

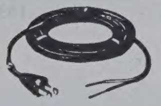
BELDEN • replacement and extension cords

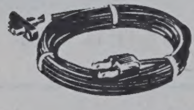
each cord bears Underwriters' label of approval

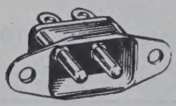






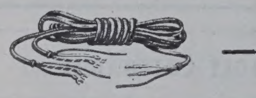






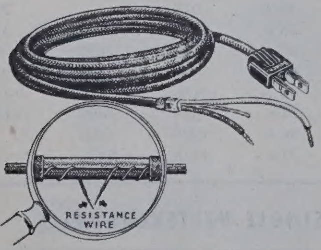
Trade Number	Lengths †Package and Color	A.W.G.	GENERAL CONSTRUCTION	Stranding	Insulation Thickness (inches)	Finished Cable O.D. (inches)	Voltage* Rating (volts)
1701	1 K	10 Ft Brown	Extension Cord—Size 18, Type POSJ-64. Extra-flexible all-rubber parallel lamp cord. Both ends unbreakable rubber. Does not mar floors or furniture. Safe for use on table tops.				
1702	1 K	15 Ft Brown					
1705	1 K	6 Ft Brown					
1751	1 K	25 Ft Black	Extension Cord—Size 18, Type SV. All-rubber portable cord with Belden molded-on all-rubber connector and Belden unbreakable soft rubber plug.				
1725	1 K	7 Ft 6 In. Brown	Replacement Cord—Size 18, Type POSJ-64. Extra-flexible all-rubber parallel lamp cord with Belden unbreakable soft rubber plug; opposite end stripped and tinned—ready for easy attachment. For lamps, radios, small appliances.				
1749	1 K	6 Ft 3 In. Black	Replacement Cord—Size 18, Type SV. All-rubber portable cord with Belden unbreakable soft rubber plug; opposite end stripped and tinned—ready for easy attachment. For amplifiers, test equipment and small appliances.				
8874	1 K	6 Ft Brown	Television Power Supply Connector Cord. Original equipment on most television sets. Size 18, Type POSJ-64. Extra-flexible all-rubber parallel lamp cord with Belden molded-on all-rubber connector and Belden unbreakable soft rubber plug.				
8125	10 K		Male Connector—Flush mounting for use with 8874 cord connector set.				

headphone cords



Trade Number	Lengths †Package and Color	A.W.G.	GENERAL CONSTRUCTION
8872	1 K	5 Ft Brown	Headphone Set, Pin tips all ends. 5 Ft of extra-flexible moisture-resistant rubber insulated tinsel cord. Over-all durable brown cotton braid. "Y" arm sections 15", coupled in series.
8873	1 K	5 Ft Brown	Headphone Set, Spade tips 4 phone ends. Pin tips plug end. 5 Ft of extra-flexible moisture-resistant rubber insulated tinsel cord; over-all durable brown cotton braid. "Y" arm sections 15", coupled in series.

AC•DC resistance cord



To determine the proper ac-dc line cord, add the filament voltages of the individual tubes in the receiver. From the chart at right, select the nearest figure under the heading SUM OF TUBE VOLTAGES in the column headed by the available power supply. Length 6 ft. Size 18.

Trade Number		Resistance (ohms)	Color Marker	Voltage Drop at 0.3 Amps.	*Sum of Tube Voltages for		
					110 Volt Line	115 Volt Line	120 Volt Line
8920	1 K	135.	Green	40.5	69.5	74.5	79.5
8921	1 K	165.	Yellow	49.5	60.5	65.5	70.5
8976	1 K	180.	Orange	54.	56.	61.	66.
8929	1 K	220.	Blue	66.	44.	49.	54.
8977	1 K	250.	Grey	75.	35.	40.	45.
8922	1 K	290.	Black	87.	23.	28.	33.
8923	1 K	330.	Brown	99.	11.	16.	21.
8924	1 K	560.	White	**84.	26.	31.	36.
8925	1 K	960.	Red	***72.	38.	43.	48.

*When line-voltages other than those shown must be used, subtract sum of tube voltages from available line voltage to obtain voltage drop. The nearest figure in "Voltage Drop" column gives proper ac-dc cord to use.
**Voltage drop at 0.175 amps. ***Voltage drop at 0.75 amps.

BELDEN • Price List

Belden Trade Number	Unit Package & Length**	Suggested List Price Each
1701	Brown	$1.30
1702	Brown	1.45
1705	Brown	1.20
1706	Brown	2.40
1709	Brown	2.75
1712	Brown	3.00
1715	Brown	3.25
1725	Brown	.55
1749	Black	.70
1751	Black	2.15
*1777		.90
8000	50′	.70
8000	75′	1.00
8000	100′	1.25
8000	1000′	11.40
8002	50′	.53
8002	75′	.70
8002	100′	.90
8002	1000′	7.75
8005	75′	1.35
8005	100′	1.80
8005	1000′	16.00
8006	100′	3.00
8006	1000′	28.25
8008	100′	1.95
8008	200′	3.75
8008	500′	9.00
8009	100′	1.35
8009	500′	6.00
8011	100′	1.95
8012	100′	1.40
8013	100′	1.05
8014	25′	.30
8014	500′	.015′
8102		.15
8103		.15
8104		.20
8125		.20
8126		.15
8127	10′	.23
8200	100′	.015′
8200	500′	.015′
8200	1000′	.015′
8201	50′	.88
8201	100′	.02′
8201	250′	.02′
8201	500′	.02′
8201	1000′	.02′
8204	500′	.04′
8205	500′	.03′
8206	250′	.02′
8209	500′	.08′
8210	100′	.07′
8210	500′	.07′
8221	100′	.09′
8222	100′	.02′
8222	500′	.02′
8223	100′	.02′
8223	500′	.02′
8224	100′	.03′
8224	500′	.03′
8225	100′	.04′
8225	500′	.04′
8225	1000′	.04′
8226	100′	.09′
8226	500′	.09′
8227	100′	.14′
8227	250′	.14′
8228	100′	.07′
8228	500′	.07′
8229	100′	.08′
8229	500′	.08′
8235	100′	.08′
8235	500′	.08′
8304		3.45
8309		2.30
8320		7.50
8321		4.25
8322		12.65
8401	25′	1.90
8401	50′	3.75
8401	100′	.08′
8401	500′	.08′
8410	25′	2.50
8410	50′	5.00
8410	100′	.10′
8410	500′	.10′
8411	25′	1.55
8411	100′	.06′
8412	25′	2.40
8412	50′	4.75
8412	100′	.10′
8412	500′	.10′
8422	25′	2.25
8422	50′	4.50
8422	100′	$ .09′
8422	500′	.09′
8423	50′	5.00
8423	250′	.11′
8424	50′	6.25
8424	250′	.14′
8425	50′	7.25
8425	250′	.16′
8426	100′	.20′
8427	100′	.21′
8431	100′	.04′
8432	100′	.07′
8432	500′	.07′
8433	100′	.09′
8433	500′	.09′
8443	100′	.045′
8443	500′	.045′
8444	100′	.06′
8444	500′	.06′
8445	100′	.07′
8445	500′	.07′
8446	100′	.10′
8447	100′	.11′
8448	100′	.12′
8449	100′	.12′
8452	100′	.05′
8452	500′	.05′
8453	100′	.07′
8453	500′	.07′
8454	100′	.08′
8454	500′	.08′
8455	100′	.10′
8455	250′	10′
8462	100′	.03′
8462	250′	.03′
*8472		.08′
*8482		.015′
*8483		.025′
8484	500′	.045′
8484	1000′	.045′
8650	100′	.08′
8651	100′	.06′
8652	100′	.05′
8654	100′	.10′
8655	100′	.08′
8656	100′	.07′
8657	50′	.11′
8658	50′	.13′
8660	50′	.035′
8660	250′	.035′
8661	50′	.05′
8661	250′	.05′
8662	50′	.19′
8662	250′	.19′
8664	100′	.09′
8665	100′	21′
8667	100′	.09′
8668	50′	.05′
8668	250′	.05′
8669	50′	.15′
8669	250′	.15′
8734	100′	.09′
8734	500′	.09′
8735	100′	.09′
8735	500′	.09′
8737	100′	.07′
8737	500′	.07′
8738	100′	.04′
8738	500′	.04′
8739	100′	.06′
8739	500′	.06′
8740	100′	.03′
8740	500′	.03′
8741	100′	.06′
8741	500′	.06′
8742	100′	.07′
8742	500′	.07′
8743	100′	.09′
8743	500′	.09′
8744	100′	.13′
8744	500′	.13′
8745	100′	.21′
8745	500′	.21′
8746	100′	.34′
8746	500′	.34′
8747	100′	.13′
8748	100′	.18′
8749	100′	.28′
8750	100′	.48′
8751	100′	.40′
8752	100′	.65′
8799	100′	.05′
8799	500′	.05′
8810†	25′	.55
8810†	100′	2.00
8810†	1000′	$ .02′
8817	100′	.40
8833†	100′	.03′
8833†	1000′	.03′
8834†	100′	.02′
8834†	1000′	.02′
8837†	25′	.50
8837†	100′	1.95
8837†	1000′	.02′
8838†	25′	.55
8838†	100′	2.00
8838†	1000′	.02′
8839†	25′	.55
8839†	100′	2.00
8839†	1000′	.02′
8841†	25′	.50
8841†	100′	1.85
8841†	1000′	.02′
8842†	25′	.45
8842†	100′	1.65
8842†	1000′	.02′
8844†	25′	.60
8844†	100′	2.25
8844†	1000′	.025′
8858		2.40
8859		2.70
8860		2.80
8861†	25′	.55
8861†	100′	2.05
8861†	1000′	.025′
8862†	25′	.70
8862†	100′	2.65
8862†	1000′	.03′
8863†	25′	.60
8863†	100′	2.45
8863†	1000′	.025′
8864		2.70
8865		3.00
8868	25′	1.55
8868	100′	.055′
8869	25′	1.00
8869	100′	.03′
8872		1.25
8873		1.15
8874		.70
8885	25′	1.00
8885	100′	.04′
8885	500′	.04′
8888	250′	.05′
8890		.30
8892		.20
8895		1.10
8896		.55
8897		.25
8898†	100′	.04′
8898†	500′	.04′
8899†	14′	.50
8899†	100′	.025′
8899†	1000′	.025′
8901†	25′	.30
8901†	100′	1.00
8901†	1000′	.015′
8905†	25′	$ .40
8905†	100′	1.25
8905†	1000′	.015′
8909†	25′	.40
8909†	100′	1.35
8909†	1000′	.015′
8913†	25′	.45
8913†	100′	1.55
8913†	1000′	.015′
*8918	250′	.025′
*8918	1000′	.025′
8920		1.25
8921		1.25
8922		1.25
8923		1.25
8924		1.25
8925		1.25
8929		1.25
8938†	25′	.75
8938†	100′	2.90
8938†	500′	.015′
8941†	25′	.45
8941†	100′	1.65
8941†	1000′	.015′
8942†	25′	.60
8942†	100′	2.40
8942†	1000′	.025′
8943†	25′	.50
8943†	100′	1.80
8943†	1000′	.02′
8945†	25′	.50
8945†	100′	1.90
8945†	1000′	.02′
8947†	25′	.55
8947†	100′	2.10
8947†	1000′	.025′
8976		1.25
8977		1.25
8989	25c pkg.	.25
8989	100	.75
8989	1000	5.00
8989	25c pkg.	.25
8992	100	.75
8992	1000	5.00
8993	25c pkg.	.25
8993	100	.65
8993	1000	3.75
8994		.65
8995	25c pkg.	.25
8995	100	.65
8995	1000	3.75
8996	25c pkg.	.25
8996	100	.65
8996	1000	3.75
8997	25c pkg.	.25
8997	100	.65
8997	1000	3.75
8998	25c pkg.	.25
8998	100	.50
8998	1000	2.50
8999	25c pkg.	.25
8999	100	.50
8999	1000	3.10

*New Item. †Specify Color. All prices subject to change without notice.

**Please indicate length desired, immediately following trade number, when more than one length is listed under the same trade number.

BELDENAMEL MAGNET WIRE

	Suggested List Price	
Size	¼ lb. Spools	½ lb. Spools
14	—	$.70
16	—	.70
18	—	.70
20	—	.70
22	—	.70
24	—	.70
26	—	.75
28	$.50	.80
30	.50	.95
32	.55	.95
34	.60	1.05
36	.75	1.30
38	.95	—
40	1.35	—

SINGLE COTENAMEL MAGNET WIRE

	Suggested List Price	
Size	¼ lb. Spools	½ lb. Spools
14	—	$.75
16	—	.80
18	—	.85
20	—	.90
22	—	.95
24	—	1.05
26	$.65	1.15
28	.70	1.30
30	.85	1.60
32	1.00	1.85
34	1.35	—
36	1.60	—

SINGLE NYLTEXENAMEL MAGNET WIRE

	Suggested List Price	
Size	¼ lb. Spools	½ lb. Spools
18	—	—
20	—	—
22	—	$1.10
24	—	1.25
26	$.80	1.45
28	.90	1.70
30	1.15	2.15
32	1.35	2.50
34	1.70	—
36	2.50	—

Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

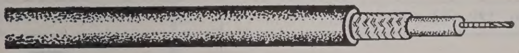
CORNISH RADIO AND TELEVISION WIRE PRODUCTS

P-A WIRES and CABLES

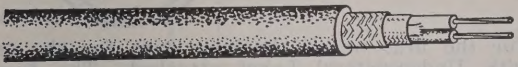
HOLLYWOOD MICROPHONE CABLES (Shielded-Jacketed)

Substantially made to withstand rough usage. Special low capacity color coded conductors. Braided with tinned copper shield. Tough weatherproof polished jacket overall.

Single Conductor — unusually low capacity. Can be used up to 100 ft. with high impedance ribbon microphones and up to 50 ft. with crystal microphones.



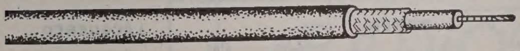
Cat. No.	Conductors	Approx. Feet on Spool	Approx. Outside Diam.	List Price M ft.
1105	1	100	9/32″	$85.00
2104	1	500	9/32″	82.00
2101	1	1000	9/32″	80.00



Two Conductor, for low impedance microphones and transmission lines.

Cat. No.	Conductors	Approx. Feet on Spool	Approx. Outside Diam.	List Price M ft.
1152	2	100	11/32″	$105.00
1153	2	250	11/32″	102.00
2152	2	500	11/32″	100.00
1154	3	100	11/32″	130.00
1155	3	250	11/32″	127.00
2153	3	500	11/32″	125.00
1156	4	100	3/8″	160.00
1157	4	250	3/8″	157.00
2154	4	500	3/8″	155.00

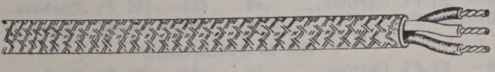
LAPEL MICROPHONE CABLE



Similar to No. 2101 except smaller in diameter.

Cat. No.	Conductors	Approx. Feet on Spool	Approx. Outside Diam.	List Price M ft.
1160	1	100	.175″	$75.00
1161	1	500	.175″	72.00
2160	1	1000	.175″	70.00

SHIELDED CABLES



These cables are recommended for sound recording equipment and P.A. systems where a flexible shielded cable is necessary. Each conductor consists of multi-strand copper wire cotton served, rubber covered and braided with color-coded cotton. Conductors No. 20 gauge unless otherwise specified.

Cat. No.	Put-Up	List Price per M ft.
1114	100′ Spool 2 Conductor	$ 78.00
1115	250′ Spool 2 Conductor	75.00
1116	100′ Spool 3 Conductor	108.00
1117	250′ Spool 3 Conductor	105.00
1118	100′ Spool 4 Conductor	135.00
1119	250′ Spool 4 Conductor	132.00
1120	100′ Spool 5 Conductor	161.00
1121	250′ Spool 5 Conductor	158.00
1122	100′ Spool 6 Conductor	183.00
1123	250′ Spool 6 Conductor	180.00

SHIELDED CABLES—COTTON BRAID OVERALL

Cat. No.	Put-Up	List Price per M ft.
1124	100′ Spool 2 Conductor	$ 98.00
1125	250′ Spool 2 Conductor	95.00
1126	100′ Spool 3 Conductor	135.00
1127	250′ Spool 3 Conductor	132.00
1128	100′ Spool 4 Conductor	163.00
1129	250′ Spool 4 Conductor	160.00
1130	100′ Spool 5 Conductor	193.00
1131	250′ Spool 5 Conductor	190.00
1132	100′ Spool 6 Conductor	223.00
1133	250′ Spool 6 Conductor	220.00

RADIO BATTERY CABLE AND DYNAMIC SPEAKER EXTENSION CABLE

Multi-conductor cables having flexible conductors with overall heavy cotton braid. Individual conductor consists of stranded copper, rubber covered with color-coded cotton braid. Suitable to all types of P.A. Systems. Conductors No. 20 gauge.

Cat. No.	Put up in spool	List Price per M ft.	Cat. No.	Put up in spool	List Price per M ft.
228	3 Wire-100 Ft.	$ 70.00	241	7 Wire-100 Ft.	$137.00
219	4 Wire-100 Ft.	85.00	222	8 Wire-100 Ft.	153.00
221	5 Wire-100 Ft.	100.00	223	9 Wire-100 Ft.	170.00
231	6 Wire-100 Ft.	120.00	224	10 Wire-100 Ft.	188.00

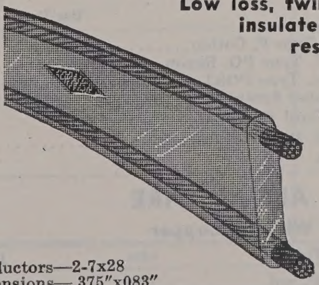
SHIELDED LEAD-IN AND GROUND WIRE

These products are made of flexible stranded copper conductors insulated with a substantial wall of high grade rubber with an overall of close tinned copper shield. They are most frequently used as a shielded down lead to ground out interference noises.

No. 20 1/32" R.C.	List Price Price	No. 18 1/32" R.C.	List Price Price
1143— 50 Ft. Coil	$ 1.80	1146— 50 Ft. Coil	$ 2.10
1144— 250 Ft. Spool	8.00	1147— 250 Ft. Spool	9.25
1145—1900 Ft. Spool	30.00	1148—1000 Ft. Spool	35.00

300-OHM TELEVISION DOWN-LEAD

Low loss, twin conductor, insulated with weather-resistant poly-ethylene

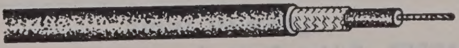


Put-Up	List Price Ea.
100 ft. spool	$3.70
250 ft. spool	9.00
500 ft. spool	17.50
1000 ft. spool	34.00
	M Ft.
*Mill Reel	30.00

*about 2500 ft.

Conductors—2-7x28
Dimensions—.375″x083″
Nominal impedance—300 ohms.

RG-59U COAXIAL CABLE



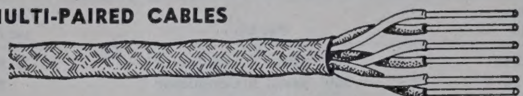
Conductor Size 22, O.D., 250", Impedance 75 ohms

Put-Up	List Price
100 Ft. Spool	$10.20 ea.
500 Ft. Spool	49.75 ea.
Mill Real (about 2500 ft.)	95.00 M Ft.

RADIO AND TELEVISION WIRE PRODUCTS

INTERCOMMUNICATION CABLES

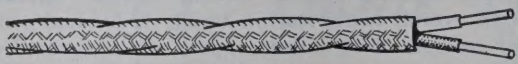
MULTI-PAIRED CABLES



Conductors are No. 22 solid tinned copper insulated with either vinyl plastic or double cotton impregnated braid—cabled in color-coded twisted pairs—with over-all cotton braid.

Cat. No.	Put-Up	Width	List Price per M ft.
1225	2 Pair	(O.D. approx. 3/16")	$ 54.00
1226	6 Pair	(O.D. approx. 5/16")	153.00
1227	13 Pair	(O.D. approx. 7/16")	325.00
1228	26 Pair	(O.D. approx. 5/8")	640.00

TWO CONDUCTOR SHIELDED CABLE



Consists of two No. 20 solid tinned copper plastic insulated conductors, color-coded and twisted with overall close tinned copper shield.

No. 1230 .... $45.00

THREE CONDUCTOR CABLE

3 Conductors are No. 20 solid tinned copper, plastic insulated, color-coded, twisted, with overall treated cotton braid.

No. 1231 .... $42.00

THREE CONDUCTOR (One Shielded)

Consists of a twisted pair of No. 20 solid tinned copper plastic insulated wires, and a single No. 20 solid tinned copper plastic insulated and shielded, all twisted, with over-all dry cotton braid.

No. 1232 .... $75.00
No. 1233—Same as No. 1232 except conductors are No. 22 solid $63.00

FLEXIBLE CORDS (Fixture Wires — Lamp Cords)

Fixture wires often used as all-purpose radio and lead-in wire. Lamp cords used for power supply and extension cords. Colors: Brown, Black, Ivory.

Cat. No.	Put-Up	List Price per M ft.
3050—No. 18 Single, Type F, Cotton	1000 ft	$17.50
*3020—No. 18 Parallel, Type PO, Rayon	250 ft	40.00
*3000—No. 18 Parallel, Type POSJ, All Rubber	250 ft	32.50
*3300—No. 18 All Rubber Service Cord, Type SJ	250 ft	60.00
*3500—Replacement Cord Set—6 ft. 18/2, POSJ, 1/64 with Molded Rubber Plug		.40 ea.

*Has Underwriter's Labels.

AERIAL WIRE

STRANDED BARE WIRE — Copper

No.	Ft.	Size	List Price
40A	75-ft. coil	7/22	$ 1.07
40	100-ft. coil	7/22	1.40
40B	1000-ft. spool	7/22	14.00
42A	75-ft. coil	7/24	.75
42	100-ft. coil	7/24	.95
42B	1000-ft. spool	7/24	9.50

LEAD-IN WIRE

STRANDED—Rubber Covered

No.	Ft.	Size	List Price	No.	Ft.	Size	List Price
300	50′ coil	18-1/32"	$ .60	302	500′ spool	18-1/32"	$5.50
301	100′ spool	18-1/32"	1.10	303	1000′ spool	18-1/32"	10.50

LEAD-IN WIRE

SOLID—Rubber Covered

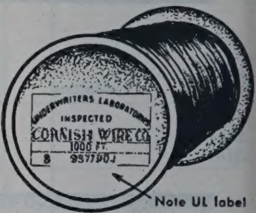
No.	Ft.	Size	List Price	No.	Ft.	Size	List Price
320	25′ coil	18-3/64"	$ .32	330	25′ coil	20-3/64"	$ .28
321	50′ coil	18-3/64"	.57	331	50′ coil	20-3/64"	.51
322	500′ spool	18-3/64"	5.25	332	500′ spool	20-3/64"	4.75
323	1000′ spool	18-3/64"	10.00	333	1000′ spool	20-3/64"	9.00

TWISTED PAIR DOWNLEAD

Two conductors, each No. 22 stranded copper, 1/32" rubber-covered (one black, one red), twisted and covered with overall black weatherproof braid.

No. 122—List Mft. $30.00

"NOFLAME-COR"— *The Television Hook Up Wire*



For the first time a hook-up wire for the trade with Underwriters' Label attached. The famous "NoFlame-Cor" wire is approved for 90°C—600 volt usage.

SOLID				STRANDED			
Cat. No.	Size	Put-up	List Each	Cat. No.	Size	Put-up	List Each
470	22	100′ spool	$2.25	473	22	100′ spool	$2.45
471	20	"	2.55	474	20	"	2.80
472	18	"	3.15	475	18	"	3.40

RADIO HOOK-UP WIRE

"CORLAC" HOOK-UP WIRE

Special under-insulation makes this hook-up wire moisture-proof and gives voltage break-down of 3100 volts (as per certified report of Electrical Testing Laboratory, N. Y. C.). Excellent push-back in waxed finish. Tinned copper conductors.

WAXED			LACQUERED		
Cat. No.	Put-Up	List Each	Cat. No.	Put-Up	List Each
		No. 22 SOLID			
434—	25 Ft. Cartons	$ .40	452—	25 Ft. Cartons	$ .46
436—	1000 Ft. Spools	10.60	454—	1000 Ft. Spools	12.50
		No. 20 SOLID			
437—	25 Ft. Cartons	.48	455—	25 Ft. Cartons	.56
439—	1000 Ft. Spools	13.00	457—	1000 Ft. Spools	16.00
		No. 22 STRANDED			
443—	25 Ft. Cartons	.44	461—	25 Ft. Cartons	.50
445—	1000 Ft. Spools	12.00	463—	1000 Ft. Spools	14.00
		No. 20 STRANDED			
446—	25 Ft. Cartons	.52	464—	25 Ft. Cartons	.58
448—	1000 Ft. Spools	14.50	466—	1000 Ft. Spools	17.00
		No. 18 STRANDED			
449—	25 Ft. Cartons	.64	467—	25 Ft. Cartons	.72
451—	1000 Ft. Spools	19.00	469—	1000 Ft. Spools	22.50

AC-DC ANTENNA WIRE

Flexible Bare copper conductor with brown cotton braid.

661	1000 Ft. Spools	$10.00
661A	25 Ft. on Fibre	.33

TEST LEAD WIRE

A super flexible conductor covered with heavy live rubber. Will not wear, kink or crack. Made in Black and Red. Mention color when ordering. O.D.—.140".

1140	100 Ft. Spools	$ 3.00
1141	500 Ft. Spools	13.00
1142	1000 Ft. Spools	25.00

Thank You!

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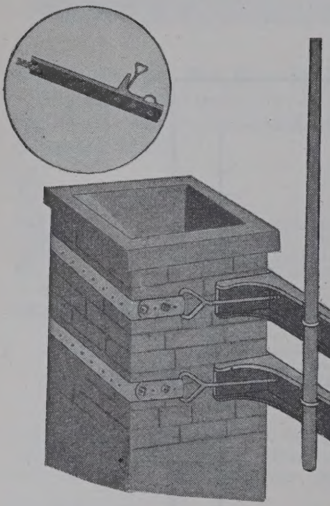
information or when ordering
from sources of supply listed
in this book, please mention

RADIO'S MASTER

Birnbach TV-FM ANTENNA ACCESSORIES



THE NEW MODEL No. 6000

CHIMNEY MOUNT ANTENNA BASE

Installation men have for years shown their preference for Birnbach Products — now, once again Birnbach shows the way. The New Birnbach Chimney Mount Antenna Base No. 6000 has received a ready and sensational acceptance. Its ease of installation, its unusual durability, versatility, and last but not least its very low price have all added up now once again, as in the past, that Birnbach has shown the way to quality at a low, low price.

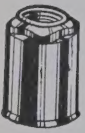
Here it is . . . The New Birnbach Chimney Mount Antenna Base Model 6000 for . . .

FM ● TELEVISION ● AMATEURS

A Few of Its Many Features:

- **Simple — One Man Operation** Sharply reduces installation time and cost.
- **No Drilling** No special tools — no special equipment.
- **Fits All Chimneys and adaptable for posts, corners of buildings, etc.**
- **Two Seperate Sections** Longer distance between sections allows maximum mast support.
- **Base Castings Made of Strong Corrosion-Resistant Die Cast Aluminum Alloy —** highest possible tensile strength.
- **Easily Installed at Highest Elevation.**
- **Fits Masts ⅝″ to 1½″ O.D.**
- **Complete With All Hardware —** 2 — 12-ft. steel strapping, etc., ALL COMPLETELY RUST-RESISTANT.
- **Simple Instructions.**

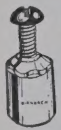
No. 6000 — Complete..**List Price $5.50 Per Pair**



WOOD SCREW ANCHOR

Especially designed to give permanent anchorage in any kind of masonry for insulated ribbon, coaxial or similar type standoffs. Threaded to take No. 10 Wood Screws and to fit ⅜″ dia. hole. After partially inserting the threaded end of the standoff into this wood screw anchor and then using a pair of pliers to dig deeper into the anchor you have positive assurance of a permanent trouble-free installation. Rustproof, galvanized steel. Free tamping tool with each 100 anchors.

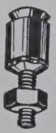
No. 7039 Standard Package 100 **List Price $11.00 per C**



MACHINE SCREW ANCHORS

These anchors are tapped for ¼″ machine screw bolts. Takes a ½″ dia. hole and comes with a ¾″ long bolt. Gives permanent anchorage. Used for fastening wall mounts brackets and pipe straps to any type of masonry. Free tamping tool with each 100 anchors.

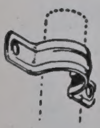
No. 7040 Stand. Pack. 100 **List Price $20.00 per C**



ANCHOR BOLT ASSEMBLIES

This is the standard anchor used by installation companies for fastening wall mounts and pipe straps to masonry. Cannot pull out. Rustproofed. The ¼″ bolt comes with anchor and nut complete. Hole dia. ½″. Available in 2″ and 3″ lengths of bolt. Designed to give permanent anchorage. Corrosion-proof. Fee tamping tool with each 100 bolts.

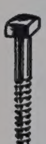
No. 7041—2″ Standard Package 100 **List Price $15.00 per C**
No. 7042—3″ Standard Package 100 **List Price 15.00 per C**



PIPE HANGER

Made of galvanized steel, this pipe hanger can be used for fastening poles, masts and other objects to walls, roofs, gables, etc.

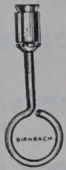
No. 7038 Stand. Pack. 100 **List Price $0.10 ea.**



LAG BOLTS

For permanently holding brackets, etc., in place. Made of galvanized steel, this sturdy bolt screws easily into wood, brick, etc. Available in four sizes: 1″, 1½″, 2′, 3″. **Specify size.**

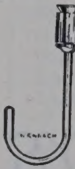
No. 7043 Stand. Pack. 100 **List Price $9.00 per C**



EYE BOLT ASSEMBLIES

Designed for permanent anchoring of guy wires, cables, brackets, etc., in brick or masonry. Cannot pull out. Made of ¼″ material. Overall length 2½″. Dia. of eye ⅜″. Hole dia. ⅜″. Rustproofed. Use tamping tool No. 7046.

No. 7044 Stand. Pack. 100 **List Price $18.00 per C**



PIPE BOLT ANCHORS

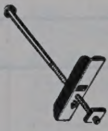
Used to mount pipe poles or antenna masts directly onto brick or masonry. Cannot pull out. Made of ¼″ stock for ½″, ¾″ and 1″ pipe. A very useful and superior bolt. Rustproofed. Use tamping tool No. 7046.

No. 7045 Stand. Pack. 100 **List Price $28.00 per C**

TAMPING TOOLS

Special Tamping Tool for anchoring eye bolts and pipe bolts.
No. 7046..........................**List Price $4.75 ea.**

Tamping Tool for ¼″ anchor bolts.
No. 7047..........................**List Price $2.00 ea.**



3 IN 1 TOGGLE BOLTS

Strongest toggle bolt obtainable. Used for bolting or mounting to wood, hollow concrete, tile partitions or plaster walls. Can be used with nut end or screw end in wall. Bolt dia. ¼″. Bolt length 3″. Rustproofed.

No. 7048 Stand. Pack. 100 **List Price $22.00 per C**

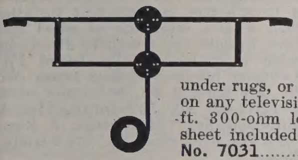
STAR DRILLS

Made of hand-tempered and hand-forged high-grade tool steel for hand drilling in brick, stone and concrete. Standard package 12.

No. 7049—⅜″ x 8″ long..........................**List Price $0.85 ea.**
No. 7050—½″ x 8″ long..........................**List Price .90 ea.**

BIRNBACH *Birnbach* TV-FM ANTENNA ACCESSORIES

NEW ALL CHANNEL INDOOR TELEVISION ANTENNA



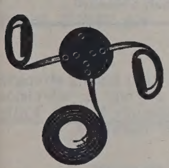
Can be Used on All Television Sets

Flexible Folded Dipole Antenna for Television—covers all Television Channels (1-13) and FM. No problem to install indoors. Can be placed anywhere; in attic, under rugs, or any out-of-the-way location. Works on any television set. Freq. range 44-216 mc. 10 ft. 300-ohm lead transmission line. Instruction sheet included. Individually boxed.

No. 7031............................List Price $2.95 ea.

FLEXIBLE FOLDED DIPOLE ANTENNAS

For Television (TV)



The flexible folded dipole antenna for Television is perfect for indoor use. This antenna can be placed in attics or in apartment houses; it can be placed under rugs, behind large couches, behind drapes covering windows, etc. This aerial can be oriented for best reception over all television stations. The new Birnbach indoor Television Antenna should prove a real seller for you. Transition loss measures 2.85 DB in television band.

No. 7027—Flexible Folded Dipole Antenna for Television (TV).
List Price (Individually Boxed)........................$1.95 ea.
No. 7027HF—List Price (Individually Boxed)................. 1.50 ea.

For Frequency Modulation (FM)

The flexible folded dipole antenna for FM is excellent for all FM receivers. With the new FM Converters and Tuners now on the market you can enjoy a very lucrative sale on this low-priced antenna. Losses in line measure .85 DB per 100 feet at 100MC.

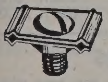
No. 7026—Flexible Folded Dipole Antenna for Frequency Modulation (FM).
List Price (Individually Boxed)........................$1.65 ea.

For above antennas with 50 ft. lengths of 300 ohm Transmission Line add **$2.00** to the list price.

An attractive display card furnished to aid you in the sale of our two new products.

GUY WIRE CABLE CLAMPS

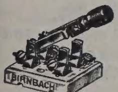
(VIBRATION-PROOF)



New Vibration-Proof Lock Clamps for positive grip on guy wire. Weather-proofed throughout. Standard package 100.

No. 762........................List Price $0.20 ea.

KNIFE SWITCHES

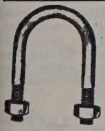


Made of special nickel-plated spring brass on a porcelain base. Screw terminals located conveniently for easy connections in circuit. Has two holes for mounting.

No.	Description	Standard Package	List Price
6100	S.P. S.T.	10	$0.45 ea.
6102	S.P. D.T.	10	.55 ea.
6103	D.P. S.T.	10	.77 ea.
6104	D.P. D.T.	10	1.00 ea.

No. 6104 is widely used for switching from one television antenna to another.

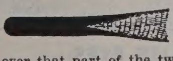
U BOLT



Useful for mounting poles to steel plates, wooden sections, etc. Nuts and washers supplied. 2¼″ overall; 1¼″ thread length; 1½″ distance between legs, ¼-20 size thread.

No. 7035....Standard Package 50....**List Price $0.30 ea.**

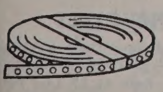
TELEVISION LOOM



This ⅜″ Non Metallic Loom is used for the protection of twin lead and Coax Cable on television installations. Use short sections of this loom over that part of the twin lead or Coax cable which comes in contact with any sharp edges such as corners of buildings, fire escapes, etc. Use friction tape to keep loom in place by binding the end of the loom to the cable.

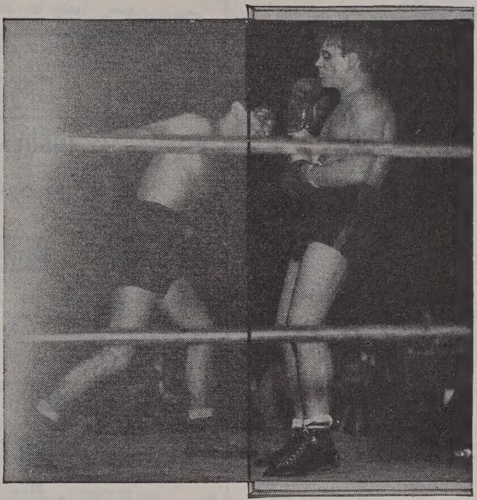
No. 1013— 25 ft.......................**List Price $2.75 ea.**
No. 1014— 50 ft.......................**List Price 5.25 ea.**
No. 1015—100 ft.......................**List Price 10.00 ea.**

PERFORATED HANGER STRAPPING



Can be used and adapted for mounting Antenna Masts to various odd shaped objects; chimneys, towers, etc. Made of ¾″ x .023 galvanized steel strap. Tough but flexible.

No.		Standard Package	List Price
7032	12 ft. coil	25	$0.75 ea.
7033	100 ft. coil	8	5.50 ea.



TELE-RAY FILTERS FOR BETTER TELEVISION IMAGE VIEWING

Outstanding Features:

- **Scientifically compounded,** optically perfected filtering for all models.
- **Engineered to give a stereoscopic,** life-like effect to the Television screen.
- **Instantly and easily attached** by special adhesive.
- **Picture Contrast increased** by elimination of unwanted light — softens grays — sharpens blacks.
- **Image becomes sharp and clear** with increased detail in room illumination.
- **Glare from screen eliminated** with resulting restfulness to eyes.
- **Unbreakable.**
- **Bevelled edges** (Super Quality).
- **Both gauges have the correct rigidity** for your viewing pleasure and are guaranteed not to bend or buckle under the most extreme operating conditions.
- **Not to be confused with any cheap imitations** of these quality-engineered products.
- **Works on all Television sets.**
- **Individually packed with simple instructions.**

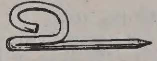
Deluxe
TELE-RAY FILTER—40 gauge

No.		List Price
7051	7″ tube size Each	$1.50
7052	10″ tube size Each	2.00
7053	12″ tube size Each	3.25
7054	15″ tube size Each	5.50
7055	20″ tube size Each	8.00

Super Quality
TELE-RAY FILTER—80 gauge
(Beveled Edges)

No.		List Price
7056	7″ tube size Each	$3.25
7057	10″ tube size Each	4.25
7058	12″ tube size Each	7.00
7059	15″ tube size Each	8.50
7060	20″ tube size Each	14.50

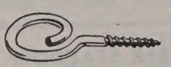
DRIVE RING



Can be used for securing guy wire. Made of steel galvanized. When hammered in at an angle will remain secure under any condition.

No.	Standard Package	List Price
7036	100	$0.10 ea.

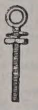
BRIDLE RING



Ruggedly constructed. Will stand up under maximum strain. Made of galvanized steel.

No.	Standard Package	List Price
7037	100	$0.10 ea.

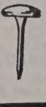
GUY SCREW ANCHOR



Designed to be added to existing masts where guy wires are necessary. By drilling a ¼″ hole through mast, secure any size guy wire. Rustproof. Complete with nut and washer.

No. 1971.......Standard Package 50.......**List Price $0.10 ea.**

INSULATED WIRING NAILS

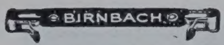


Perfected for twin lead indoors. The minimum of metal, in the head and wide fibreboard giving firm support to plastic band creates an extremely low capacity effect which does not interfere with TV reception. Fully insulated. Standard package 100 to a box (1000 to a carton).

No. T42—White or Brown...............**List Price $7.50 per M**

Birnbach TV-FM ANTENNA ACCESSORIES

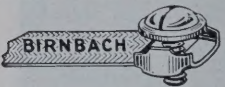
LEADIN STRIPS



Covered with a heavy cotton braid, weather-proofed.

No.	Lgth.	Std. Pkg.	List Price Each
611—Black	12"	50	$0.11
613—White	12"	50	.12

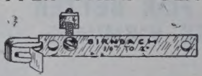
Screw Terminal Leadin Strip



Locks the wire together with the strip in a secure connection assuring perfect contact. Has weather-proof covering over a copper strip with cadmium plated terminals. Available in white or black.

No.	Std. Pkg.	List Price Each
617—Leadin Strip	50	$0.17
2617—Doublet Leadin Strip	25	.35

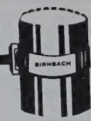
COPPER STRAP CLAMP



Will take ⅜" to 2" Pipe.

No. 600—Std. pkg. 50. **Ea. $0.10 List**

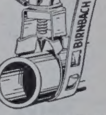
ADJUSTABLE FLEXIBLE PIPE CLAMP



This outstanding adjustable pipe clamp fits all masts and poles from ¾" to largest size pipe. This clamp, when placed under the Birnbach free floating guy ring provides an excellent anchor for attaching guy wires.

No. 627—Std. pkg. 50. **Ea. $0.25 List**

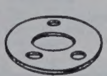
SADDLE GROUND CLAMPS



These ground clamps have a hard pointed screw which digs through rust and makes a positive contact. Fits a ⅜" to 2" pipe.

No.	Std. Pkg.	List Price Each
625—Heavy Saddle Clamp	50	$0.20

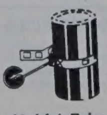
FLOATING GUY WIRE RING



This free floating ring fits 1", 1⅛", 1¼" O.D. Masts and telescopes easily over smaller upper mast, and rests on shoulder of mast section.

No.	Each
7034—Stnd. Pkg. 100	List $0.25

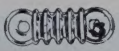
MAST *Standoff* ASSEMBLY



For fast mounting of twin lead. Lead slips easily into sturdy insulated insert. This assembly will fit around all size masts from ⅜" to 2" pipes. Standard package 50.

No. 628........**Ea. $0.40 List Price**

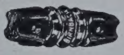
GLASS INSULATORS

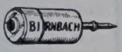


Made of crystal clear glass and have a smooth surface which prevents dirt, or ice to collect.

No.	Std. Pkge.	List Price
00—3"	100..C	$8.00

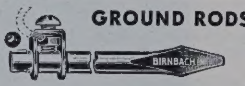
PORCELAIN INSULATORS AND NAIL-IT KNOBS





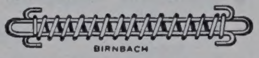
No.	Porcelain Insulators	Std. Pkge.	List Price
666	Brown or White	100..C	$8.75
669	Glazed Nail-It Knobs	100..C	7.50

GROUND RODS



No.	Std. Pkge.	List Price
616—4 Ft.	12..ea.	$1.50
818—6 Ft.	12..ea.	2.25

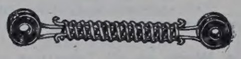
AIRPLANE SPRINGS



This rustproof steel spring cadmium-plated throughout provides a compact compression spring for taking up slack in the guy due to any great pull or strain on antenna during a heavy storm.

No. 764. Std. Pkg. 100. **Ea. $0.33 List**

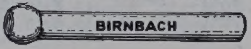
AERIAL SPRING ADJUSTER



Prevents swinging and swaying of antennas. Consists of two hooks with porcelain rings interconnecting with a powerful compression spring. Cadmium-plated.

No. 765........**Ea. $0.90 List Price**

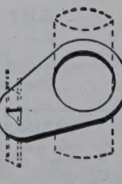
PORCELAIN TUBES



¾" Dia. Hole.

No.	Std. Pkge.	List Price
42—2"	100	C $5.00
43—3"	100	C 6.00
44—4"	100	C 7.50
46—6"	100	C 10.50
48—8"	100	C 15.00

RUBBER STANDOFF INSULATOR



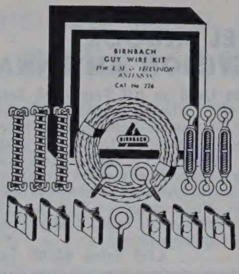
Can be used with either RG59U type cable or ribbon type line. It is heavy, rugged, and weather-proof. Will fit all antenna masts up to 1¼". Tough, resilient rubber. It will keep all cables away from poles.

SPECIFY SIZE DESIRED.

Standard Package 100.

No. 968........**Ea. $0.10 List Price**

TV-FM GUY WIRE KIT



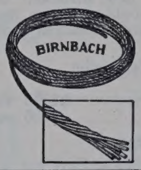
A compact and complete kit. Do not allow your new television installation to be destroyed by the first windstorm. A necessary addition for successful television service. Assures a trouble-free and efficient installation with a minimum of effort and cost. Simple and complete directions with each individually boxed kit. Contains 50 ft. 6 strands heavy No. 20 guy wire, 3 No. 665 screw eyes, 3 Birnbach No. 763 turnbuckles, 3 Birnbach No. 764 Springs, 6 Birnbach Vibration-proof No. 762 Clamps. Boxed.

No. 226 Standard Package 24 **List Price, Each $3.40**

A "Natural" for your customer's Television pleasure

GUY WIRE

Finest quality guy wire obtainable. Constructed of high tensile strength galvanized steel stranded twisted wire. Ideal for guying up television transmitter, receiver masts and poles. Made of 6 strands No. 20. Fully weather-proofed. A real necessity for television installers.



450 lbs. Tensile Strength.

No.		List Price
19—	25 ft. coil	Each $0.44
20—	50 ft. coil	Each .88
221—	100 ft. coil	Each 1.76
220—	500 ft. spool	Each 8.38
1220—	1000 ft. spool	Each 16.75

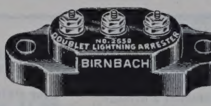
GUY WIRE

This low priced guy wire can be used on short runs and where maximum tensile strength is not required. It has 4 strands of No. 20 high tensile twisted steel galvanized wire. Fully weather-proofed.

225 lbs. Tensile Strength.

No.		List Price
20A—	50 ft.	Each $0.65
221A—	100 ft.	Each 1.25
220A—	500 ft.	Each 6.25
1220A—	1000 ft.	Each 12.00

DOUBLET LIGHTNING ARRESTERS



This Arrester is of the air gap type which is the accepted means of protecting doublet antennas from lightning. Installation instructions are printed on the box.

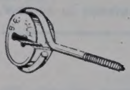
No. 2650—Doublet Lightning Arrester Std. Pkg. 25.............. **List $0.50**

RADIO LIGHTNING ARRESTER

No. 2650—Std. Pkg. 50. **Ea. $0.56 List**

INSULATED STANDOFFS

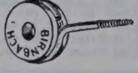
TWIN LEAD TYPE



This insulated twin lead standoff is quality engineered and is constructed of low loss insulating material. These sturdy insulators are slotted to take the 300-ohm ribbon type line and are solidly held by the eye of the cadmium-plated steel screws. The No. 1965—3" machine screw twin lead standoff is designed for mounting directly on a metal mast—uses a 10/32 thread.

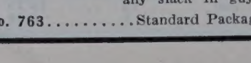
No.	Standard Package	List Price
1963— 3"	100	Each $0.10
1965— 3" M.S.	100	Each .15
1964— 7"	100	Each .15
1967—12"	25	Each .25

SCREW EYES — BAKELITE EYES



No.	Standard Package	List Price
963— 3"	100	Per C $11.25
964— 7"	50	Per C 13.75
967—12"	25	Per C 37.50

TURNBUCKLES



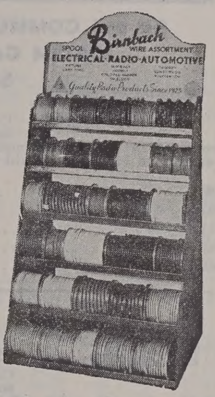
Constructed of rustproofed galvanized steel. Used to take up any slack in guy wire. Convenient, durable, dependable.

No. 763..........Standard Package 100..........**Each $0.27 List Price**

Birnbach HOOK-UP WIRE

SPECIAL SPOOL ASSORTMENT $1.10 LIST PRICE

No.	Ft.	Size	Type
3000	65	22	Solid Pushback
3001	55	20	Solid Pushback
3002	45	18	Solid Pushback
3003	35	16	Solid Pushback
3004	30	14	Solid Pushback
3005	55	22	Strandad Pushback
3006	45	20	Stranded Pushback
3007	40	18	Stranded Pushback
3008	30	16	Stranded Pushback
3009	20	14	Stranded Pushback
3010	50	18	Colored Rubber
3011	35	16	Colored Rubber
3012	30	14	Stranded Leadin
3013	60	18	Solid Leadin
3014	65	18	Stranded Leadin
3015	35	18	Stranded Lacquered
3016	75		Brown & White AC-DC Wire
3017	30		Kinkless Wire
3018	20	18	Twisted Lamp Cord
3019	45	18	Single Fix. Wire
3020	25	18	Parallel Silk
3021	15	18	Blk., Wht., Brn. Zip Cord
3022	100	18	Solid Tinned
3023	75	18	Bell Wire
3024	15	18	Shielded Wire


SPOOL
Birnbach
WIRE ASSORTMENT
ELECTRICAL·RADIO·AUTOMOTIVE
Quality Radio Products Since 1923

FREE DISPLAY One Display is given with each initial order for 100 spools. Each Display made of strong, re-inforced steel, mahogany crackle finish with attractive 3 color Display at top. Space provided to indicate YOUR resale price.

EXTRA DISPLAY RACKS AVAILABLE AT $3.25 EACH, NET

Height — 24″ Width — 12½″

Thermoplastic Synthetic Insulated Radio and Electronic Hook-up Wire (Fungus Proof)

★ SPECIFICATION JAN-C-76 ★

Type SRIR—1000 Volt

COLORS:

Black
Gray
Brown
White
Blue
Dk. Blue
Red
Yellow
Purple
Green
Orange
Pink
Tan

Note: For 25,000 feet of on color, deduct 10% of List Prices above.

Approx. AWG Cat. No.	Navy Standard Conductor Designation	Conductor Construction	Nom. Wall	Max. O.D.	List Price Per M Ft.
7024—24 Stranded	(16)	16 wires .005″	.012″	.052″	$16.50
7000—22 Solid	3/5 (1)	.0253 solid	.015″	.062″	12.50
7001—22 Stranded	3/5 (7)	7 wires .010	.015″	.066″	16.00
7002—20 Solid	1 (1)	.032 solid	015″	.068″	15.00
7003—20 Stranded	1 (10)	10 wires .010	.015″	.074″	19.50
7004—18 Solid	1½ (1)	.0403 solid	.015″	.076″	19.00
7005—18 Stranded	1½ (16)	16 wires .010	.015″	.083″	22.50
7007—16 Stranded	2½ (26)	26 wires .010	.015″	.096″	37.50
7009—14 Stranded	4 (41)	41 wires .010	.018″	.120″	55.00
7011—12 Stranded	6 (65)	65 wires .010	.018″	.140″	80.00

The above items meet all requirements of Army-Navy joint specification JAN-C-76, Type SRIR for plain resin construction where highest resistance to fungus growth is required.

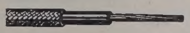
SPECIFICATIONS FOR THE JAN-C-76

I—Electrical Properties:
- A—Dielectric strength
- B—Insulation resistance
- C—Creepage resistance

II—Mechanical Properties:
- A—Low temperature flexibility
- B—High temperature stability
- C—Resistance to heat deformation
- D—Abrasion resistance
- E—Low moisture absorption

III—Chemical and Other Properties:
- A—Resistance to common solvents
- B—Flame resistance
- C—Fungus resistance

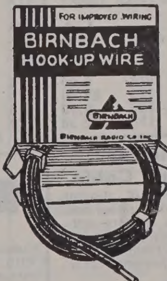
SHIELDED LEAD-IN WIRE



Used to prevent the pickup of interference or man-made static. Consists of a stranded tinned copper conductor with a wall of live rubber over which a tinned copper braid is woven.

No.	Ft.	Cap. mmfd. per Ft.	O.D	List Price
No. 20—1/64″				
810	500 Spool	.105	.090	$25.00
No. 18—1/64″				
807	25 Coil	.125	.100	$ 1.30
809	100 Spool	.125	.100	5.00
803	250 Spool	.125	.100	12.50
No. 16—1 /32″				
825	25 Coil	90	.145	$ 1.75
851	100 Spool	90	.145	6.50
802	250 Spool	90	.145	15.00
No. 14—3/64″				
804	25 Coil	95	.185	$ 2.25
806	100 Spool	95	.185	8.50
801	250 Spool	95	.185	22.50

RADEX SLIPBACK HOOKUP WIRES



It has a covering of rubber over a cotton wrap and is then covered with a bright color cotton braid and dipped into parafin. This construction will not cause the cotton insulation to fray or bunch up when pushed back. It has a high dielectric strength and will withstand all climatic changes without breakdown.

	25 FT. COILS				100 FT. SPOOLS				500 FT. SPOOLS			
	Solid		Stranded		Solid		Stranded		Solid		Stranded	
Size	No.	List Price	No.	List Price	No.	List Price	No.	List Price	No.	List Price	No.	List Price
20	280	$0.56	281	$0.63	380	$2.25	381	$2.50	480	$11.20	481	$12.60
18	282	.63	283	.70	382	2.50	383	2.80	482	12.60	483	14.00
16	284	.77	285	.84	384	3.10	385	3.40	484	15.50	485	17.00
14	286	1.05	287	1.26	386	4.20	387	5.00	486	19.00	487	22.50
12	288	1.61	289	1.75	388	6.50	389	7.00	488	32.25	489	35.00

1000 FT. SPOOLS

	Solid		Stranded	
Size	No.	List Price	No.	List Price
20	580	$21.00	581	$23.25
18	582	24.50	583	26.00
16	584	28.00	585	31.50
14	586	35.00	587	39.50
12	588	63.00	589	70.00

SOLID WIRE PUNCTURE VOLTAGE
60 Cycle A.C.

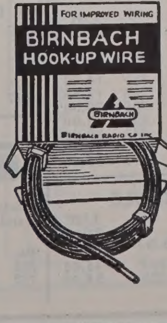
No. 20..........2000
No. 16..........2100
No. 18..........2100
No. 14..........2100
No. 12..........2200

STRANDED WIRE PUNCTURE VOLTAGE
60 Cycle A.C.

No. 20..........2100
No. 18..........2200
No. 16..........2200
No. 14..........2200
No. 12..........2300

COLORS—Black, Red, Blue, Yellow, Green, White, Brown

BIRNTEX SLIPBACK WIRE



This wire is constructed of quality materials and carefully insulated with a cotton wrap over which a cotton braid is closely woven, and then saturated with parafin.

SOLID COLORS:—Red, Black, Green, Blue, Yellow, White.
TRACER COLORS:—Red, Black, Green, Blue, Yellow, Brown.

	25 FT. COILS				100 FT. COILS			
	Solid		Stranded		Solid		Stranded	
Size	No.	List Price	No.	List Price	No.	List Price	No.	List Price
22	70	$0.42	71	$0.49	72	$1.70	73	$2.00
20	80	.50	81	.56	84	2.00	85	2.25
18	82	.56	83	.63	86	2.25	87	2.55

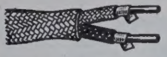
	500 FT. SPOOLS				1000 FT. SPOOLS			
	Solid		Stranded		Solid		Stranded	
Size	No.	List Price	No.	List Price	No.	List Price	No.	List Price
22	74	$8.50	75	$10.00	76	$15.50	77	$17.50
20	88	10.00	89	11.20	92	17.50	93	19.60
18	90	11.20	91	12.60	94	21.00	95	24.00

Puncture Voltage 60 Cycle A.C. 1500

Birnbach CABLE and TRANSMISSION LINE — COAXIAL CABLE —

PA and COMMUNICATING SYSTEM CABLES

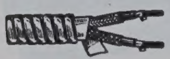
Shielded Twisted Pair



Constructed of solid enameled wire with a cotton wrap color coded cotton braid twisted pair waxed, and bare copper braid woven overall.

No.	Size	O.D.	List Price
821—100 Ft.	22	.125	$ 6.75
822—500 Ft.	22	.125	32.00
823—100 Ft.	19	.145	8.00
824—500 Ft.	19	.145	37.50

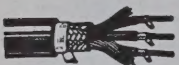
Armored Speaker Cable



Constructed of 2 No. 18 stranded parallel conductors $\frac{1}{64}$ rubber color coded cotton braid waxed, paper wrap and closely armored.

No.	Size	O.D.	List Price
1110— 100 Ft.	18 $\frac{1}{64}$	.155 x .260"	$10.00
1111— 250 Ft.	18 $\frac{1}{64}$	.155 x .260"	20.00
1112— 500 Ft.	18 $\frac{1}{64}$	.155 x .260"	40.00
1113—1000 Ft.	18 $\frac{1}{64}$	.155 x .260"	80.00

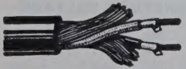
Rubber Shielded Microphone Cable



Consists of individual flexible tinned copper conductors, each insulated with a heavy wall of colored rubber for easy identification. A tinned copper shield is woven over all conductors, and then cotton wrapped. A 1/32 wall of tough rubber is placed overall. It is a weatherproof cable, ideal for outdoor use, and will withstand hard and rough usage.

No.	No. Conds.	Ft.	Size	Cap. bet. Shield & Cond. mmfds.	Cap. bet. Conds. mmfds.	O.D	List Price
772	2	100	20	55	31	.270	$15.00
1772	2	250	20	55	31	.270	35.00
773	2	100	20	58	33	.305	19.50
1773	3	250	20	58	33	.305	48.75
774	4	100	20	48	28	.345	22.50
1774	4	250	20	48	28	.345	59.75
775	5	100	20	51	29	.395	27.50
1775	5	250	20	51	29	.395	68.75
776	6	100	20	45	27	.405	32.00
1776	6	250	20	45	27	.405	80.00
777	7	100	20	49	27	.420	35.00
1777	7	250	20	49	27	.420	87.50

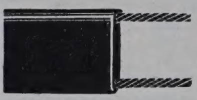
RUBBER S. J. CABLE



Consists of individual flexible tinned copper conductors, each insulated with a heavy wall of colored rubber for easy identification. A 1/32 wall of tough polished rubber is placed overall. It is a weatherproof cable, ideal for outdoor use, and will withstand hard and rough usage.

Cat. No.	No. Conds.	Ft. on Spool	O.D.	List Price
788	2	100	.250	$12.00
789	2	250	.250	28.25
790	3	100	.300	15.25
791	3	250	.300	35.00
792	4	100	.325	19.50
793	4	250	.325	45.00
794	5	100	.370	24.00
796	6	100	.400	30.00
797	6	250	.400	70.00
798	7	100	.400	35.00
749	8	100	.460	40.00

FM and TELEVISION TWIN LEAD 300 OHM TRANSMISSION WIRE



Has full thickness insulation throughout Polyethylene insulation resists oil, acids and abrasions. Minimizes the effects of attenuation. Reduces distortion.

R.M.A. STANDARD

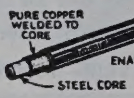
Conductors, Bare Copper	7/No. 28 AWG
Insulating Material	Polyethylene
Weight per 1000 ft.	14.1 lbs.
Impedance	300 Ohms
Attenuation in Decibels per 100 ft.:	
50 MC	0.68
100 MC	0.85

No. 7028— 50 ft. coils.....List Price $2.25 ea.
No. 7029— 100 ft. coils.....List Price 4.50 ea.
No. 7030—1000 ft. spools....List Price 40.00 ea.

50-ft. and 100-ft. coils individually boxed

COPPERWELD ANTENNA WIRE

(STRETCHLESS)



Has steel core covered with copper heavily enameled. High tensile strength — several times that of enameled copper wire. Low R.F. resistance, ideal for transmitting doublet and directional antenna systems. Will maintain frequency characteristics of antenna.

LIST PRICES

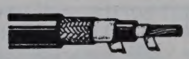
Feet	No. 10	No. 12	No. 14
100	$ 4.50	$ 3.15	$ 1.90
250	11.25	7.75	5.25
500	22.50	15.50	10.25
1000	43.75	30.50	20.00
2500	108.00	76.00	49.50

TENSILE STRENGTH

No. 10	1130 lbs.
No. 12	720 lbs.
No. 14	400 lbs.

SPECIAL LENGTHS AVAILABLE ON ORDER

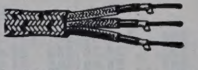
Crystal Microphone Cable



For use with crystal and ribbon microphones. They are designed for low capacity and low losses. Constructed of tinned stranded conductor with a wall of low capacity rubber and closely woven shield and tough rubber wall overall.

No.	Ft.	Size	Capacity per Ft. mmfds.	O.D.	List Price
872	100 Crystal	20	37	.270	$12.00
1872	250 Chystal	20	37	.270	28.50
870	100 Lapel	20	60	.175	9.00
1870	250 Lapel	20	60	.175	22.50
871	100 Lapel	20	50	.155	9.00
1871	250 Lapel	20	50	.155	22.50

Shielded Battery Cable



Constructed of flexible stranded conductors covered with quality rubber compound and braided with cotton, color coded. A tinned copper shield is woven overall. Used to prevent interference from being picked up.

No.	No. Conds.	Ft.	Size	Cap. bet. Shield & Cond. mmfds.	Cap. bet. Conds. mmfds.	O.D.	List Price
972	2	100	20	76	61	.205	$9.50
973	3	100	20	90	50	.240	11.00
974	4	100	20	62	35	.285	14.00
975	5	100	20	64	43	.290	17.00
976	6	100	20	95	48	.300	20.00
977	7	100	20	87	41	.340	25.00
978	8	100	20	103	61	.345	29.00
979	9	100	20	100	57	.360	32.50
980	10	100	20	107	80	.375	37.00

HEAVY DUTY S. J. CABLE

Cat. No.	No. Conds.	Ft.	Gauge	O.D.	List Price each
574	2	500	No. 18	.300	$45.00
578	2	500	No. 16	.325	54.00

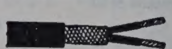
73 OHM COAXIAL CABLE RG-59/U

Constructed of No. 22 solid plain copperweld with .146 O.D. Dielectric insulation, then with copper inner shield and Black Vinyl jacket. Overall O.D. is .242. Nominal impedance 73 ohms. Nominal capacitance 21 mmf. per ft. Permits peak receiver performance without distortion. Meets all requirements for Television and FM range.

Attenuation (Mc)	10	30	100	300	400
DB per 100 ft.	1.0	2.0	3.8	7.0	7.9

No.	List Price
907—100 ft. Spool	$15.00
908—250 ft. Spool	36.00
909—500 ft. Spool	70.00
910—1000 ft. Reel	137.50

SHIELDED TRANSMISSION CABLE



Twisted, shielded 2-cond. 72-ohm transmission cable. Weather-proof, reduces interference. A matching stub is recommended with this cable in place of 300-ohm line. 2-cond. No. 22 strands, shielded.

No. 1978— 100 ft.........List Price $10.50 ea.
No. 1978— 100 ft.........List Price $10.50 ea.
No. 1980—1000 ft.........List Price 87.50 ea.

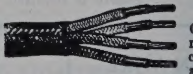
Commercial Type Twisted Pair

(No. 18 STRANDED)

This cable is used extensively as original equipment of master antenna systems. It is constructed of 2 No. 18 tinned stranded conductors insulated with a special grade of rubber color coded and covered with a white weatherproof cotton braid.

No.	Ft.	List Price	Freq.	Surge Imp. (Ohms)	D.B. Loss per 100'
916—	50 Spool	$3.25			
917—	100 Spool	6.00	10 Mcs.	82	2.1
918—	250 Spool	12.00	20 Mcs.	82.5	3.9
919—	500 Spool	23.75	40 Mcs.	82.3	6.3
920—	1000 Spool	47.50			

BATTERY CABLE



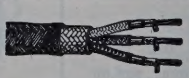
Constructed of individual rubber insulated stranded conductors, cotton braided and color coded. A closely woven cotton braid overall.

No.	No. Conds.	Ft	Size	O.D.	List Price
172	2	100	20	.200	$6.00
173	3	100	20	.205	8.00
174	4	100	20	.260	10.00
175	5	100	20	.300	12.00
176	6	100	20	.320	14.50
177	7	100	20	.340	17.50
178	8	100	20	.370	20.50
179	9	100	20	.400	23.00
180	10	100	20	.410	25.00
182	12	100	20	.430	30.00

All Cables Available in Special Lengths

Shielded Battery Cable

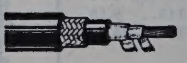
(Cotton Braid Overall)



Constructed of individual tinned stranded copper with a wall of rubber and covered with a colored cotton braid.

No.	No. Conds.	Ft.	Size	Cap. bet. Shield & Cond. mmfds.	Cap. bet. Conds. mmfds.	O.D.	List Price
1972	2	100	20	120	65	.215	$10.50
1973	3	100	20	86	49	.240	15.00
1974	4	100	20	103	46	.295	18.00
1975	5	100	20	73	38	.312	21.00
1976	6	100	20	70	36	.330	25.00
1977	7	100	20	68	35	.350	28.00

Diathermy Cable



Specially designed for use with electrotherapy apparatus. It is extremely flexible with a special grade of tough live flexible jacket to withstand the exacting service required.

No.	Ft.	Breakdown Voltage 60 Cycles A.C.	O.D.	List Price
756	100 Spool	20,000	.300	$ 14.00
757	1000 Reel	20,000	.300	126.00

Birnbach BIRACO TUBING DIAL and MAGNET WIRE

DIAL CABLE

42 Strand Phosphor Cable

Constructed of the finest phosphor bronze wire over a linen thread center. Due to its high tensile strength, it will not stretch.

No. 1025— 25′ Spool List Price $1.20 each
No. 1050— 50′ Spool List Price 2.25 each
No. 1051— 100′ Spool List Price 4.00 each
No. 1052—1000′ Spool List Price 33.00 each

Phosphor Bronze (Light Cable)

A lower quality cable than No. 1025, but a cable that will give good service. This is a braided Phosphor Bronze cable.

No. 1053— 25′ Spool List Price $0.66 each
No. 1054— 50′ Spool List Price 1.25 each
No. 1055— 100′ Spool List Price 2.50 each
No. 1056—1000′ Spool List Price 18.50 each

Extra Heavy Linen Dial Cable

Made of the finest linen for replacement on all receivers, same as used for Philco. It is extra heavy for exceptional long service.

No. 1057— 25′ Spool List Price $1.30 each
No. 1058— 50′ Spool List Price 2.50 each
No. 1059— 100′ Spool List Price 4.50 each
No. 1060—1000′ Spool List Price 36.00 each

Heavy Linen Cable

This braided cable is used for replacement for all Philco Receivers.

No. 2025— 25′ Spool List Price $1.30 each
No. 2050— 50′ Spool List Price 2.50 each
No. 2051— 100′ Spool List Price 4.50 each
No. 2052—1000′ Spool List Price 36.00 each

Light Linen Dial Cable (Silk Core)

High quality linen cable used on many receivers specially treated to prevent slipping.

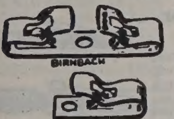
No. 3025— 25′ Spool List Price $1.20 each
No. 3050— 50′ Spool List Price 2.25 each
No. 3051— 100′ Spool List Price 4.00 each
No. 3052—1000′ Spool List Price 25.00 each

Extra Light Linen Cable

It is a strong extra thin linen cable for replacement. Braided of the finest black linen.

No. 4025— 25′ Spool List Price $0.75 each
No. 4050— 50′ Spool List Price 1.40 each
No. 4051— 100′ Spool List Price 2.50 each
No. 4052—1000′ Spool List Price 18.50 each

SPRING WIRE CLIPS



They will hold a wire, up to No. 10 B&S Gauge, in a secure contact. All clips are brass nickel-plated.

No.	Length	Std. Pkg.	List Price Per C
32—Spring Clip	1″	100	$2.00
33—Twin Clip	1¾″	100	8.50

ALL RUBBER LAMP CORD

This cord is an all rubber covered insulated parallel cord which can be separated by starting with a knife. Connects easily and cannot fray. Sanitary and neat.

COLORS: Black, White, Brown

570—100 Spool.......18.......$ 4.25
572—250 Spool.......18....... 10.00
573—500 Spool.......18....... 20.00

BUS BAR WIRE

Used to hook up all types of transmitters, especially ultra short wave equipment. Made of hard drawn copper, tinned, straightened, and cut 2 ft. lengths.

No.		List Price per 100 lengths
2010—No. 10 Round	Tinned	$8.50
2012—No. 12 Square	Tinned	6.75
2013—No. 12 Round	Tinned	6.00
2014—No. 14 Square	Tinned	5.10
2015—No. 14 Round	Tinned	4.30

MAGNET WIRE

Special Spools — $0.56 List Price

On attractive spools, even sizes from 14 to 40 inclusive, in Double Cotton, Plain Enamel, and Double Silk. Here is a really sensational seller for the dealer who will put this display on the counter. It is a Silent Salesman which will bring you real profit the year around! **FREE DISPLAY!** One Display is given with each initial order for 100 spools. Each Display made of strong, re-inforced steel, mahogany crackle finish with attractive 3 color Display at top. Space provided to indicate YOUR resale price.

Extra Display Racks available at $3.50 each, Net.

LENGTH OF WIRE OF SPECIAL SPOOLS

Size B&S	Plain Enamel	Double Cotton	Double Silk
12	15 ft.	9 ft.	— ft.
14	26 ft.	20 ft.	11 ft.
16	34 ft.	34 ft.	19 ft.
18	56 ft.	44 ft.	23 ft.
20	86 ft.	56 ft.	29 ft.
22	112 ft.	75 ft.	37 ft.
24	184 ft.	97 ft.	56 ft.
26	244 ft.	116 ft.	71 ft.
28	401 ft.	131 ft.	90 ft.
30	525 ft.	158 ft.	112 ft.
32	675 ft.	180 ft.	124 ft.
34	900 ft.	195 ft.	131 ft.
36	1275 ft.	206 ft.	142 ft.
38	1725 ft.	210 ft.	116 ft.
40	1950 ft.	265 ft.	125 ft.

¼ LB., ½ LB., 1 LB., *MAGNET WIRE—Approximate Feet and List Prices*

Double Cotton (White)

	¼ lb Spool		½ lb Spool		1 lb Spool	
Size B&S	ft.	List Price	ft.	List Price	ft.	List Price
12	12	$0.40	24	$0.70	49	$1.27
14	19	.41	39	.71	78	1.30
16	31	.44	62	.73	123	1.33
18	48	.45	97	.81	194	1.37
20	78	.49	157	.90	304	1.54
22	119	.55	238	1.02	477	1.75
24	134	.64	269	1.21	738	2.18
26	284	.77	568	1.44	1136	2.54
28	435	.91	871	1.75	1742	2.97
30	641	1.09	1284	2.06	2596	3.53
32	976	1.35	1953	2.55	3906	4.85
34	1365	1.90	2735	3.60	5470	6.80
36	1827	2.60	3654	4.98	7309	9.35
38	2738	5.00	5476	9.35	10952	17.50
40	3405	7.50	6811	14.00	13623	26.00

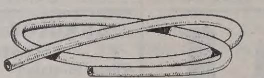
Plain Enamel

	¼ lb Spool		½ lb Spool		1 lb Spool	
Size B&S	ft.	List Price	ft.	List Price	ft.	List Price
12	12	$0.33	25	$0.63	50	$1.08
14	20	.35	40	.65	80	1.10
16	32	.36	63	.66	126	1.12
18	50	.37	100	.67	201	1.16
20	80	.40	160	.68	320	1.21
22	127	.41	254	.72	508	1.27
24	201	.43	403	.77	806	1.33
26	320	.52	640	.92	1280	1.66
28	507	.55	1015	.97	2030	1.75
30	805	.60	1610	1.10	3220	2.00
32	1282	.66	2564	1.18	5128	2.18
34	2037	.75	4075	1.36	8150	2.73
36	3221	.87	6442	1.59	12887	2.98
38	5132	1.00	10246	1.85	20492	3.47
40	8143	1.50	16286	2.77	32573	5.25

Double Silk (Green)

	¼ lb Spool		½ lb Spool		1 lb Spool	
Size B&S	ft.	List Price	ft.	List Price	ft.	List Price
12	12	$0.57	24	$1.12	49	$2.12
14	19	.60	39	1.15	78	2.15
16	31	.65	62	1.25	125	2.27
18	49	.72	99	1.31	198	2.50
20	78	.83	157	1.62	314	3.05
22	123	.96	247	1.87	495	3.35
24	195	1.06	390	2.06	781	4.00
26	303	1.28	606	2.50	1212	4.90
28	478	1.43	956	2.81	1912	5.31
30	739	1.62	1479	3.12	2958	6.25
32	1136	2.18	2272	4.25	4545	8.50
34	1712	2.81	3424	5.50	6849	10.60
36	2551	4.37	5102	8.50	10204	16.25
38	3770	6.25	7541	11.85	15082	22.50
40	5040	9.35	10080	17.75	20161	33.50

BIRACO TUBING *(Extruded)*

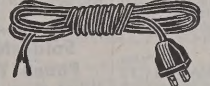


It is [illegible] extruded tubing made of the new synthetic plastic material. Extremely flexible and when stretched returns to its original form. Withstands the effects of heat and will not support combustion. Will only soften at 300°F and will not flow at 425°F. Its dielectric strength:—750 volts per mil. when dry and 350 volts when wet. It is not affected by oil and is resistant to most coal tar solvents and petroleum solvents. Resists acids, alkalies in concentrations up to 30% by weight. Available in continuous lengths. Dielectric strength—10,000 volts.

COLORS: Black, Red, Green, White and Yellow

No.	Size	I.D.	List Price per 36″ lengths
313	20	.034	$0.17
314	18	.042	.17
315	16	.053	.18
316	14	.066	.19
317	12	.085	.19
318	8	.135	.50
319	4	.208	.55
320	2	.263	.60
321	5/16	.3125	.70
322	⅜	.375	.75
323	½	.500	1.2
324	⅝	.625	1.3

SERVICE CORDS



Constructed of all rubber Underwriters Approved lamp cord and plug on one end and with the other end stripped and tinned all ready for use.

COLORS: Black or Brown

No.	Ft.	List Price
816-B	6	$0.50
817-B	7½	.60
819-B	10	.65

VARNISHED TUBING

Provides quality insulation for wires used on radio sets, small electrical equipment and instruments. The outside is impervious to oil, acid and water. It is highly flexible and will not crack after aging. Average dielectric strength 5000 volts.

COLORS: Black, Red, Green, White and Yellow

No.	Size	I.D.	List Price per 30″ lengths
291	20	.034	$0.17
293	18	.042	.17
294	16	.053	.17
295	14	.066	.17
300	12	.085	.17
301	8	.133	.50
297	3/16	.208	.50
298	¼	.263	.65
303	5/16	.3125	.70
304	⅜	.375	.75
299	½	.500	1.50
296	⅝	.625	1.50

BIRACO & VARNISHED TUBING IN HANDY PACKAGES

Both BIRACO Extruded TUBING and VARNISHED TUBING are also available on convenient paper spools in a variety of lengths to meet practically every demand Put up in handy packages to fill the requirements of servicemen and manufacturers. Wide assortment of colors.

BIRACO TUBING

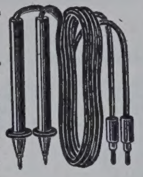
Cat. No.	Gauge Size	Approx. I. D.	Length Package	List Price Package
314B	18	.042	25 ft.	$0.75
315B	16	.053	25 ft.	.75
316B	14	.066	25 ft.	.75
317B	12	.085	25 ft.	.75
325B	10	.106	15 ft.	.75
318B	8	.135	15 ft.	.75
326B	6	.166	15 ft.	.75
319B	4	.208	10 ft.	.75
320B	2	.263	10 ft.	.75
314BC	18	.042	100 ft.	2.75
315BC	16	.053	100 ft.	2.75
316BC	14	.066	100 ft.	2.75
317BC	12	.085	100 ft.	2.75
325BC	10	.106	100 ft.	4.40
318BC	8	.135	100 ft.	4.40
326BC	6	.166	100 ft.	4.40
319BC	4	.208	100 ft.	6.75
320BC	2	.263	100 ft.	6.75

VARNISHED TUBING

Cat. No.	Gauge Size	Approx. I. D.	Length Package	List Price Package
293V	18	.042	25 ft.	$ 1.50
294V	16	.053	25 ft.	1.50
295V	14	.066	25 ft.	1.50
300V	12	.085	25 ft.	1.50
307V	10	.106	20 ft.	1.50
301V	8	.135	15 ft.	1.50
302V	6	.166	10 ft.	1.50
305V	4	.208	10 ft.	1.50
306V	2	.263	10 ft.	1.50
293VC	18	.042	100 ft.	5.25
294VC	16	.053	100 ft.	5.25
295VC	14	.066	100 ft.	5.25
300VC	12	.085	100 ft.	5.25
307VC	10	.106	100 ft.	9.00
301VC	8	.135	100 ft.	9.00
302VC	6	.166	100 ft.	9.00
305VC	4	.208	100 ft.	15.00
306VC	2	.263	100 ft.	15.00

Birnbach TEST LEADS and ACCESSORIES

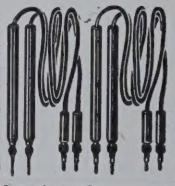
High Voltage Test Leads



The high dielectric strength and low ieakage resistance of these test leads recommend them for for testing high voltage high sensitivity devices such as Meggers and Megohmeters. They are particularly well suited for use in testing breakdown voltages up to 1200 volts. The prods and the tip handles are made of black and red bakelite with special designed tips for application. The prods are 6″ long and ½″ dia. and have a guard ring near the metal tip to prevent accidental touching of the exposed metal part. Extra heavy kinkless test lead wire 7/32″ dia. is used throughout. The leads are 60″ long.

No.	List Price
562—High Voltage Test Leads	$5.00

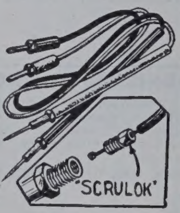
DeLuxe Test Leads



Constructed with 5″ long cast phenolic red and black handles with removable needlepoint chucks or solderless tips. Black and red heavy kinkless instrument 48″ long is used to connect the prods with the insulated red and black cast phenolic solderless tips. Either needlepoint or solderless tip available.

No.	List Price
560—Solderless prod test leads..	$1.75
561—Needlepoint prod test leads	1.75

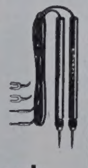
Bakelite Pencil Type Test Leads



Red and black bakelite handles, 6″ long and 5/16″ in dia. and red and black bakelite insulated phone tips. Heavy kinkless wire is used together with the Birnbach Scrulok system of solderless wire connection. The Universal needle and phone tip prod have the same dimensions as the standard phone tip and are useful for piercing insulation without damage. The needlepoint is extra heavy to prevent breakage and should it become broken can be readily replaced. Available only in combination of needlepoint prods and insulated phone tips. Length overall 60″.

No.	List Price
408—Bakelite Pencil Type Test Lead	$2.50
439—Needlepoint Prod Tip for Replacement	.25

Test Leads (Bakelite Handles)



Have 4″ red and black insulated handles. Needles can be replaced when broken simply by loosening the knurled collar. Available with either phone tips or spade lugs. Length overall 50″.

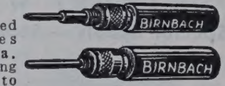
No.	List Price
4420—Phone Tip Test Leads	$1.12½
4421—Spade Lug Test Leads	1.12½

Standard Test Leads

Same as above with a Sr. solderless phone tip.

No.	List Price
422—Phone Tip Test Leads....	$1.00
423—Space Lug Test Leads....	1.00

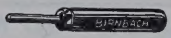
Insulated Solderless Phone Tips

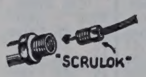


Insulated handles ⅜″ dia. by 1″ long fitted to solderless phone tips. The wire can be easily attached by threading through the hole in the handle and tightening the knurled nut. Colors:—red, black, green, and yellow.

No.	List Price
409—Insulated Sr. Solderless Tip—2¼″ Long ....each	$0.20
415—Insulated Jr. Solderless Tip—1$\frac{13}{16}$″ Long ....each	.18

Insulated Phone Tip

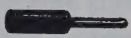




The insulated handle is 1″ long, $\frac{5}{16}$″ dia. Connection is made by threading wire through the Scrulok threaded bushing (see drawing). Colors: red, black, green and yellow.

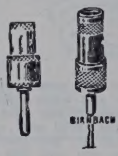
412—Scrulok Pin Tip, 1$\frac{9}{16}$″ Long ....each	$0.24
419—Scrulok Pin Tip, 1$\frac{15}{16}$″ Long ....each	.30

Phone Tip



Ideal for replacement on headset, speaker and extension cords.
No. 402—Std. Pkg. 100
List Price $2.25 per C

Solderless Phone Tips

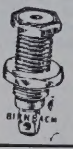


Milled of solid brass and nickel-plated. Designed for easy insertion of the wire.

No.	List Price per C
24—Junior ..	$11.50
24—Senior ..	12.50

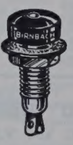
Std. Pkg. 100.

No. 26 Phone Tip Jack



Milled of brass and nickel plated. The bronze springs are specially made to hold the phone tip tight and straight. Mounts in a ¼″ dia. hole.
No. 26—Std. Pkg. 100.
List Price $12.50 per C

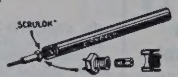
No. 407 Insulated Tip Jack



Has a $\frac{7}{16}$″ insulated top and mounts in a $\frac{5}{16}$″ dia. hole. The specially designed bronze springs hold the phone tip tight and straight. Colors:—red, black, yellow, and green. Std. Pkg. 100.

No.	List Price
407—Insulated Phone Tip Jack	$0.18

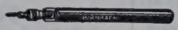
No. 411 Bakelite Pencil Test Prods



These prods have the Birnbach Scrulok solderless needlepoint tips. They are made of bakelite and are 6″ long and $\frac{5}{16}$″ dia. The connection is made by threading the wire through the handle and securing to the needlepoint tip by locking the Scrulok. The tip is then screwed into the handle. Available in red or black only.

No.	List Price
411—Bakelite Pencil Test Prods.	$1.10

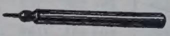
Solderless Tip Prod



Made of highly polished cast phenolic resin. A solderless phone tip is threaded at end permitting replacement of tip, Available in red or black.

No.		List Price
410	4″ Handle	$0.50
343	5″ Handle	.50

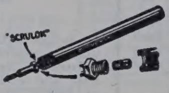
Needlepoint Test Prod



A threaded shank needlepoint chuck is threaded into the end of handle. Made of highly polished cast phenolic handle. Available in red or black.

No.	List Price
344—Needlepoint Test Prod, 4″ Handle	$0.45
345—Needlepoint Test Prod, 5″ Handle	.50

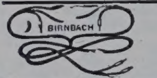
SCRULOK Needlepoint Test Prods



These insulated prods have the Scrulok solderless system of wire connection. Wire is easily attached without soldering. An extra heavy needle is fitted into the tip. Colors:—black or red.

No.	List Price
417—Needlepoint Test Prod, 4″ Handle	$0.45
418—Needlepoint Test Prod, 5″ Handle	.50

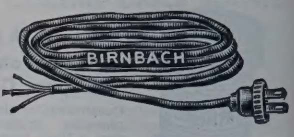
Headset Phone Cords



These cords are closely woven and are very durable and strong. They are used for replacement of worn headset cords. Standard cords are listed which will match practically all headsets manufactured. We will be glad to quote on cords having special terminal requirements.

No.	List Price
ends	$0.75
104— 5 ft., Pin & Spade Tips	$1.15
105— 5 ft., Pin & Spade Tips	1.15
107— 5 ft., Pin & Eye Tips ...	1.15
108— 8 ft., Pin & Eye Tips ...	1.50
109—10 ft., Pin & Eye Tips ...	2.15

AC-DC Resistance Cords

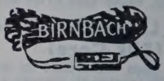


Designed for replacement of the internal voltage dropping resistor on the present and older type of AC-DC sets. It consists of a line cord into which a third element has been incorporated. The voltage dropping resistor reduces the voltage to that needed for the filament of the tubes.

No.	Cord Rating	Sets Having Following Tubes	List Price Each
35	135 ohm	25Z5-43-4*	$1.15
36	160 ohm	25Z5-43-3*	1.15
34	180 ohm	12Z3-43-4*	1.15
49	200 ohm	25Z5-43-2*	1.15
37	220 ohm	12Z3-43-3*	1.15
41	250 ohm	12Z3-43-2*	1.15
		25Z5 -3*	1.15
38	290 ohm	12Z3 -3*	
45	300 ohm		1.15
39	330 ohm	-4*	1.15
		12Z3 -2*	
40	350 ohm	12Z3 -1*	1.15
		-3*	1.15
47	390 ohm	-2*	1.15
125	220-110 Volt Voltage reducing cord		2.25
126	280 ohm	4 Wire†	2.00
127	190 ohm	4 Wire†	2.00
128	165 ohm	4 Wire†	2.00

* 6.3 volt tubes. † For Emerson Radio.

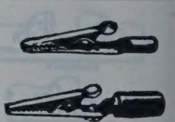
Speaker Extension Cords



Constructed of stranded annealed copper wire insulated with rubber over which a brown mercerized cotton braid is closely woven. Complete with easily attached bakelite connector.

No.	List Price
166— 10 ft. Cord.........each	$1.50
120— 50 ft. Cord.........each	2.00
121— 30 ft. Cord.........each	2.75
122— 40 ft. Cord.........each	3.10
123— 50 ft. Cord.........each	3.50
124—100 ft. Cord.........each	6.50
151—Bakelite Extension Cord, Connector only ......each	.60

Alligator Clips

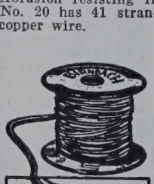


Made of steel nickel plated. The jaws match accurately permitting them to grip all kinds of wire securely. The insulated handle is ⅜″ dia. and ¾″ long and comes in red or black.

No.	Length	Std. Pkg.	List Price
31—Alligator clip	2″	50	$0.09
310—Insulated Alligator clip	2¼″	50	.23

Kinkless Test Lead Wire

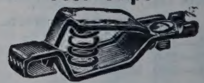
Abrasion resisting live rubber that will not kink or break down in service. No. 20 has 41 strands and No. 18 has 66 strands of No. 36 tinned annealed copper wire.



No.	Ft.	Price	Size	Rubber Wall Thicknesses	Puncture Voltage 60 Cycle A.C.	O.D.
60	25	$0.75	$20\frac{3}{64}$			
61	100	3.75		0.45	12,000	.140
62	500	17.00				
64	25	1.35	$18\frac{3}{64}$	.045	12,000	.155
66	100	4.55				
67	500	21.00				
HIGH VOLTAGE TEST LEAD WIRE						
63	25	$2.60	$18\frac{5}{64}$	.076	16,500	.218
68	100	7.00				
69	500	.42				

COLORS:—Red and Black.

Test Clips



The teeth mesh correctly permitting good contact to be made. The No. 27-S is a solid copper clip with a brass screw designed for high frequency work. Sturdily constructed. Standard Package 50.

	Lgth.	Jaw Spread	Price ea.
27—Pee Wee	1½″	⅜″	$0.09
28—Midget	2″	$\frac{9}{16}$″	.09
29—Medium	2⅞″	1″	.11
30—Large	4″	1¼″	.20
27C—Pee Wee Copper	1½″	⅜″	.17
27R—Rubber Sleeve—red or black			.16

Birnbach WIRE, AUTO CABLE and ACCESSORIES

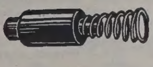
BIRNBACH

7 MM HIGH TENSION CABLE

Useful in reducing interference from auto secondary circuits. Also used as photo electric cell leads and wherever a low loss shielded lead is required.

No.		List Price Per 100′
1600	7 MM. High Tension Cable	$10.00
781	7 MM. Shielded Secondary Wire	16.00

FORD V-8 DISTRIBUTOR SUPPRESSOR



Designed to be inserted in the distributor of Ford V-8. Unit consists of a resistor brush which replaces the regular brush.

No. 365................................**List Price $0.35**

AUTO ANTENNA CONNECTOR

Permits quick connection of the auto antenna lead-in to the receiver.

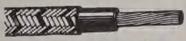
No.		List Price
366	Auto Connector	per C $20.00

FUSED ANTENNA CONNECTOR

This connector takes a standard 3 AG automobile fuse. Used in auto radio power supply cables.

No.		List Price
367	Fused Connector	per C $25.00

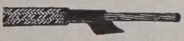
HIGH VOLTAGE LACQUERED WIRE



Recommended for use as leads for wiring high voltage devices, and transmitter power supplies. Constructed of tinned stranded copper conductor with a wall of rubber covered with a highly lacquered cotton braid.

No.	Ft.	Size	Puncture Voltage	O.D.	List Price
2810	100	$10\frac{1}{32}$	9500	.225	$10.50
2812	100	$12\frac{1}{32}$	9500	.192	7.00
2814	100	$14\frac{1}{32}$	9500	.167	4.75
2816	100	$16\frac{1}{32}$	9500	.153	4.00
2818	100	$18\frac{1}{32}$	9500	.145	3.50

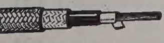
SHIELDED VARNISHED CAMBRIC WIRE



Used where an oil and water resistant wire with a shielded covering is required. Constructed of tinned stranded conductor with 2 layers of varnished cambric and a lacquered cotton braid with a tinned copper shield overall.

No.	Ft.	Size	Capacity per Ft. mmfds.	O.D.	List Price
1800	100	16	142	.145	$10.50
1818	100	18	102	.131	9.50
1820	100	20	100	.125	8.75

SHIELDED GRID LEAD WIRE



High insulation of of this wire will reduce the loss in shielded grid circuits. Constructed of tinned stranded conductor with a rubber insulation, waxed cotton braid with closely woven shield overall.

No.	Ft.	Size	Capacity per Ft. mmfds.	O.D.	List Price
818	100	$18\frac{1}{32}$	75	.180	$8.50
820	100	$20\frac{1}{32}$	70	.150	7.50

SOLID TINNED WIRE

SOFT DRAWN

No. 10

No.		List Price
1400	25 ft. coil	$ 1.30
1401	50 ft. coil	2.55
1402	100 ft. coil	5.00
1403	1000 ft. spool	46.00

No. 12

No.		List Price
1404	25 ft. coil	.85
1405	50 ft. coil	1.60
1406	100 ft. coil	3.00
1407	1000 ft. spool	28.00

No. 14

No.		List Price
1408	25 ft. coil	.60
1409	50 ft. coil	1.10
1410	100 ft. coil	2.00
1411	1000 ft. spool	20.00

No. 16

No.		List Price
1412	25 ft. coil	.42
1413	50 ft. coil	.68
1414	100 ft. coil	1.10
1415	1000 ft. spool	11.00

No. 18

No.		List Price
1416	25 ft. coil	$0.33
1417	50 ft. coil	.60
1418	100 ft. coil	1.10
1419	1000 ft. spool	11.00

No. 20

No.		List Price
1420	25 ft. coil	.30
1421	50 ft. coil	.50
1422	100 ft. coil	1.00
1423	1000 ft. spool	10.00

No. 22

No.		List Price
1424	¼ lb. spool	.75
1425	½ lb. spool	1.20
1426	1 lb. spool	2.25

No. 24

No.		List Price
1427	¼ lb. spool	.82
1428	½ lb. spool	1.50
1429	1 lb. spool	2.65

No. 26

No.		List Price
1430	¼ lb. spool	.90
1431	½ lb. spool	1.65
1432	1 lb. spool	3.00

SOLID ENAMEL WIRE

No. 10

No.		List Price
597	25 ft. coil	$1.50
697	50 ft. coil	2.50
497	100 ft. coil	4.40
1497	1000 ft. spool	44.00

No. 12

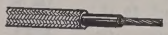
No.		List Price
192	25 ft. coil	.85
292	50 ft. coil	1.70
492	100 ft. coil	2.75
492A	150 ft. coil	4.15
492B	200 ft. coil	5.50
1492	1000 ft. spool	27.50

No. 14

No.		List Price
190	25 ft. coil	.50
290	50 ft. coil	1.00
490	100 ft. coil	1.80
490A	150 ft. coil	2.70
490B	200 ft. coil	3.60
1490	1000 ft. spool	18.00

No. 15

RAYON BRAID LACQUERED WIRE

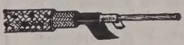


Constructed of stranded tinned copper conductor for easy soldering, with heavy wall of live rubber over which a rayon braid is woven. A high gloss lacquered finish over braid. Conductor consists of 16 strands of No. 30.

No.	Ft.	Puncture Voltage	Size	List Price
3425	25 Coil	9000	$18\frac{1}{32}$	$1.00
3450	50 Coil	9000	$18\frac{1}{32}$	2.00
3460	100 Coil	9000	$18\frac{1}{32}$	4.00
3600	500 Spool	9000	$18\frac{1}{32}$	18.00

Colors: Black, red, green, yellow, brown, blue

VARNISHED CAMBRIC WIRE



Widely used in automotive wiring because of oil and waterproof construction. Consists of tinned stranded conductor with two layers of varnished cambric over which a lacquered cotton braid is woven.

No.	Ft.	Size	Puncture Voltage	O.D.	List Price
3416	100	16	1000	.108	$6.75
3418	100	18	1000	.107	5.75
3420	100	20	1000	0.94	4.50

No. 340
WHEEL STATIC ELIMINATOR

An effective means of reducing static created by the front wheels. Installation is made by placing the broad base of the spring against the hub cap and the cone point into the hole of the axle. No. 340—Std. Pkg. 50

List Price................................$10.00 per 100

PHONO-PICKUP WIRE

Small diameter—ideally suited for replacement in pickup arms of any make.

No.	Ft.	Size	List Price
1822A	100 ft. Spool	22	$ 6.00
1822B	500 ft. Spool	22	28.00
1822C	1000 ft. Spool	22	52.50

IGNITION FILTER BIRNBACH MADE IN U.S.A.
350

351

352

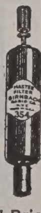
353

BIRNBACH IGNITION FILTERS

These Ignition Filters completely eliminate all ignition and high tension circuit interference, making clear auto radio reception a certainty. The only ignition filters having a copper wound inductance, which accounts for the low resistance of 120 ohms for the Ignition Filter. Less gasoline is consumed than when high resistance filters are used.

No.		List Price each
350	Ignition Filter—Bracket Type	$0.85
351	Ignition Filter—Cable Type	.85
352	Distributor Filter	.85
353	Ignition Filter—Screw Type	.85
359	Ignition Filter—Slip-on Type	.85

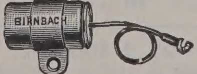
BIRNBACH MASTER FILTER



Eliminates all ignition interference and does away with the necessity of having a separate filter for each spark plug. Available in two types, namely, the Distributor type for easy insertion into distributor head, and the Cable type to be placed into the distributor lead where it is impossible to insert it into the distributor head.

No.		List Price each
354	Cable or Distributor Type	$3.50

AUTO NOISE FILTER

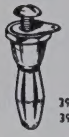


These are especially designed for the elimination of noise created by generator commutator, electrical windshield wiper, horn, and especially dome, tail, and stop light cables. Connections made by bolting down the flange of container to chassis. The long insulated lead with a convenient screw lug is connected to the source of interference.

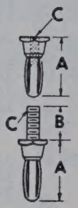
No.		List Price
355	Auto Noise Filter—½ Mfd.	ea. $0.75
356	Auto Noise Filter— 1 Mfd.	ea. .75

Birnbach PLUGS and JACKS

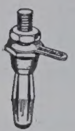
GIANT PLUGS

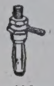

396
397

Used for heavy current, they are rated at 25 amps. The long life nickel silver alloy spring is secured over a pin preventing a collapse of the spring and also maintaining the full action of the spring when inserted into the jack. The No. 398A plug has a hole in the threaded shank to permit soldering to it. It is used extensively on diathermy electrode pad cables. Standard Package 25.

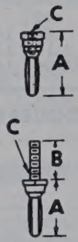


No.		A	B	C	List Price
396	Plug	$1\frac{5}{32}$	—	10-32	each $0.30
397	Plug	$1\frac{7}{16}$	—	¼-20	each .35
398	Plug	$1\frac{5}{32}$	⅝	¼-28	each .30
398A	Plug	$1\frac{5}{32}$	⅝	¼-28	each .30

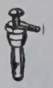

398


400
404A

Large area of contact is one of the outstanding features of these jacks and plugs. The No. 400 series of packages have a nickel silver contact spring secured over a full length central pin, making these plugs non-collapsible and assuring a low resistance contact. Capacity 5 amperes. Standard Package 100.

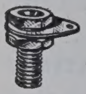


No.		A	B	C	List Price
400	Plug	¾	½	6-32	each $0.12
401	Plug	$\frac{31}{32}$	—	6-32	each .13
404A	Plug	¾	⅜	¼-28	each .18


401

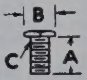
BANANA PLUGS

No. 403 BANANA JACK

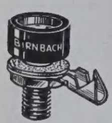


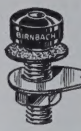
Accurately milled and has a precision reamed hole to help maintain the tight and smooth action of the plug. It is made of brass nickel plated and comes complete with nut and lug. Standard Package 100.

No.		A	B	C	List Price
403	Jack	½	⅜	¼-28	$0.12



INSULATED BANANA JACKS

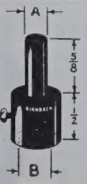

391


406

The No. 391 Jack is very popular with the electric therapeutic manufacturers. The ½″ dia. insulated head admits all of the exposed metal part of the metal plug when inserted. Mounts in a $\frac{5}{16}$″ dia. hole on a panel up to ⅜″ thick. The No. 406 Jack has a $\frac{7}{16}$″ dia. insulated top. It fits into a $\frac{5}{16}$″ dia. hole and takes up to a ⅜″ panel. Both come complete with insulating shoulder washer, nut and lug.

Std. Pkg. List Price
391—Insulated Jack—red or black..................50.........$0.19
406—Insulated Jack—red, black, yellow, or green......50.......... .18

SHAFT COUPLINGS, REDUCERS AND EXTENDERS

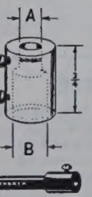


By the use of these units all ¼″ and ⅜″ dia. shafts and knobs can be assembled together. The insulated units are for use where electrical isolation is desired. Furnished complete with set screws shown. Be sure to specify whether Brass or Insulated is desired.

Brass No.	Insulated No.	Shaft A	Hole B	List Price
534	634	¼″	¼″	each $0.16
535	635	¼″	⅜″	each .16
536	636	⅜″	¼″	each .16

537—Reducer for ⅜″ Dia. Hole to ¼″ Dia. Shaft, each .10

COUPLINGS



Brass No.	Insulated No.	Shaft A	Hole B	List Price
531	631	¼″	¼″	each $0.16
532	632	¼″	⅜″	each .16
533	633	⅜″	⅜″	each .16

EXTENDERS

No.	Length	Hole I.D.	Shaft O.D.	List Price
538—Brass	1¾″	¼″	¼″	each $0.25
539—Insulated	1¾″	¼″	¼″	each .25

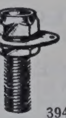
BRASS SHAFTING

No	List Price
540—¼″ Dia. 6″ Long	each $0.20
541—¼″ Dia. 12″ Long	each .40
542—⅜″ Dia. 8″ Long	each .35

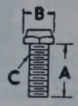
FIBRE SHAFTING

No	List Price
543—¼″ Dia. 6″ Long	each $0.25
544—¼″ Dia. 12″ Long	each .50
545—⅜″ Dia. 8″ Long	each .60

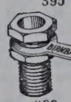
GIANT JACKS


394
395

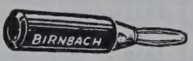
Milled with the central hole being reamed to size to insure a tight fit with all Giant Plugs. The No. 394 and No. 399A have a 10-32 thread tapped at the end permitting connection to be made. They are all made of brass and nickel-plated and come complete with nut and lug.



No.		Std. Pkg.	A	B	C	List Price
399A	Jack	25	1⅜″		⅜-24.	each $0.30
394	Jack	25	$1\frac{1}{16}$″	½″	½-20.	each .25
395	Jack	25	$\frac{11}{16}$″	½″	.	each .30
399	Jack	25	⅞″	⅝″	⅜-24.	each .35


399

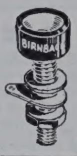
No. 392 INSULATED GIANT PLUG



Made so that no projecting edges are exposed, thereby protecting the user from unnecessary contact. Connection is made by soldering into the hole at the end of the threaded shank of the plug. Handle is 1⅞″ long by ⅝″ dia.; length overall 3″. Colors: red or black.

No. 392—Insulated Giant Plug........................List Price $0.50

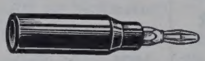
No. 393 INSULATED GIANT JACK



Designed to leave no metal part exposed on the panel. The ⅜-24 brass nickel plated sleeve has a 10-32 threaded hole at the end permitting a connection at the end of the jack or to the lug under the head. Either assembly available complete with nut, insulaing shoulder washer, lock-washer and lug. Length overall 1⅜″. Colors: red or black.

No.	List Price
393 —Insulated Giant Jack under head lug	$0.45
393A—Insulated Giant Jack end lug	.45

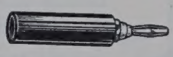
HARD RUBBER INSULATED GIANT PLUG



Especially designed for use with diathermy cables. It has a ⅝″ dia. hole in the handle to take the largest cable. It is made of polished black hard rubber. The handle is 3″ long by ⅞″ dia. Overall length is $4\frac{3}{16}$″.

No. 342—Hard Rubber Insulated Plug..................List Price $2.00

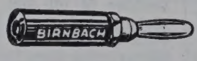
No. 341 Insulated Banana Plug



This plug consists of our No. 404A plug with a larger handle 1⅞″ long by ½″ dia. Used on a therapeutic apparatus and test equipment. Overall length 2⅝″. Colors: red or black.

No. 341—Insulated Banana Plug......................List Price $0.45

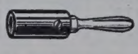
No. 404 Insulated Banana Plug



The plug is for experimental test leads because of its Scrulok solderless connection and the non-collapsible special alloy springs assembled on a pin preventing collapse of the plug spring. The handle is made of phenolic resin and is ⅜″ by 1″ long. Colors: red, black, yellow and green.

No. 404—Insulated Banana Plug......Std. Pkg. 50......List Price $0.20

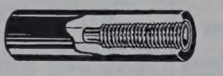
No. 604 BANANA PLUG



Made of solid brass nickel-plated, with the end being slotted. The cast phenolic handle is 1″ long by ⅜″ dia, and is held on by the screw that secures the wire to the plug. Colors: red, black, yellow and green.

No. 604—Plug.............Std. Pkg. 50.............List Price $0.19

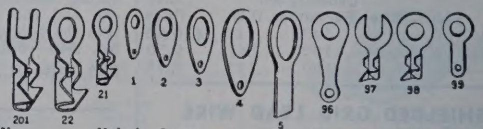
No. 605 HANDLE JACK



Consists of a banana jack inside an insulated sleeve. Connection is made by soldering to the end of the jack. Handle is made of cast phenolic resin ⅜″ dia. by 1¼″ long. Colors: red, black, yellow and green.

No. 605—Handle Jack..........Std. Pkg. 50..........List Price $0.25

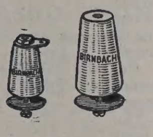
TINNED LUGS

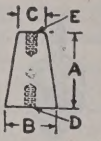


No.	Hole for Screw	Length	List Price Per M
1	6	$\frac{9}{16}$	$ 4.75
2	10	⅝	4.75
3	¼	⅝	4.75
4	⅜	⅞	27.00
5	½	$1\frac{3}{16}$	34.50
21	10	$1\frac{3}{16}$	8.50
22	¼	$1\frac{3}{32}$	21.00
201	8	$1\frac{3}{16}$	8.50
96	6-8-10	⅞	7.00
97	8	⅝	7.00
98	6-8	$\frac{11}{16}$	8.50
99	4-6-8	$\frac{11}{16}$	8.50

Birnbach INSULATORS

STEATITE CONE STANDOFF INSULATORS

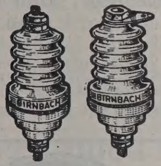


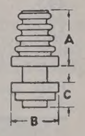


Made of low absorption high tensile strength porcelain with a smooth glaze. All heights except the No. 430 are available with a Jack or a threaded hole top. Range of sizes are adequate for all needs. They are available only in a white glaze and come complete with screws, metal and cork washers.

No.	Height A	Std. Pkg.	B	C	Threaded Holes D	Threaded Holes E	Mounting Hole	List Price each
430	⅝″	100	⅝″	$\frac{7}{16}$″	6-32	6-32	$\frac{5}{32}$″	$0.20
431	1″	50	$\frac{11}{16}$″	½″	8-32	8-32	$\frac{3}{16}$″	.30
431J	1″	50	$\frac{11}{16}$″	½″	8-32	No. 430 Jack	$\frac{3}{16}$″	.35
432	1½″	50	⅞″	⅝″	10-32	10-32	$\frac{7}{32}$″	.55
432J	1½″	50	⅞″	⅝″	10-32	No. 403 Jack	$\frac{7}{32}$″	.75
433	2¾″	25	1¼″	¾″	¼-20	¼-20	$\frac{9}{32}$″	1.00
433J	2¾″	25	1¼″	¾″	¼-20	No. 395 Jack	$\frac{9}{32}$″	1.20

CORRUGATED FEEDTHRU INSULATORS





The six new corrugated type feedthru insulators have more than twice the leakage path of the straight type because of increased surface of the corrugations and recommends itself where a straight side insulator of equal height is not satisfactory because of its shorter leakage path. Brass nickel-plated hardware and cork mounting washers supplied.

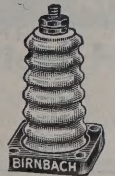
No.	Height A	Std. Pkg.	B	C	Mounting Hole	Hardware	List Price
479	1⅜″	25	1¼″	$\frac{11}{16}$″	$\frac{9}{16}$″	10-32	ea. $0.55
479J	1⅜″	25	1¼″	$\frac{11}{16}$″	$\frac{9}{16}$″	No. 403 Jack	ea. .65
4276	2¾″	10	1⅝″	1″	¾″	¼-20	ea. 1.00
4276J	2¾″	10	1⅝″	1″	¾″	No. 394 Jack	ea. 1.20
4452	4½″	5	2⅛″	1½″	1″	¼-20	ea. 1.50
4452J	4½″	5	2⅛″	1½″	1″	No. 394 Jack	ea. 1.80

HIGH VOLTAGE FEEDTHRU INSULATOR

This insulator has been designed to meet the demand for an insulator having high dielectric and mechanical strength. The extra long leakage path is made possible by the corrugations on the top insulator. The bottom sleeve taper from a base dia. of 1$\frac{3}{16}$″ where the electric stress is greatest.

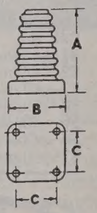
Height 1⅝″....Base Dia. 2″....Mounting Hole 1¼″....Hardware ¼-20
No. 4233...List Price $0.80

METAL BASE INSULATORS



4451, 4176

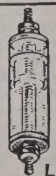
867



Designed to replace conventional porcelain insulators where failure of the base is due to cracking when fastened down. Extremely long leakage paths due to the corrugated surface is one of the important characteristics. They are made from high tensile strength low absorption porcelain smoothly glazed all over. Supplied with nickel-plated brass screws and nuts and cadmium plated drawn steel bases.

Cat. No.	Height A	Std. Pkg.	Base Dimen. B	C	Mounting Screw D	Hardware	List Price
867	1⅜″	25	1⅞″ x 1$\frac{5}{16}$″	1½″	2 No. 8	10-32	ea. $0.30
867J	1⅜″	25	1⅞″ x 1$\frac{5}{16}$″	1½″	2 No. 8	No. 403 Jack	ea. .40
4176	2¾″	10	1¾″ x 1¾″	1⅜″	4 No. 10	¼-20	ea. .55
4176J	2¾″	10	1¾″ x 1¾″	1⅜″	4 No. 10	No. 395 Jack	ea. .70
4451	4½″	5	2¼″ x 2¼″	1¾″	4 No. 10	¼-20	ea. .82
4451J	4½″	5	2¼″ x 2¼″	1¾″	4 No. 10	No. 395 Jack	ea. 1.15

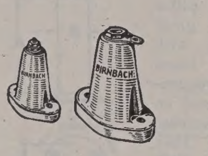
"LUCITE" FEEDTHRU INSULATORS

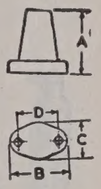


These feedthru insulators are ideal for bringing high frequency leads thru a panel. They are made of genuine Dupont Lucite. Because of its low loss at high frequency, it is well adapted to insulated elements of high frequency circuits. The ½″ dia. insulators have brass nickel plated 6-32 hardware and the ¾″ have 10-32 hardware.

No.	Height above Panel	Insulator Dia.	Mtg. Hole	Bottom Height	List Price
377	¼″	½″	$\frac{5}{16}$″	¼″	$0.35
378	½″	½″	$\frac{5}{16}$″	¼″	.45
379	1″	½″	$\frac{5}{16}$″	¼″	.50
475	1½″	¾″	$\frac{7}{16}$″	½″	1.00
476	2″	¾″	$\frac{7}{16}$″	½″	1.25

STANDOFF INSULATORS

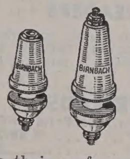


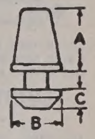


The sizes range from ⅝″ to 4½″ high in five properly graduated heights. Made of highly vitrified low absorption glazed porcelain. No washers are necessary for mounting as the mounting surface is ground flat; but for the No. 405 and No. 966 Standoff insulators, it is advisable to use cork washers which are available as they will permit mounting securely without breakage. All brass nickel-plated hardware is supplied. Available in white or brown glaze.

No.	Height A	Std. Pkg.	B	C	D	Mounting Holes	Hardware	List Price each
405	⅝″	100	1″	$\frac{17}{32}$″	$\frac{11}{16}$″	$\frac{5}{32}$″	6-32	$0.11
965	1″	50	1¼″	¾″	$\frac{13}{16}$″	$\frac{5}{32}$″	8-32	.15
966	1″	50	1⅜″	⅞″	1″	$\frac{5}{32}$″	8-32	.15
966J	1″	50	1⅜″	⅞″	1″	$\frac{5}{16}$″	No. 403 Jack	.20
866	1½″	25	1¾″	1⅛″	1¼″	$\frac{5}{32}$″	10-32	.20
866J	1½″	25	1¾″	1⅛″	1¼″	$\frac{5}{16}$″	No. 403 Jack	.25
866SJ	1½″	10	1¾″	1⅛″	1¼″	$\frac{5}{32}$″	No. 395 Jack	.60
4275	2¾″	10	2¾″	2″	2⅛″	¼″	¼-20	.52
4275J	2¾″	10	2¾″	2″	2⅛″	¼″	No. 399 Jack	.90
4450	4½″	5	3⅝″	2½″	2⅝″	$\frac{9}{32}$″	¼-20	1.00
4450J	4½″	5	3⅝″	2½″	2⅝″	$\frac{9}{32}$″	No. 399 Jack	1.35

FEEDTHRU INSULATORS

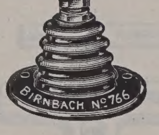




Made of highly vitrified, low absorption porcelain smoothly glazed to prevent accumulation of dust or dirt. Maximum strength is achieved by the proper proportions and flat mounting surfaces. Long insulating sleeves on the lower part of the insulator contribute much to their performance on high voltages. Brass nickel-plated hardware.

No.	Height A	Std. Pkg.	B	C	Mounting Hole	Hardware	List Price
458	⅝″	50	$\frac{11}{16}$″	¼″	$\frac{5}{16}$″	6-32	ea. $0.22
478	1″	25	$\frac{13}{16}$″	$\frac{5}{16}$″	$\frac{7}{16}$″	10-32	ea. .30
478J	1″	25	$\frac{13}{16}$″	$\frac{5}{16}$″	$\frac{7}{16}$″	No. 403 Jack	ea. .38
4125	1¼″	25	⅞″	⅜″	$\frac{7}{16}$″	10-32	ea. .35
4125J	1¼″	25	⅞″	⅜″	$\frac{7}{16}$″	No. 403 Jack	ea. .40
4234	2¾″	10	2″	1″	¾″	¼-20	ea. .90
4175	2¾″	10	1¼″	¾″	⅝″	¼-20	ea. .80
4175J	2¾″	10	1¼″	¾″	⅝″	No. 394 Jack	ea. 1.15

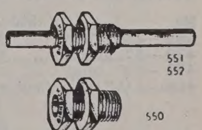
BEE-HIVE STANDOFF



Base measures 2″ dia. with 3 holes on a 1⅝″ circle, for No. 6 screws. Supplied complete with 12-24 nickel-plated brass screw and nuts. The No. 766J has a No. 403 Jack. Available white or brown glaze.

No.	Hardware	Std. Pkg.	List Price
766—Standoff Insulator	12-24 Screw	10	$0.30
766J—Jack Type	No. 403 Jack	10	.35

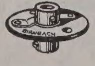
FRONT PANEL BEARING



The No. 550 Front Panel Bearing is cadmium plated brass for panels up to ⅜″ in thickness and for ¼″ dia. shafts. The No. 551 and No. 552 are complete assemblies of the No. 550 and ¼ dia. brass shaft cadmium plated.

Cat. No.	List Price
550—Front Panel Bearing	each $0.16
551—Front Panel Bearing, ¼ shaft, 3″ long	each .45
552—Front Panel Bearing, ¼ shaft, 6″ long	each .55

FLEXIBLE COUPLINGS



These flexible couplings cover all needs of the constructor. Tandem operation of two or more units is possible without having the shafts in exact alignment. Flexibility without back-lash is obtained by the cadmium plated phosphor bronze springs, which are rigidly riveted to the insulation. All units fit ¼″ dia. shafts.

No.	Dia.	Insulation	List Price
360	1¼	Fibre	each $0.35
361	1¼	Bakelite	each .50
362	1 $\frac{1}{16}$	Steatite	each .60

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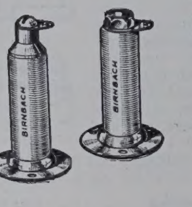
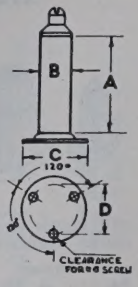
Birnbach INSULATORS

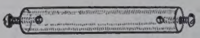
STEATITE PILLARS



These (steatite) pillar insulators have great tensile strength with extremely low losses at very high frequencies and are glazed on the outside to decrease surface leakage. They are tapped on both ends and are supplied complete with nickel-plated mounting base and top hardware.



No.	Height A	Std. Pkg.	B	Hardware	Base Dia. C	D	List Price each
450	1"	10	½"	6-32	1⅛"	⅞"	$0.50
450J	1"	10	½"	No. 403 Jack	1⅛"	⅞"	.60
451	1½"	10	½"	6-32	1⅛"	⅞"	.60
451J	1½"	10	½"	No. 403 Jack	1⅛"	⅞"	.65
452	2½"	10	½"	6-32	1⅛"	⅞"	.65
452J	2½"	10	½"	No. 403 Jack	1⅛"	⅞"	.85
453	2½"	5	¾"	¼-20	1$\frac{9}{16}$"	1$\frac{3}{16}$"	1.15
453J	2½"	5	¾"	No. 395 Jack	1$\frac{9}{16}$"	1$\frac{3}{16}$"	1.35
454	4"	5	¾"	¼-20	1$\frac{9}{16}$"	1$\frac{3}{16}$"	1.50
454J	4"	5	¾"	No. 395 Jack	1$\frac{9}{16}$"	1$\frac{3}{16}$"	1.60



LUCITE SPREADERS

They are made of Dupont Lucite rod which has a very low loss at radio frequencies. It is water clear and has very low water absorption. The holes are drilled to take a No. 12 wire. A screw at the end of the spreader locks the wire in position.

LUCITE SPREADERS

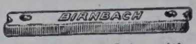
No.	Wire-Spacing	Std. Pkg.	List Price Each
436	2"	25	$0.45
437	4"	25	.50
438	6"	25	.60

LUCITE RODS

No.	Dia.	List Price per Ft.
455	¼"	$0.75
459	⅜"	.90
460	½"	1.50
461	¾"	2.75

Available in lengths up to 48 inches

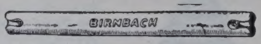
FEEDER SPREADERS



They have a cross section of ⅜" x ½. Made of highly vitrified, low absorption, high tensile strength porcelain with a smooth while glaze overall.

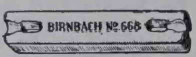
No.	Std. Pkg.		List Price
462—Spreader, 2" long	25	each	$0.22
464—Spreader, 4" long	25	each	.30
469—Spreader, 6" long	25	each	.40

ANTENNA INSULATORS



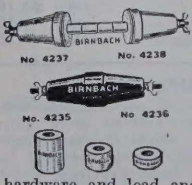
These Antenna Insulators have exceptional low moisture absorption. The leakage path is long and the cross section is small and is consistent with the strength required. A smooth white glaze overall prevents the accumulation of dirt or ice.

BIRNBACH No. 468



No.	Std. Pkg.		List Price
668—4¼" long	25	each	$0.30
470—7" long	10	each	.90
471—12" long	5	each	1.25
468—4½" long Center Insulator	10	each	.40

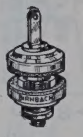
LEADIN INSULATORS



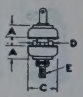
Each cone is 2¾" high and made of low absorption, highly vitrified glazed porcelain. The Nos. 4237 and 4238 Leadin Insulators have sufficient insulating bushings to insulate the rod that goes through the wall. In addition, 2 bushings are included, ¼" and ½" long, allowing complete insulation of the threaded rod of any length in multiples of ¼". They come complete with brass nickel-plated hardware and lead and cork washers to permit a water-tight seal.

No.	Description	List Price
4235	10" Rod	$1.75
4236	15" Rod	2.00
4237	10" Rod with bushings	2.25
4238	15" Rod with bushings	2.85

STEATITE BUTTON



These specially designed steatite buttons are intended for use to simplify wiring and to be used as a binding post or a binding post insulator, or as a standoff insulator. Attention is called to the uniqueness of the design which prevents either section of the insulator from turning in respect to the special screw. The specially designed screw locks both sections.

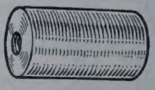


A $\frac{5}{16}$"............B ½"............C ¾"............D ½"............E 6-32

No. 457..................**Std. Pkg. 25**..................**List Price $0.30**

STEATITE PILLARS

(Without Hardware)



In many constructions, these unmounted threaded steatite pillars will facilitate assembly because of the one hole mounting and parallel mounting surfaces. They are made of glazed Steatite with threaded holes on both sides.

No.	Height	Dia.	Threaded Hole	List Price
443	½"	½"	6-32	$0.10
444	¾"	½"	6-32	.10
445	1"	½"	6-32	.30
446	1"½	½"	6-32	.35
447	2½"	½"	6-32	.40
448	2½"	¾"	¼-20	.60
449	4"	¾"	¼-20	.95

AIRPLANE INSULATORS

Used on mobile antenna installations, particularly on aircraft, as they are shaped for the least air resistance. They are made of white glazed low absorption porcelain.

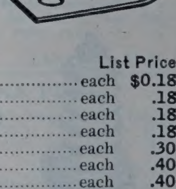
No. Length	Std. Pkg.		List Price
473—2"	100	each	$0.15
474—1½"	100	each	.11

STEATITE AIRPLANE INSULATORS

A very small compression type insulator with small wind resistance. It is 1½" long and ½" dia.

No. 463—Std. Pkg. 25, **List Price $0.35**

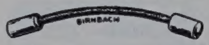
TUBE CLAMPS



These tube clips will be found extremely desirable when mounting resonant lines or elements of directive beam antennas. They are made of hard drawn aluminum and are available for $\frac{5}{16}$", ⅜", ½", ¾" and 1" dia. tubes. The $\frac{5}{16}$", ⅜", and ½" have a clearance hole for No. 10 screw and the ¾" and 1" dia. clamps have holes for ¼" bolts.

Cat. No	To Fit Tube		List Price
51—Clamp	¼" Dia.	each	$0.18
52—Clamp	$\frac{5}{16}$" Dia.	each	.18
53—Clamp	⅜" Dia.	each	.18
54—Clamp	½" Dia.	each	.18
55—Clamp	¾" Dia.	each	.30
56—Clamp	1" Dia.	each	.40
57—Clamp	⅞" Dia.	each	.40

FLEXIBLE SHAFTS

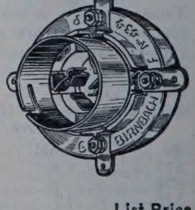


At times there is difficulty getting the controls to the proper position on the panel. With couplings and these flexible shafts, locations can be made with ease on an offset and angles up to 90 degrees. The flexible shafts are made of phosphor bronze and fitted into ¼" dia. hubs.

Cat. No.		List Price
553—Flexible Shaft, 3" long	each	$0.60
554—Flexible Shaft, 6" long	each	.85

TRANSMITTING TUBE SOCKETS

Improved design and additional features of the Birnbach transmitting sockets has increased their popularity and are accepted as standard. The 50 watt socket has extra heavy side-wiping phosphor bronze contact spring with the filament spring having a double contact to safely carry the heavy current. The tube base is supported by the highly polished nickel-plated brass shell set in a highly vitrified low absorption porcelain base which is ground flat to prevent breakage. All brass nickel-plated screw and milled nuts are used.



Cat. No.		List Price
434—50 Watt Socket	each	$1.70
435—10 Watt Socket	each	1.25

RCA ELECTRONIC COMPONENTS

TELEVISION ANTENNAS

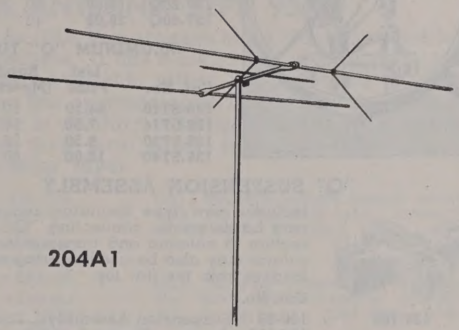
COMPLETELY NEW DESIGN — BUILT TO LAST RCA 12-CHANNEL TELEVISION ANTENNA — TYPE 204A1 BASED UPON YEARS OF FIELD EXPERIENCE

• Easily Assembled • Ruggedly Constructed • Uni-Directional

Here's an RCA "Leader" to meet the majority of your everyday antenna needs. Engineered and developed by RCA for plus-value service, RCA-204A1 is intended for use in most receiver locations where both high and low-frequency stations are in the same general direction. Unique RCA "V" attachments provide uniform directional characteristics for all 12 channels.

RCA-204A1 12-Channel Television Antenna is simple in design and appearance. Sturdily built of aluminum, it will withstand high winds, sleet, and ice. Designed for use with 300-ohm transmission line, the 204A1 rates "A" for antenna achievement: — for over-all performance and unusually flat response over each of the two television bands. It can be readily combined with any of the RCA Stacking Kits for fringe or other difficult reception areas.

Supplied with all necessary hardware and sturdy 5 ft x 1¼" aluminum mast which may easily be extended by addition of RCA-207A1 antenna mast sections. Completely illustrated instructions for installations are included.



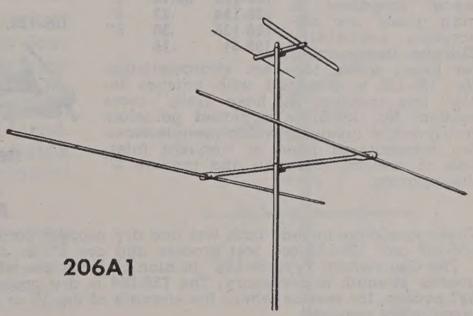
204A1

RCA "HIGH-LOW" TELEVISION ANTENNA ARRAY — TYPE 206A1 FOR 12-CHANNEL TELEVISION RECEPTION

Here's an antenna that you can depend upon for optimum performance in locations where high and low-channel stations are widely separated. Sturdily built to provide long, dependable service, the 206A1 will withstand severe weather conditions.

RCA-206A1, thoroughly tested for over-all performance characteristics, provides superior reception. When used with 300-ohm transmission line, it requires no external transformers nor matching stubs.

Comes complete with harness, all necessary hardware and sturdy 5 ft x 1¼" aluminum mast which may be easily extended by addition of RCA-207A1 antenna mast sections. Completely illustrated instructions included.

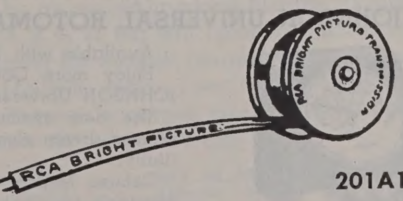


206A1

ANTENNA ACCESSORIES

Bright Picture Transmission Line

Especially designed for Television and FM. Special chemical-resistant plastic finish insures continued flexibility even in extreme heat or cold. Ultralow loss—less than 0.8 db per 100′ at 50 Mc; less than 1.2 db per 100′ at 100 Mc. 4.5 $\mu\mu$f per foot capacitance. Propogation velocity 83%. Extra strong—supports a mile of its own weight (75 lbs.) before breaking. Stock No. 201A1. Sugg'd List Price: $47.50 per 1000′.

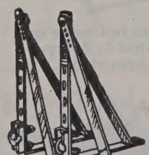


201A1

Antenna Mounting Brackets

For use with RCA Antennas Stock #225A1 and #226A1. Readily adjustable to permit mounting on any roof—regardless of overhang. Can be attached to brick, stone or wood. Entire bracket is plated with bright zinc, preventing rusting and subsequent staining of building surfaces. Special angular supports eliminate sagging. Stock No. 227A1. Sugg'd List Price: $7.50 per pair.

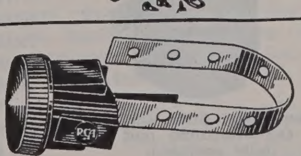
227A1



Twin-Lead Lightning Arrester

For use with FM and TV antennas. Easy to install—cutting or stripping of transmission line is unnecessary. Fits any ½″-2″ pipe. Continually dissipates static surges. Does not unbalance line. Brown plastic case. Stock No. 206X1. Sugg'd List Price: $1.10.

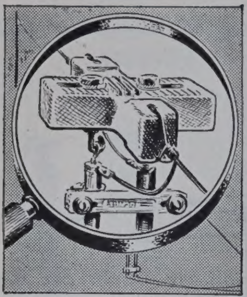
206X1



All prices in effect 5/15/49.

E. F. JOHNSON Company WASECA, MINNESOTA

THE JOHNSON "Q" AND JOHNSON "Q" BEAM



COMPLETE "Q" SYSTEMS

Cat. No.	List Price	Band (Meters)
137-2Q	$7.00	2
137-6Q	10.50	6
137-10Q	9.75	10
137-14Q	14.00	14
137-20Q	16.50	20
137-40Q	28.00	40

ALUMINUM "Q" TUBING

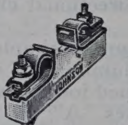
Cat. No.	List Price	Band (Meters)	Length
136-ST10	$4.50	10	2-8′6″
136-ST14	7.50	14	3-8′6″
136-ST20	9.50	20	4-8′6″
136-ST40	18.00	40	8-8′6″

The consistent results obtained by the thousands of users of the JOHNSON Q antenna system are due to the extremely high efficiency of this famous antenna. Applications include half-wave doublet, either horizontal or vertical, harmonic or "long wire" radiator, radiator-reflector, radiator director, "V" Beam, JOHNSON Q Beam and others.

The JOHNSON Q Beam is a special application of the Q system. It consists of two half-wave Q antennas spaced 1-5 wave and Q sections connected in parallel at the bottom. In ordering specify two Q antennas for the lower frequency of the two bands desired. For example if you want a Q Beam to operate on 10 and 20 meters, order two JOHNSON Qs for 20 meters.

The -20Q and -6Q use aluminum tubing for the radiating portion as well as for the matching section. The 136-35 Jack Strip and 136-36 Plug Strip make an ideal feeder connection at the transmitter when the antenna is suspended.

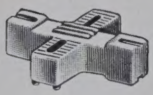
"Q" SPACING BARS



Used for spacing tubing in matching transformer applications. Spacing is continuously variable from ⅞" to 3⅝".

No. 136-33—Spacing Bar........................**List Price $0.60**

"Q" SUSPENSION ASSEMBLY



136-106

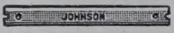
Includes new type insulator and all necessary hardware for connecting "Q" matching section to antenna and transmission line. Insulator may also be used to bring off "Zepp" feeders from the flat top.

Cat. No.	List Price
136-39 —Suspension Assembly........................	$3.25
136-106—Antenna Feeder Insulator only...	.60

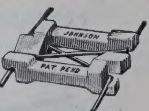
FEEDER INSULATORS

Cat. No.	List Price	Lg.
136-122	$0.16	2″
136-124	.23	4″
136-126	.30	6″
136-31	.16	

Nos. 136-122, -124 and -126 are conventional feeder spreaders of high grade low absorption porcelain, Silicone impregnated for finest water repellent characteristics. No. 136-122 is provided with notches for 1½" line spacing. All have ⅜x½" cross section. No. 136-31 is a glazed porcelain transposition insulator which permits crossing transmission lines at frequent intervals to prevent radiation and provide 2" line spacing.



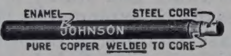
136-122, -124, -126



136-31

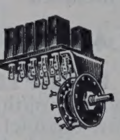
ENAMELLED COPPERWELD ANTENNA WIRE

JOHNSON Enamelled Copperweld Antenna Wire will not stretch nor sag. Prices are per 100 feet. Carried by most suppliers in bulk, it is available from the factory in any specified length.



Cat. No.	List Price	B&S Gauge	Ft. per lb.	Breaking Strength
144-348	$4.45	10	34½	1130 lbs.
144-350	3.25	12	54	720 lbs.
144-352	2.20	14	85	400 lbs.

INSTANT CRYSTAL SELECTOR



126-220-1

Ten frequencies with a twist of the knob with extra position for ECO. Accommodates all crystals with ½" spacing. With adaptors also takes 6 upright ¾" spaced crystals, plus 4 with ½" spacing. Bracket permits vertical or horizontal mounting.

Cat. No.	List Price
126-220-1—Instant Crystal Selector........................	$5.80
126-120-1—Crystal Mounting Board only:..........	3.10

ANTENNA INSULATORS

These insulators include both wet and dry process porcelain. The 136-107 and 136-112 are wet process and are 1" in diameter.

The Commercial Type is 1½" in diameter, for use where much greater strength is necessary. The 136-104 is dry process and is ⅝" square, for service where the strength of the 1" or 1½" types is not required.

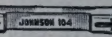
These JOHNSON antenna insulators have long leakage paths, low capacity and their freedom from moisture absorption results in exceptional efficiency.

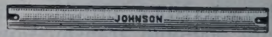
The 136-151, -152, -153 are wet process porcelain and are 1½" in diameter. End fittings are of non-corrosive aluminum alloy.

Cat. No.	List Price	Break. Strng.	Lg.
136-104	$0.20	400 lbs.	4″
136-107	1.10	800 lbs.	7″
136-112	1.20	800 lbs.	12″

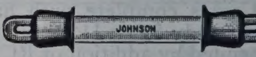
Cat. No.	List Price	Breaking Strength	Net	Overall
136-151	$9.00	5000 lbs.	8″	15½″
136-152	12.00	5000 lbs.	12″	19½″
136-153	17.50	5000 lbs.	20″	25½″

Cat. No. 136-32—Airplane compression type strain insulator of porcelain. 2" long........................**List Price $0.15**

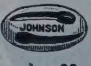




136-107, 136-112



136-151, -152, -153



136-32

JOHNSON UNIVERSAL ROTOMATIC ANTENNA ARRAY

New direction indicator and Beam control is Selsyn motor operated.

Heavy-duty drive unit is self-lubricating and fully enclosed.

Available with Parasitic or Phased Driven Elements.

Enjoy more QSOs — work more DX with the new JOHNSON Universal Rotomatic Beam.

The new symmetrical unidirectional beam employing phased driven elements is easy to tune — performs beautifully.

DeLuxe Models of the parasitic or phased arrays are available for two-band operation, employing two separate sets of elements but only one transmission line.

NEW JOHNSON PARASITIC ARRAY

When you see it you will realize it's in a class by itself! New, unique design allows an infinite variety of element lengths and spacing. Perfect impedance matching on two bands — any impedance from 50 to 600 ohms — coaxial or open wire line.

NEW ROTATOR AND DIRECTION INDICATOR

The heavy-duty drive unit will take rain, sleet and high winds in its stride — will turn on the coldest mornings. Rotation is instantly reversible, 360° at 1½ RPM. Motor control and antenna relay switch are contained in the selsyn indicator case.

The elements, rotator, direction indicator, etc., may all be purchased separately.

See your JOHNSON Jobber for Rotomatic catalog (includes prices)

ROTOMATIC FEATURES

✓ New Antenna Array

The entire unit is so sturdy that it will withstand heavy icing and high winds.

Two-band operation with Deluxe model. Two arrays fed with same transmission line, switched by low-loss RF relay.

✓ New Matching System

New matching system permits efficient wide band operation and freedom to move about from the low to the high end of the bands. In addition, either open wire line or coaxial cable may be used.

✓ New Heavy Duty Drive Unit

Powerful, smooth, continuous rotation either direction at 1½ RPM.

Mechanism is self-lubricating and fully enclosed in weatherproof housing.

Universal bracket for mounting on pole or platform. May be driven with 1/20 HP motor or larger — rated at 1750 RPM.

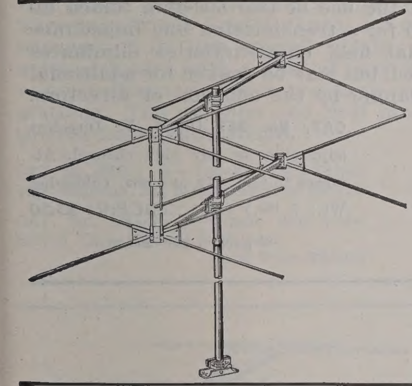
✓ New Direction Indicator and Beam Control

Selsyn motor controlled indicator. Indicating arrow glides through 360°, in either direction, over a map with compass graduations. Stop beam anywhere instantly.

JIFFY-RIG TELEVISION ANTENNAS

Taco Jiffy-Rig Antennas are the answer to the quickest installations without any electrical or mechanical sacrifice. These antennas come completely assembled, and are readied for installation by merely opening up and tightening a few screws. Elements are all securely locked in place when antenna is installed.

For performance curves and field patterns on all Taco antennas, refer to Catalog No. 30. Tests are made on all models at the thoroughly equipped Taco laboratories and testing grounds in Sherburne, N. Y.



LAZY X ANTENNA TYPE 950

First introduced by Taco in 1940, this antenna has a single forward lobe for both high and low channels. It has a high front-to-back ratio, high gain, and broad coverage. Available either as a stacked or single antenna. Stacked antenna has approximately twice the gain of single. Outstanding characteristic is stability of impedance and gain over far greater frequency range than most other types. Matches popular 300 ohm lead-in and receiver input.

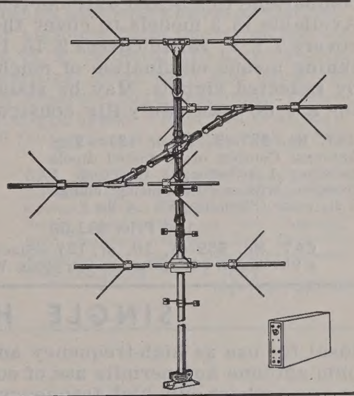
CAT. No. 950—Stacked Lazy X Antenna for channels 2-13. 2 X Antenna-Reflectors, connecting line between antennas, bakelite terminal panel, mast swivel bracket, 2 five-foot mast sections. (Shipping Wt.: 11 lbs.) **List Price $41.50**

CAT. No. 951—Stacked Lazy X Antenna. Same as No. 950 less 2 five-foot mast sections and mast swivel bracket. (Shipping Wt.: 9½ lbs.)....**List Price $34.00**

CAT. No. 952—Single Lazy-X Antenna with five foot mast and accessories. (Shipping Wt.: 7 lbs.) **List Price $21.00**

CAT. No. 953—Single Lazy-X Antenna less mast and accessories. (Shipping Wt.: 5 lbs.)............**List Price $16.50**

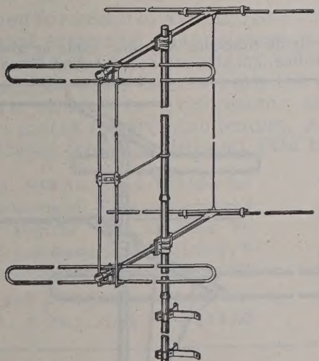
ALL-CHANNEL REVERSIBLE BEAM ANTENNA TYPE 900



An entirely new and improved approach to co-channel interference caused by stations approximately 180° apart, on the same channel. Uses four driven elements instead of parasitic elements, resulting in extremely high front-to-back ratio ranging from 5:1 up to 20:1. Antennas are connected in pairs, each pair with separate lead to receiver. Diplexer supplied with antenna eliminates any ghosts due to mismatch between receiver and lead. Diplexer incorporates a direction-reversing switch to reverse receiving direction 180°. Antenna receives equally well in either direction. Covers all channels 2-13 with a single lobe.

CAT. No. 900—All-Channel Reversible Beam Antenna Array. Consists of: 4 sets dipole elements with wings; 4 dipole connecting links with terminal panel; 3 five-foot section masts; accessories, 1 diplexer. (Shipping Wt.: 14 lbs.) **List Price $59.50**

CAT. No. 905—High-Band Reversible Beam Antenna Array. Consists of: 4 high-frequency dipoles; 4 connecting links with terminal panel; 2 five-foot mast sections; 1 crossarm; accessories; 1 diplexer. (Shipping Wt.: 8 lbs.)..........**List Price $32.00**



STACKED HIGH-GAIN ANTENNA TYPE 995

For fringe areas where low-band channels are operating, this antenna has no equal as proved by its record-breaking history. Comes tuned for any one channel (2, 3, 4, 5, 6) but will receive adjacent channels with slight attenuation. Order for weakest channel. Cleans up fuzzy signals with its high signal-to-noise ratio. Used in high-signal areas to eliminate interference. Extremely rugged mechanically. Used with Catalog 992-D (   ) director for extreme fringe areas.

CAT. No. 990-(   )—Stacked High-Gain Antenna. Specify channel in bracket. Consists of: 2 sets tuned dipole-reflectors; transmission lines with center terminal panel; transmission line brace. (Shipping Wt.: 9½ lbs.) **List Price $32.00**

CAT. No. 995-(   )—Stacked High-Gain Antenna. Same as No. 990 plus the following: 3 five-foot mast sections; 1 set 190-7 mast brackets; 6 screw-eye insulators; 4 mast insulators; 2 guy rings. (Shipping Wt.: 14 lbs.) **List Price $40.00**

INDOOR ANTENNA TYPE 975

For strong signal areas where regular antenna is not feasible. May be located at receiver or in attic. Base made of mottled mahogany-finished bakelite. Dipoles nickel-plated with metal-balled tips. Mounting feet permit anchoring to rafter in attic. Dipoles may be set in any position or length, thus covering all channels. No knobs to tighten due to exclusive Taco ratchet design.

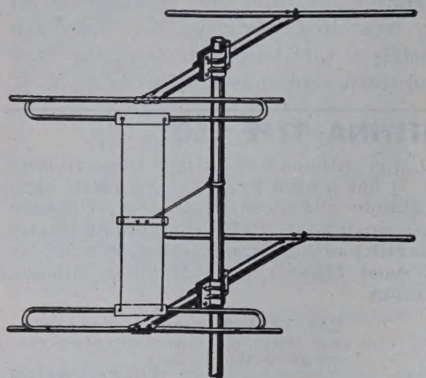
CAT. No. 975—Indoor Antenna. Individually packed. Standard package, 6 antennas. (Shipping Wt. for 6: 13 lbs.)..**List Price $6.50 each**

DIRECTOR TYPE 992-D-(   )

For increased gain and sharper tuning on channels 2, 3, 4, 5, 6, this director has been designed to slip into the open end of Taco No. 995. Increases voltage gain by 3 db for tuned channel. For areas where sharper tuning and higher gain is desired, the addition of director greatly improves reception. Director may be added any time to an existing installation.

CAT. No. 992-D-(   )—Director (Channel 2, 3, 4, 5, or 6). Consists of: 2 crossarm assemblies with director elements assembled by Jiffy-Rig construction. (Shipping Wt.: 2 lbs.) **List Price $9.50**

JIFFY-RIG TELEVISION ANTENNAS



STACKED HIGH-GAIN ANTENNA TYPE 944

JIFFY-RIG CONSTRUCTION

The finest in high-frequency antennas. Used in fringe areas and areas of average signal strength with excellent results. Cleans up high-frequency signals through the use of two 600-ohm folded dipoles tapped at center terminal for a transmission line impedance of 300 ohms. Exceptionally flat field characteristics eliminates ground reflections. Broad banded, but may be peaked for additional gain on any high-frequency channel by the addition of directors.

CAT. No. 944—Stacked High-Gain Antenna for high-band channels 7-13. Consists of: 2 600-ohm folded dipole antenna-reflector combination mounted on crossarm; terminal panel; 5-foot aluminum mast; mast insulator. (Shipping Wt.: 5 lbs.) **List Price $16.50**

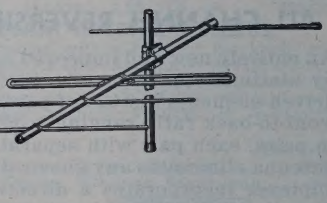
CAT. No. 947 D—H. F. Directors adjustable for any high channel. Attaches to Cat. 944 antenna. (Shipping Wt.: 3 lbs.)............**List Price $3.50**

2 packed per carton

YAGI ANTENNA TYPE 957

JIFFY-RIG CONSTRUCTION

An exceptionally high gain, sharply tuned antenna. Performance comparable to stacked antenna-reflector array for any one channel. Available in 3 models to cover the 7 upper channels. Model 957-8 covers 7, 8, 9; 957-10 covers 9, 10, 11; 957-12 covers 11, 12, 13. Sharp tuning means elimination of much interference and ghosts caused by reflected signals. May be stacked with Type 958 Stacking Kit for a 9 db gain. Jiffy-Rig construction, fully assembled.



CAT. No. 957-(8, 10 or 12)—Yagi Antenna. Consists of: 1 folded dipole antenna; 1 reflector; 2 directors; 1 crossarm with mast-mounting clamp. 5 ft. mast (Shipping Wt.: 4 lbs.) **List Price $11.00**

CAT. No. 958-((8, 10, or 12)—Yagi Antenna Stacking Kit. Same as above without mast but with transmission line for stacking. (Shipping Wt.: 3 lbs.)..........................**List Price $9.00**

CAT. No. 959-(8, 10, or 12)—Stacked Yagi Antenna. Combination of a 957 and a 958 antenna. (Shipping Wt.: 6 lbs.).......... **List Price $18.75**

SINGLE HIGH-BAND ANTENNA. TYPE 945

Ideal for use as high-frequency adapter in average to strong signal areas. Jiffy-Rig construction matches 300-ohm antenna and permits use of common transmission line through use of matching network. Used as antenna in areas where only high frequency stations are operating. May be stacked in weak signal areas using Type 946 Antenna.

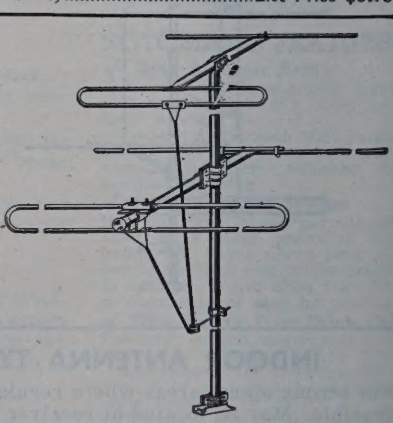
CAT. No. 945—Folded Dipole Antenna. Consists of: folded dipole with reflector; 5-foot mast. (Shipping Wt.: 2 lbs.) **List Price $7.00**

CAT. No. 946—Folded dipole Stacking Antenna. Same as above less mast. (Shipping Wt.: 1 lb.)....................................**List Price $5.75**

HI-LO BAND ANTENNAS TYPE 920 AND 925

JIFFY-RIG CONSTRUCTION

An improved version of the famous Taco 465, original piggy-back Hi-Lo Band Antenna. The most popular types for areas of average signal strength where both high and low bands are in operation. Separate high and low band elements allow independent orientation of high and low-band antennas for elimination of ghosts and sharpness of picture. Matching network minimizes interaction between sections, and allows full freedom in orientation. Also available as a stacked high and single low-band antenna. Cat. No. 920 for increased gain usually needed in the high-band channels.



CAT. No. 925-5—5-foot Hi-Lo Band Antenna. Consists of: High and low-band folded dipole antennas-reflectors; 5-foot mast; matching network; mast swivel base. (Shipping Wt.: 6 lbs.)............**List Price $17.00**

CAT. No. 925-10—10-foot Hi-Lo Band Antenna. Same as above plus extra 5-foot mast section, guy anchor, extra mast standofl. (Shipping Wt.: 7 lbs.)......**List Price $20.00**

CAT. No. 920—Stacked High, Single Low-Band Antenna. Consists of: Stacked high-band antenna-reflector combination; Low-band antenna-reflector; matching network; 2 five-foot mast sections; swivel base bracket; guy anchor. (Shipping Wt.: 8 lbs.)..**List Price $25.00**

FOLDED DIPOLE ANTENNA-REFLECTOR TYPE 940

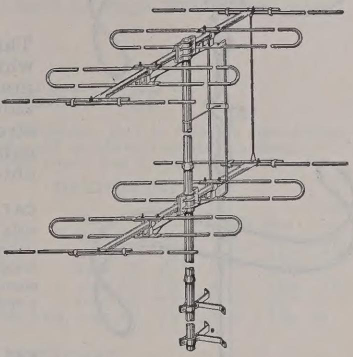
An economical, dependable folded dipole antenna for prime service area use. Single lobe in low band, Jiffy-Rig construction assures quick erection. Matches 300-ohm transmission line. For added gain a 992-(*) director may be used.

CAT. No. 940-L—Folded Dipole Antenna-Reflector Type 940. Consists of: 1 folded dipole; crossarm with mast clamp; reflector; 1 5-foot mast; 2 mast insulators; swivel base. (Shipping Wt.: 5 lbs.) **List Price $15.00**

TACO NOISE-REDUCING ANTENNA SYSTEMS

JIFFY-RIG TELEVISION ANTENNAS

TWIN-DRIVEN YAGI ANTENNA



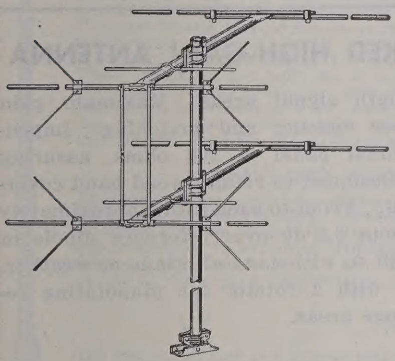
For fringe area reception a rotator often permits maximum results. Taco twin-driven Yagi Antenna, due to its high gain, is the ideal antenna because of its low overall height. In sub-fringe areas use 980-( ) stacked model with a gain of over 9 db. Special bulletin available on request. Tuned for each low band channel. Use 959-( ) for high band stations. The antenna and first director are driven elements for improved impedance match.

CAT. No. 980-( )—Two-Bay Twin-Driven Yagi Antenna, less mast. **List Price $49.50**

CAT. No. 981-( )—Single Bay Twin-Driven Yagi Antenna, less mast. **List Price $24.00**

CAT. No. 985-( )—Two-Bay Twin-Driven Yagi Antenna with 15-foot mast. **List Price $59.50**

CAT. No. 986-( )—Single Bay Twin-Driven Yagi Antenna with 5-foot mast. **List Price $27.50**



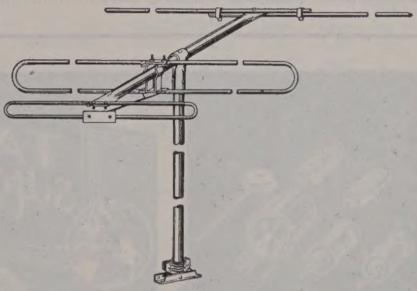
SINGLE-LOBE DOUBLE-DOUBLET TYPE 912

Originally designed as a low band antenna and well known as Cat. No. 435 Lazy H Antenna. Re-designed for high-low band operation by the addition of high frequency wings and H. F. reflectors to give the one direction lobe necessary for most localities. High gain and excellent front-to-back ratio obtained by use of separate high frequency reflectors. Recommended for low signal strength areas. Good FM coverage. Available as a signal bay unit Cat. 910 for higher signal strength areas.

CAT. No. 912—Single-lobe Double Doublet Antenna. Consists of: 2 antenna-reflectors on separate crossarms; high frequency reflectors; connecting network; 2 five foot masts; mounting accessories; high frequency wings. (Shipping Wt.: 8 lbs.)........................... **List Price $25.00**

CAT. No. 910—One-Bay Single Lobe Antenna for high and medium signal strength areas. Consists of: antenna-reflector combination on one crossarm; high frequency reflector; high frequency wings; 5-foot mast; mounting accessories. (Shipping Wt.: 6 lbs.) **List Price $15.00**

HI-LO BAND IN-LINE ANTENNA TYPE 930 AND 932



Designed for areas of average-to-strong signal strength where both high- and low-band channels are in the same direction. Gain is high in both bands. Directivity lobes show this antenna as having one main forward lobe in both the high and low band. Matching network eliminates troublesome interaction between elements. Perfect match for 300-ohm lead-in. A stacked model Cat. No. 932-10 is available where additional gain is required in either band.

CAT. No. 930-5—5-foot In-Line Antenna. Consists of: High and low-band antenna sections with low-band reflector; 5-foot mast; jumper network; 3 screw-eyes; mast standoff; mast swivel bracket and mounting screws. (Shipping Wt.: 6 lbs.).... **List Price $17.00**

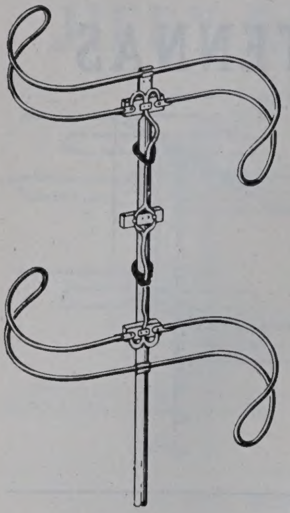
CAT. No. 930-10—10-foot In-Line Antenna. Same as 910 plus one extra 5-foot section of mast. (Shipping Wt.: 7 lbs.)...................... **Lits Price $20.00**

CAT. No. 932—10-foot Antenna. Consists of: 2 high-low antenna-reflectors; 2 crossarms; 2 five-foot mast sections; mounting accessories. (Shipping Wt.: 10 lbs.)................. **List Price $34.00**

ACCESSORIES AND SUPPLIES

- **Extension Masts**
- **Sectional Masts**
- **Mast Couplings**
- **Mast Brackets**
- **Mast Swivel Brackets**
- **Antenna Insulators**
- **Strain Insulators**
- **Turnbuckles**
- **Guy Wire**
- **Crossarm Connectors**
- **Mast Guy Anchors**
- **Mast Standoff Insulators**
- **Ribbon Wire Insulators**
- **Baseboard Standoffs**
- **Porcelain Nail Knobs**
- **Lightning Arrestors**
- **Shorting Bars**
- **Replacement Parts**
- **Screw-eye Standoffs**
- **Ribbon Transmission Line**
- **Concentric Cable**
- **Twisted Pair Lead-in**
- **H. F. Splicing Tape**
- **Window Lead-in Strips**
- **Ground Rods**
- **Ground Clamps**
- **Ground Straps**

FM ANTENNAS



FM OMNIDIRECTIONAL ANTENNA TYPE 624

This antenna has nearly the same gain as a single dipole in the FM band, which is unique for an antenna of the non-directional type. Covers FM band with practically equal gain throughout, due to its 300-ohm impedance. Gain and band-width greater than that of turnstile antenna. For areas with less signal strength, the 624 may be stacked ½ wave-length between elements for maximum gain and minimum interaction. In a stacked array it is possible to peak the antennas for weaker stations.

CAT. No. 624—Omnidirectional Antenna. Consists of: 1 S-Type folded dipole with terminal panels; 1 5-foot aluminum mast; 2 mast insulators; 60-foot transmission line; 2 ribbon-type standoff insulators; 2 mast clamps; mounting screws. (Shipping Wt.: 4¾ lbs.) **List Price $11.00**

CAT. No. 624-L—Omnidirectional Antenna. Same as above less transmission line. (Shipping Wt.: 4 lbs.).......................... **List Price $8.00**

CAT. No. 624ST—Stacked Omnidirectional Antenna. Consists of: 2 S-Type antennas; 1 stacking transmission line with terminal panel and mounting clamp; 2 5-foot aluminum mast sections; 1 coupling for mast with mounting panel; 60-foot transmission line; 2 ribbon type standoff insulators; 2 mast clamps with mounting screws. (Shipping Wt.: 6½ lbs.) **List Price $18.00**

CAT. No. 624ST-L—Stacked Omnidirectional Antenna. Same as above less transmission line. (Shipping Wt.: 6 lbs.)............ **List Price $15.00**

FM FOLDED DIPOLE ANTENNA-REFLECTOR

The folded dipole is the best type FM antenna inasmuch as the spread is only 10% above and below the mean frequency. Has a flat response of 3 db over entire FM band. Unidirectional characteristic is ideal for pinpointing in noisy locations. Mechanically rugged. Electrically perfect.

CAT. No. 620—Folded Dipole Antenna-Reflector. Consists of: 1 folded dipole; 1 reflector with crossarm; 5-foot aluminum mast; 2 mast insulators; 2 mast-mounting straps with mounting screws; 2 standoff insulators; 60-foot 300-ohm transmission line. (Shipping Wt.: 4¾ lbs.) **List Price $13.50**

CAT. No. 620-L—Folded Dipole Antenna Reflector. Same as above less transmission line. (Shipping Wt.: 3¾ lbs.).................. **List Price $10.50**

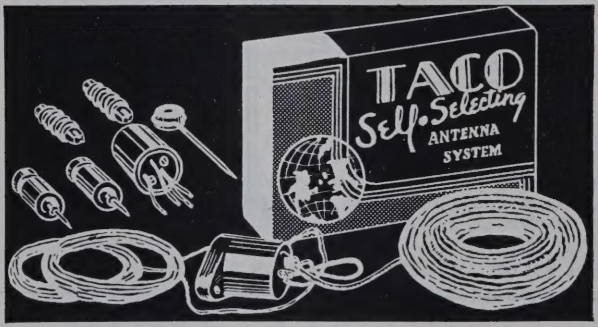
CAT. No. 621—Folded Dipole Antenna. Consists of: 1 folded dipole with terminal block; 60-foot 300-ohm transmission line; 1 5-foot mast; 2 mounting straps and mounting screws; 3 special screw-eyes. (Shipping Wt.: 3½ lbs.).. **List Price $10.25**

CAT. No. 621-L—Folded Dipole Antenna. Same as above less transmission line. (Shipping Wt.: 2½ lbs.)......................... **List Price $7.25**

FM STACKED HIGH-GAIN ANTENNA

For low-strength signal areas. Maximum gain through proper spacing and matching. Impedance at terminal panel is 300 ohms, assuring good match. Designed to retain broad band coverage despite gain. Front-to-back ratio approximately 15:1; gain about 6.5 db over reference dipole in FM band. Built to withstand all kinds of weather. May be used with a rotator for pinpointing reception in fringe areas.

CAT. No. 635—Stacked Folded Dipole Antenna-Reflector. Consists of: 2 folded dipoles; 2 reflectors with crossarms; 2 transmission lines with terminal panels; 2 5-foot mast sections; mounting hardware. (Shipping Wt.: 9½ lbs.)............ **List Price $25.00**



ANTENNA SYSTEMS

ALL-WAVE NOISE REDUCING ANTENNA SYSTEM

Taco AM antenna kits have been designed and manufactured to perform the important function of delivering as much signal strength to the receiver as possible, and at the same time to hold back undesirable background noises. The signal-to-noise ratio is extremely high, due to the matching transformers incorporated in the following systems.

DOUBLET ANTENNA SYSTEM TYPE 220 FM

Balanced doublet type covering the standard broadcast, shortwave and FM bands. Completely wired, soldered and tested. Includes Type 221 antenna transformer, two 30-foot coils of aerial wire, 60-foot transmission line, and all necessary hardware. Standard Package: 6.

CAT. No. 220-FM—(Shipping Wt.: 4 lbs.)............ **List Price $13.50 each**
CAT. No. 220—Antenna, AM only................................. **List Price $12.75**

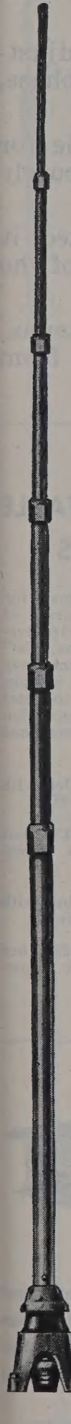
MULTIPLE OUTLET SYSTEM

Master antenna system for connecting 10-30 AM or FM receivers to one antenna using one or several transmission lines. Used extensively in schools, hospitals and apartment houses. Special type antennas for school public address installations.

INFORMATION ON FM AND AM ANTENNAS IS CONTAINED IN SPECIAL TACO CATALOG.

PREMAX Telescoping Vertical Antennas

Premax Adjustable Tubular Antennas have been widely used in radio fields for a long period of years and have shown exceptionally efficient, dependable performance under most severe climatic and shock conditions, both in continental United States and abroad. They are available in various lengths to meet all requirements, in monel, aluminum and steel. Mountings and insulators will be found on page S-48.



MONEL ANTENNAS FOR CORROSION RESISTANCE

Premax Monel Antennas have an outstanding combination of strength and corrosion resistance that is vital to trouble-free communications, whether at land or at sea . . . in the tropics or the arctics. The monel used in these Premax Antennas . . . two-thirds nickel and one-third copper . . . is twice as stiff as bronze, strong as structural steel. Yet it will not corrode or lose its strength in salt-water installations. Polished chrome-plated finish on all sizes.

Premax Monel Antennas are built up of multiple sections of hard-drawn monel tubing of a tensile strength exceeding 125,000 pounds per square inch. They are available in five standard units, fully telescoping and adjustable to any height between the minimum and maximum shown. The locking device employs a special knurled thimble and split friction clutch sleeve and holds the sections firmly at any desired height, also providing perfect electrial contacts.

SPECIFICATIONS

No.	Description	Ext'd. Lgth.	C'laps'd. Lgth.	Base O.D.	Base I.D.	Wgt. ea. lbs.
MM-313	2-Sec. Tele.	about 13′	6′9″	.615″	.545″	2¾
MM-419	3-Sec. Tele	about 19′	6′9″	.747″	.667″	5
MM-825	5-Sec. Tele.	about 25′	5′8″	.893″	.799″	7½
MM-430	5-Sec. Tele.	about 30′	6′9″	1.065″	.945″	13
MM-635	5-Sec. Tele. Heavy	about 35′	7′8″	1.250″	1.120″	21

ALUMINUM ANTENNAS FOR LIGHT WEIGHT

Premax Adjustable Type Aluminum Antennas are designed to provide light-weight with corrosion resistance and adequate strength to meet the most exacting conditions, for marine, mobile and commercial installations where convenience in erection and dependable performance are important considerations.

They are ideally adapted for use in radio telephone installations on fresh-water craft and commercial installations where convenience in extending and collapsing are important considerations.

These Antennas are built up of tubing that is specially drawn seamless tempered aluminum with diameters, gauges and temper engineered to withstand wind velocities up to 60 m.p.h. The locking device is simple and positive and provides low-resistance contact between sections. Six units are available, all fully telescoping.

HEAVY-DUTY NON-ADJUSTABLE

Another type for special installations under extraordinarily trying conditions is a Heavy-Duty, Non-Adjustable Aluminum Antenna in either 17½′ or 35′ length. This is a specially heat-treated Antenna designed to withstand wind velocities up to 100 m.p.h. The tubing is step-tapered from a base diameter of 2″ to a top of ½″ on the 35′ mast and a base of $\frac{31}{32}$″ to a top of ½″ on the 17½′ mast.

SPECIFICATIONS

No.	Description	Ext'd. Lgth.	C'laps'd. Lgth.	Base O.D.	Base I.D.	Wgt. ea. lbs.
AL-106	1-Pc. Taper Rod	6′3″	6′3″	.313″	....	¼
AL-312	2-Sec. Tele.	12′4″	6′4″	.500″	.334″	1½
AL-518	3-Sec. Tele.	18′5″	6′4″	.750″	.584″	3
AL-324	4-Sec. Tele.	24′4″	6′4″	1.000″	.834″	5
AL-530	5-Sec. Tele.	30′0″	6′5″	1.250″	1.084″	7
AL-535	6-Sec. Tele.	35′8″	6′5″	1.500″	1.310″	12
HEAVY-DUTY, NON-ADJUSTABLE						
AM-017	1-Pc. Taper Tube	17′9″	17′9″	.969″	.689″	5½
AM-035	2-Sec. Taper	35′0″	17′9″	2.000″	1.732″	19

(For Base Insulators and Mountings, See Page S-48)

STEEL ANTENNAS FOR LOW COST

The low initial cost and general satisfaction of Premax Tubular Steel Antennas have made this equipment within all budget requirements for commercial, municipal, amateur and other types of installations. In construction these Antennas are made of high-tensile, copper-nickel steel tubing of carefully engineered diameters and wall thicknesses, heavily cadmium-plated and highly resistant to corrosion. When properly mounted, they will withstand all ordinary stresses without guying, but it is generally advisable to support them by guys or standoff insulators against abnormal winds or extreme strains.

Standard Premax Adjustable Tubular Steel Antennas are available in two, three, four, five and six-section models. All units are fully telescoping and adjustable within the lengths shown for the particular type. The locking device is simple in operation, positive in action and provides a secure and efficient electrical contact between the sections. While these Antennas possess unusual tensile strength, they are light in weight and easily portable. They have widespread use in fixed and mobile installations. NOT recommended for marine use on salt water.

SPECIFICATIONS

No.	Description	Ext'd. Lgth.	C'laps'd. Lgth.	Base O.D.	Base I.D.	Wgt. ea. lbs.
112-M	2-Sec. Tele.	11′8″	6′1″	.656″	.556″	4
318-M	3-Sec. Tele.	17′3″	6′2″	.875″	.775″	7
224-M	4-Sec. Tele.	22′9″	6′3″	1.063″	.963″	11
130-M	5-Sec. Tele.	28′3″	6′4″	1.250″	1.150″	15
136-M	6-Sec. Tele.	33′9″	6′5″	1.500″	1.400″	20

(For Base Insulators and Mountings, See Page S-48)

Unit 618-M

Unit 113-M

Unit 108-M

Unit 105-M

CORULITE ADJUSTABLE ELEMENTS FOR ROTARY BEAMS

Premax Corulite Elements are designed to meet the need for lightweight but sturdy elements for use in horizontal arrays and similar applications. They are unusually light in weight and their special corrugated or reed design provides exceptional strength and rigidity so essential in horizontal types of installations. All parts are heavily electro-plated to provide corrosion resistance and high electrical conductivity. A positive clamp, spot-welded to the tubing, permits adjustment in length and assures rigid joints and positive electrical contact between the telescoping sections. Ease of adjustment between the two halves of each component element is provided by the Premax "Hairpin" Tuning Bar. By its use it is possible to have all of the elements set at a single physical length and the variation in their electrical length may be accomplished by the "Hairpin."

Corulite Elements are available in one, two, three or four-section units as shown in the specifications at the right. These elements meet all requirements for the various five to twenty-meter arrays in general use and are ideal for combinations in commercial, FM, television or amateur bands.

SPECIFICATIONS

No.	Description	Extended Length	Collapsed Length	Base O.D.	Recommended For	Weight Per Pr.
105-M	1-Section	5′0″	5′0″	.625″	6-meter	1 lb.
108-M	2-Section	8′2″	4′7″	.750″	10-meter	2 lbs.
113-M	3-Section	12′4″	4′8″	.875″	....	3½ lbs.
618-M	4-Section	17′0″	5′3″	1.000″	20-meter	5½ lbs.

PREMAX PRODUCTS, DIVISION OF CHISHOLM-RYDER COMPANY, INC., NIAGARA FALLS, N. Y.

PREMAX Television and FM Antennas

Television transmitters emit horizontally polarized waves. However, near the receiving antenna, due to reflections from tall trees, buildings and other obstructions, there is bound to be a vertical component which, when combined with the horizontal component, will run the angle of polarization *somewhat above the original horizontal plane.*

Thus a "direct" and a "reflected" signal often combine at the receiving antenna and where an ordinary horizontal type dipole antenna is used this combination of signals produces only a minimum of desired signal *because one signal tends to cancel out the other.*

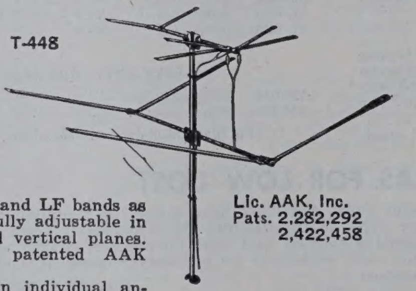
With the Premax Adjustable V Dipole Antenna the proper vertical or horizontal adjustment of the elements will correct this condition and make the two signals *combine* in phase, thereby *increasing* rather than reducing the received signal.

Premax dipole elements are designed to permit any desired adjustment of the angle for strongest reception (usually 35° to 45° above the horizontal plane) and they can be securely locked in the position deemed best.

Another feature of the Premax Adjustable V Dipole Antenna is that, properly mounted, it permits a *sufficient* signal energy *at the antenna terminals* to minimize the importance of the otherwise difficult task of perfect impedance matching.

Many leading radio engineers who have tested the Premax Adjustable V Dipole Antenna, mounted reasonably high and in the clear, find it insures *optimum reception* of signals from *all* of the TV stations which come within the line of sight.

COVERS ALL TELEVISION & FM CHANNELS

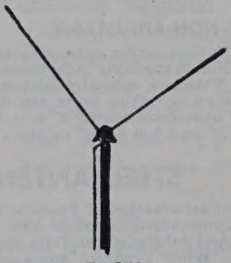


Lic. AAK, Inc.
Pats. 2,282,292
2,422,458

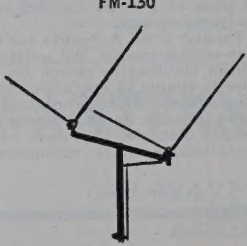
Simpler! Lower in cost! Easy to erect! Oversize elements! Adjustable V Dipole design! Two completely separate arrays on one mast, each of dipole and reflector. Provides maximum signal pickup for all channels in HF and LF bands as well as for FM. Fully adjustable in both horizontal and vertical planes. Interconnected by patented AAK divider coil system.

Can also be had in individual antennas for either HF or LF. Then, at any time, the other array may be added to give full two-band coverage.

T-448—LF-HF Antenna complete, less transmission line.
TL-448—LF-HF Antenna complete with 75′ 300-ohm. transmission line.
TA-4481—LF Antenna and reflector only, including mast, less transmission line.
TAL-4481—Same as TA-4481 but with 75′ 300-ohm transmission line.
TB-4482—HF Antenna and Reflector only, including mast, less transmission line.
TBL-4482—HF Antenna and Reflector only, including mast and 75′ line.
TC-4483—HF Conversion Unit, less mast, less transmission line.
TD-4484—LF Stacked Array, with 9′ mast, less line.



FM-130



FM-230

FM and TV ADJUSTABLE "V" ANTENNAS

Designed for maximum response for FM and TV bands. Dipole arms of heat-treated aluminum with wire terminals for lead-in connections. 50″ tubular steel support mast. Arms may be locked at any designed angle. Simple, light-weight design is simple to erect and install. Provides better reception than any straight dipole in congested areas.

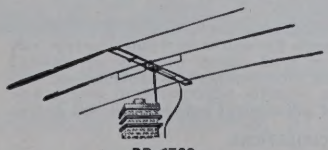
No. FM-130—FM Antenna complete with mounting, less transmission line.

No. FML-130—Same as FM-130 but with 75′ 300-ohm twin-lead transmission line..

No. FM-230—Same as FM-130 but with reflector, less transmission line.

No. FML-230—Same as FM-230 but with 75′ 300-ohm twin-lead transmission line.

ROTARY BEAM ANTENNA FOR 6-10-11 METER BANDS



RB-6309

A high-gain directive Antenna with many distinctive features and high degree of flexibility for use on 6, 10 or 11 meter bands. Aluminum supporting frame. Seamless duraluminum tubing elements readily adjustable in length for operation at optimum efficiency in any band listed. Light in weight with slight wind resistance.

RB-6309 Kit includes frame, 3 pr. Elements with necessary insulators and hardware including T-match accessories but no transmission line. Weight 30 pounds.

309-A Extra Elements only, no frames, insulators or hardware included. Packed in pairs. Weight 2 lbs. per pair.

HAND-OPERATED TURNTABLE

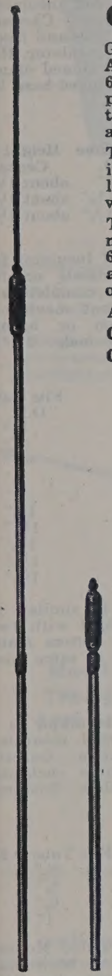
BM-46

Will support the largest type of Rotary Beam Assembly and permits rotation for full 360° in either direction. Formed of heavy sheet steel, spot welded. Steel angles spot-welded inside housing for additional strength. Platform or turntable is 10″ x 12″ formed of extra heavy sheet steel, is supported by 7″ ball thrust bearing. Main shaft supported by two bearings to prevent side-play. ⅝″ opening through center shaft for lead-in wires. Duraluminum control cable pulleys and 6′ galvanized flexible steel cable. Shipping weight 17 pounds.

PREMAX PRODUCTS, DIVISION OF CHISHOLM-RYDER COMPANY, INC., NIAGARA FALLS, N. Y.

PREMAX Mobile and Police Antennas

CENTER-LOADED TUBULAR TELESCOPING MARINE ANTENNA



Center Loaded Antenna

Gives a remarkable gain over the signal produced by a base-loaded type of same overall length. At high-frequency end of its 2000 to 3000 kc range it gives a measured effective signal power of 6 decibels when compared with a base-loaded antenna of similar length. This is equivalent to that produced by quadrupling the transmitter power output. For example, with this new Antenna, a 10w transmitter will produce a signal equal to that of a 40w transmitter using a base-loaded antenna and tuning system.

The base of this Antenna presents such a low impedance that less loss is experienced with leaky base insulators due to icing, wet weather or water spray. The line feeding the base is a low impedance line and is not critical as to length and body-capacity effects as is the case of the base-loaded antenna where the loading coil is housed in the transmitter cabinet.

The Antenna consists of two telescoping, adjustable base sections on which the loading coil is mounted, with a tapered top whip section. Each tubular section and the top whip is approximately 6½′ long, providing a total extended length of about 19′. The base sections collapse to a single unit and the top whip section telescopes through the coil into the lower sections, making a collapsed length of only about 7½′.

Available in monel for salt-water installations or in aluminum for fresh water use.

CLM-519—Monel type	Base O.D. .893″ I.D. .799″
CLA-619—Aluminum type	Base O.D. 1.000″ I.D. .834″

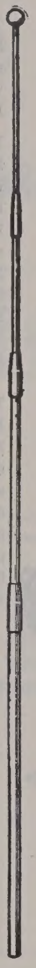
Solid Stainless Steel Tapered Antennas

Recommended for use where extreme durability and great corrosion resistance are necessary. One-piece solid hard-drawn stainless steel rod, tapered from ¼″ base to ⅛″ top. A tough, durable Antenna that will take it. Available in three standard lengths, to fit all standard mountings shown on page S-48.

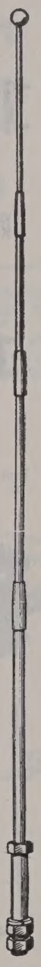
No. SP-472—Stainless Steel Tapered Antenna, 72″ long.
No. SP-484—Stainless Steel Tapered Antenna, 84″ long.
No. SP-496—Stainless Steel Tapered Antenna, 96″ long.

(For Mountings See Page S-48)

Solid Steel "Whip Type" Graduated Diameter Antennas



Type A



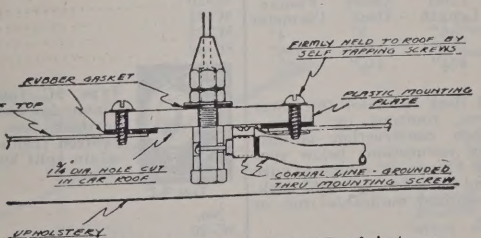
Type B

Made of solid steel of extremely high carbon content, heat-treated and oil-tempered to carefully develop physical properties. Rods of varying diameters cold-drawn to rigidly-held tolerances, are joined securely and permanently into a single graduated length Antenna of high flexibility, minimum wind resistance and long life. Available in cadmium-plated with plain ¼″ end (Style A) or 7/16″ threaded stud end complete with hexagon nuts and lock washers (Style B). Also available in stainless steel.

CADMIUM-PLATED STEEL			STAINLESS STEEL		
Length	Style A	Style B	Length	Style A	Style B
72″	AC-172	BC-172	72″	AS-172	BS-172
78″	AC-178	BC-178	78″	AS-178	BS-178
84″	AC-184	BC-184	84″	AS-184	BS-184
90″	AC-190	BC-190	90″	AS-190	BS-190
96″	AC-196	BC-196	96″	AS-196	BS-196

(Mountings for Mobile and Police Antennas Shown on Page S-48)

160 Mc. Roof Antenna—1 Man Mount


FIRMLY HELD TO ROOF BY SELF TAPPING SCREWS
RUBBER GASKET
PLASTIC MOUNTING PLATE
ROOF TOP
1¾ DIA. HOLE CUT IN CAR ROOF
COAXIAL LINE - GROUNDED THRU MOUNTING SCREW
UPHOLSTERY

The most improved, easiest to install Roof Antenna made! One man makes the installation without cutting or ripping car upholstery. Single hole 1¾″ diameter in metal roof is all that is necessary.

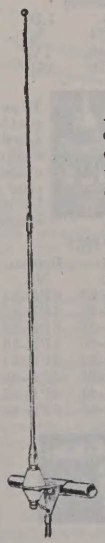
Mounting grounds coaxial sheathing of lead-in line. Rubber gasket insures against leakage. Transparent plastic insulator makes inspection easy. The antenna is stainless steel wire, 18″ long with ball-tip and threaded fitting. Suitable for all frequencies in the 152 to 162 megacycle band.

No. DSH-118—Complete Assembly, less transmission line.

No. DS-118—Antenna only.

No. DSJ-118—Antenna with one-hole mounting and porcelain insulator. (Not illustrated.)

Motorcycle Antennas and Mounts



Overcomes weaknesses and defects commonly found in other types! In this Premax, the coaxial line is grounded to same portion of mounting bracket that carries the antenna support itself. Hence no flexing of cable between ground and antenna connection.

A spring-tension joint permits entire antenna including insulator support and grounded cable to be deflected 90° without injury. Spring tension is sufficient to prevent accidental deflection.

Cadmium-plated steel bracket fits ¾″ tubing frame in either vertical or horizontal position as shown at right.

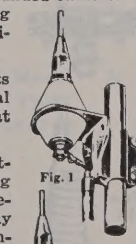


Fig. 1

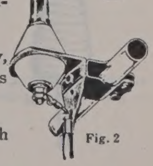


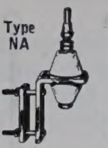
Fig. 2

Antenna is high-carbon, heat-treated tempered steel 34″ long mounted in high-strength porcelain cone insulator. Antenna may be changed without disturbing insulator assembly.

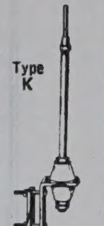
No. CCY-134—Complete Assembly, Antenna and Mounting, less cable.

No. CC-134—Antenna only with Adaptor.

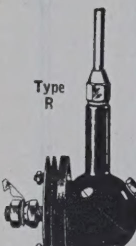
PREMAX Mountings-Insulators-Accessories


Type NA

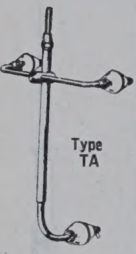
TYPE NA Insulated Bumper Mounting. Plates heavily cadmium-plated steel; insulation white glazed ceramic cones. Fits Style A or ¼″ antenna.


Type K

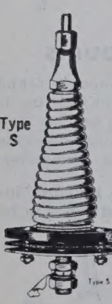
TYPE K Insulated Bumper Mounting. Antenna rod fits into section of heavy brass tubing attached to the insulator and permits 10″ adjustment in height of antenna. Nut and compression sleeve lock antenna in place. Fits Style A or ¼″ antenna. White glazed ceramic insulator.


Type R

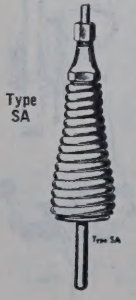
TYPE R Insulated Universal Mounting of split-ball type. Solid cast bronze, which bolts directly to car panel or other surface thru heavy plastic disc insulation with waterproof gasket and steel backplate. Baked black enamel finish. Fits Style A or any ¼″ antenna.


Type TA

TYPE TA Trunk or Panel Mounting, for Premax Style A or any ¼″ Antenna. Fastens to car body or trunk or to any horizontal surface such as roof. Lower support is solid brass rod joined to 12″ brass tube carrying antenna. Upper support is 24″ brass rod adjustable on antenna tube and also in insulator assemblies to fit contour of car. High-tension white-glazed ceramic cone insulators. Maximum 10″ antenna adjustment. All metal parts heavily cadmium plated.


Type S

TYPE S Insulated Roof Mounting for auto or any flat surface. Special plastic insulation disc carrying heavy tempered steel spring with retaining nut and tapered split bushing to fit Premax Style A or any ¼″ antenna. Overall height about 5″; diameter of base about 3″. Fittings are solid brass electroplated.


Type SA

TYPE SA Spring Adaptor Mounting, similar to Type S described above except that a base plug is provided with an adaptor stud to fit any Premax Mounting shown in this column. Fits Premax Type A or any ¼″ Antenna. Overall height about 4¾″; base diameter about 1⅝″.

Type 1

Type 1 Base Insulator; heavy-duty with compression rating up to 10,000 lbs. Galvanized malleable iron or bronze. Available in three styles:

RIGID POST TYPES *(illustrated)*

Galv. No.	Bronze No.	Dia. Top Post	Fits Antennas Nos.
1PG-24	1PB-24	¾″	318-M
1PG-25	1PB-25	25/32″	MM-825
1PG-26	1PB-26	13/16″	AL-324
1PG-30	1PB-30	15/16″	MM-430, MM-435
1PG-34	1PB-34	1 1/16″	AL-530
1PG-35	1PB-35	1 3/32″	MM-635
1PG-41		1 9/32″	AL-535
1PG-44		1⅜″	136-M
1PG-55		1 23/32″	AM-035

HINGED POST TYPES

Galv. No.	Bronze No.	Dia. Top Post	Fits Antennas Nos.
1HG-25	1HB-25	25/32″	MM-825
1HG-26	1HB-26	13/16″	AL-324
1HG-30	1HB-30	15/16″	MM-430, MM-435
1HG-34	1HB-34	1 1/16″	AL-530
1HG-35	1HB-35	1 3/32″	MM-635
1HG-41		1 9/32″	AL-535
1HG-44		1⅜″	
1HG-55		1 23/32″	

*Can be used with adapters to fit all other sizes of masts.

TYPE 1X—SOCKET TOP

No. 1-XG	Galvanized Top tapped standard ¾″ 16-thread
No. 1-XB	Bronze Top tapped standard ¾″ 16-thread

Type 2

Type 2 Base Insulator; light design for masts up to 18′ or higher if guyed or supported by standoff insulators. ¾″ top post but with use of adaptors will fit other size masts. Brown-glazed porcelain with galvanized malleable iron top post and base support cemented into insulator.

No. 2P-24	¾″ Top Post	Fits 318-M
No. 2P-26	13/16″ Top Post	Fits AL-324

Deck Bushing of brown glazed porcelain with galvanized malleable flange which bolts thru rubber gasket to roof or deck.

Bushing No.	I.D.	Total Length	Above Deck	Flange Diameter
5D-24	¾″	6″	3″	4″
5D-40	1¼″	8″	4¼″	4½″
5D-56	1¾″	8½″	4½″	5⅜″

Type 6

Type 6 Base Insulator for tower platform, rooftops or Marine. Lead-thru construction permits antenna connections below roof or deck. Flanges 6″ diameter with stud and bolts for ½″ to 3″ deck. In galvanized malleable iron or bronze.

Galv. No.	Bronze No.	Dia. Top Post	Fits Antennas Nos.
6PG-24	6PB-24	¾″	318-M
6PG-25	6PB-25	25/32″	MM-825
6PG-26	6PB-26	13/16″	AL-324
6PG-30	6PB-30	15/16″	MM-430, MM-435
6PG-34	6PB-34	1 1/16″	AL-530
6PG-35	6PB-35	1 3/32″	MM-635
6PG-41	6PB-41	1 9/32″	AL-535
6PG-44	6PB-44	1⅜″	136-M

Wall Bracket

Wall Bracket of heavy formed steel for mounting vertical antennas on side walls, parapets, etc. Drilled to fit Premax Type 1 and 2 Base Insulators. Baked black enamel finish. No. WB-1.

Type 10-S Standoff Insulator, heavy-duty type. Chrome-plated bronze base and head-caps, porcelain insulator. Has solid clamp or hinged clamp for use with hinged-base insulator.

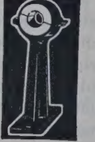
Solid Clamp No.	Hinged Clamp No.	Fits Tube O.D.	Height to Center
10S-2832	10SH-2832	⅞″ to 1″	about 4½″
10S-3236	10SH-3236	1 ″ to 1⅛″	about 4½″
10S-3642	10SH-3642	1⅛″ to 1 5/16″	about 4½″

Type 3

Type 3 Standoff Insulator for supporting verticals or for use in pairs as complete antenna or element mounting. Galvanized iron or bronze with porcelain body, 3″ in diameter.

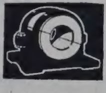
Galv. No.	Brass No.	Fits Tube O.D.
3SG-16	3SB-16	½″
3SG-20	3SB-20	⅝″
3SG-24	3SB-24	¾″
3SG-28	3SB-28	⅞″
3SG-32	3SB-32	1″
3SG-34	3SB-34	1 1/16″
3SG-40	3SB-40	1¼″
3SG-42	3SB-42	1 5/16″
3SG-48	3SB-48	1½″
3SG-52	3SB-52	1⅝″

Type 4 Standoff Insulator is similar to Type 3 excepting it is provided with two ringed clamps instead of the bottom plate. In galvanized iron or bronze in same sizes as the No. 3.



Type 7 Standoff Insulator is a low-priced substantial mounting with wide application. Galvanized malleable frame enclosing white split porcelain bushing. Height 6″.

No.	Fits Tube O.D.
7S-20	⅝″
7S-24	¾″
7S-28	⅞″
7S-32	1″


Type 8-C

Type 8-C Insulated Mounting Clamp for horizontal arrays, verticals, etc. Galvanized iron frame with white split porcelain bushing. Width 3½″.

No.	Fits Tube O.D.
8C-20	⅝″
8C-24	¾″
8C-28	⅞″
8C-32	1″

Type 9-C

Type 9C Insulated Mounting Clamp for horizontal elements, verticals, etc. Gray iron galvanized frame with white porcelain split bushing. Height to center 2″.

No.	Fits Tube O.D.
9C-20	⅝″
9C-24	¾″
9C-28	⅞″
9C-32	1″

Type 10-C

Type 10-C Insulated Mounting Clamp. Stamped steel electroplated frame, white porcelain split bushing; lightweight. 2″ to center.

No.	Fits Tube O.D.
10C-20	⅝″
10C-24	¾″
10C-28	⅞″
10C-32	1″

PREMAX PRODUCTS, DIVISION OF CHISHOLM-RYDER COMPANY, INC., NIAGARA FALLS, N. Y.

WARD *Magic Wand*

ANTENNAS For FM and Television

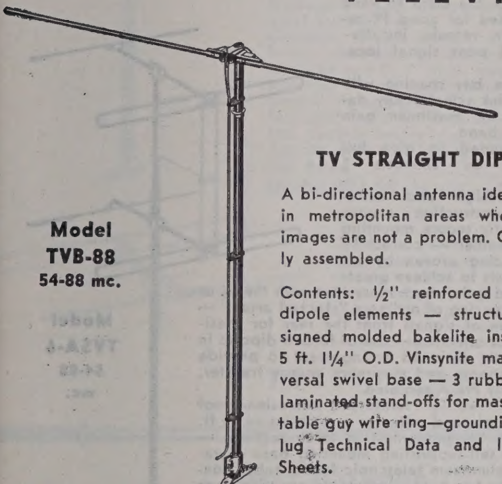
- Maximum electrical efficiency for all channel coverage.
- Mechanical design that assures permanent and trouble-free installations.

MINUTE MAN SERIES

Can be assembled by 1 Man in 1 Minute!
A magnificent new series of antennas designed and developed in the Ward antenna laboratory.

- Vinsynite mast for strength, durability and maximum protection against corrosion.
- Rotatable guy ring for orientation of antenna after guying.
- Nylon insulators on high band antennas.

TELEVISION MODELS



Model
TVB-88
54-88 mc.

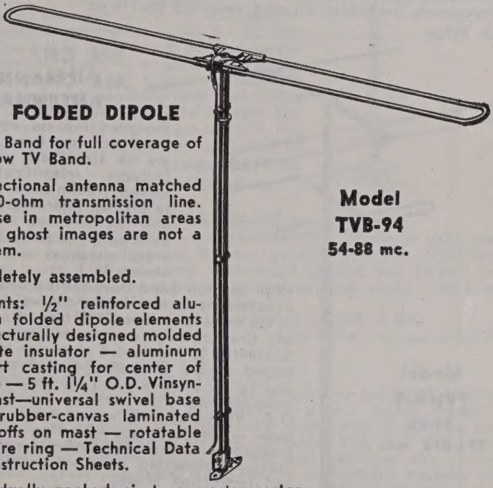
TV STRAIGHT DIPOLE

A bi-directional antenna ideal for use in metropolitan areas where ghost images are not a problem. Completely assembled.

Contents: ½" reinforced aluminum dipole elements — structurally designed molded bakelite insulator — 5 ft. 1¼" O.D. Vinsynite mast — universal swivel base — 3 rubber-canvas laminated stand-offs for mast — rotatable guy wire ring—grounding solder lug Technical Data and Instruction Sheets.

Individually packed: six to a master carton.
Approximate individual shipping weight: 4 lbs. 12 oz.

List Price..........$8.25



TV FOLDED DIPOLE

Broad Band for full coverage of the Low TV Band.

Bi-directional antenna matched to 300-ohm transmission line. For use in metropolitan areas where ghost images are not a problem.

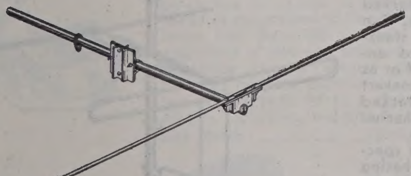
Completely assembled.

Contents: ½" reinforced aluminum folded dipole elements — structurally designed molded bakelite insulator — aluminum support casting for center of dipole — 5 ft. 1¼" O.D. Vinsynite mast—universal swivel base — 3 rubber-canvas laminated stand-offs on mast — rotatable guy wire ring — Technical Data and Instruction Sheets.

Model
TVB-94
54-88 mc.

Individually packed: six to a master carton.
Approximate individual shipping weight: 5 lbs. 6 oz.

List Price..........$10.45



TV REFLECTOR KIT

For use with Straight or Folded Dipoles.

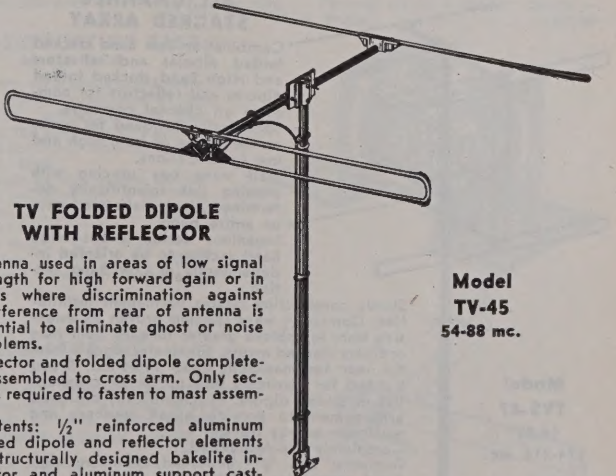
Used to give additional forward gain, to eliminate ghosts and to discriminate against interference from the back side of the antenna.

Contents: ½" reinforced aluminum elements — aluminum element support casting for center of dipole — 1¼" O.D. Vinsynite cross arm — aluminum bracket for attaching cross arm to mast — rubber-canvas laminated stand-offs — Technical Data and Instruction Sheets.

Individually packed: six to a master carton.
Approximate individual shipping weight: 4 lbs. 2 oz.

List Price..........$7.45

Model TVRA-92
54-88 mc.



TV FOLDED DIPOLE WITH REFLECTOR

Antenna used in areas of low signal strength for high forward gain or in areas where discrimination against interference from rear of antenna is essential to eliminate ghost or noise problems.

Reflector and folded dipole completely assembled to cross arm. Only seconds required to fasten to mast assembly.

Contents: ½" reinforced aluminum folded dipole and reflector elements — structurally designed bakelite insulator and aluminum support castings for elements — aluminum brackets for attaching cross arm to mast — 5 ft. 1¼" O.D. Vinsynite metal mast — universal swivel base — rotatable guy wire ring — rubber-canvas laminated stand-offs — grounding solder lug — Technical Data and Instruction Sheets.

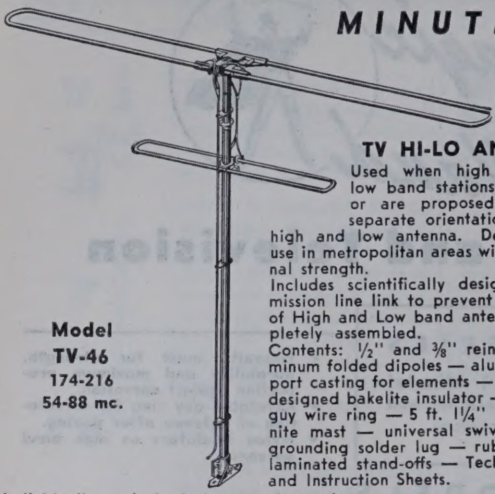
Model
TV-45
54-88 mc.

Individually packed: six to a master carton.
Approximate individual shipping weight: 8 lbs. 9 oz.

List Price..........$16.50

WARD *Magic Wand* Television Antennas

MINUTE MAN SERIES

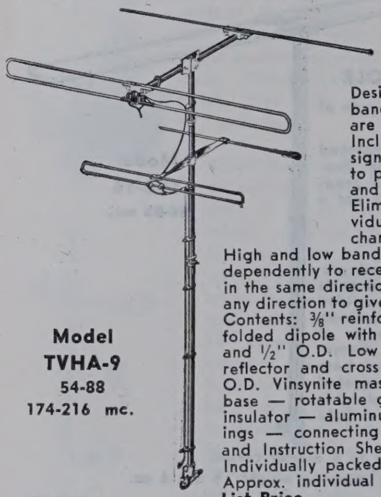


TV HI-LO ANTENNA

Used when high band and low band stations are on air or are proposed. Provides separate orientation on both high and low antenna. Designed for use in metropolitan areas with high signal strength.
Includes scientifically designed transmission line link to prevent interaction of High and Low band antennas. Completely assembled.
Contents: ½'' and ⅜'' reinforced aluminum folded dipoles — aluminum support casting for elements — structurally designed bakelite insulator — rotatable guy wire ring — 5 ft. 1¼'' O.D. Vinsynite mast — universal swivel base — grounding solder lug — rubber-canvas laminated stand-offs — Technical Data and Instruction Sheets.

Model
TV-46
174-216
54-88 mc.

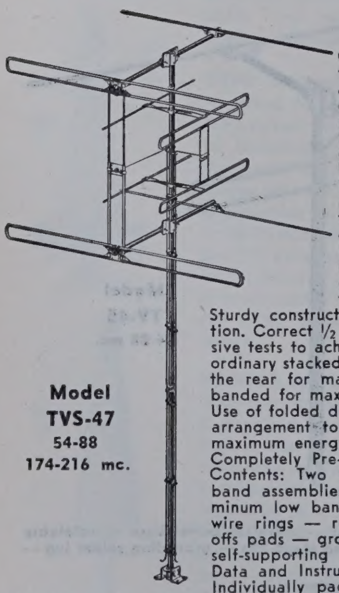
Individually packed: six to a master carton.
Approximate individual shipping weight: 5 lbs. 14 oz.
List Price **$13.45**



ALL CHANNEL ANTENNA

Designed for use when high band and low band stations are on air or are proposed. Includes scientifically designed transmission line link to prevent interaction of high and low antennas.
Eliminates necessity for individual antennas cut for each channel.
High and low band bays can be oriented independently to receive stations which are not in the same direction. Each bay adjustable in any direction to give maximum desired signal.
Contents: ⅜'' reinforced aluminum high band folded dipole with reflector and cross arms and ½'' O.D. Low band folded dipole with reflector and cross arms — two 5 ft. 1¼'' O.D. Vinsynite mast — universal mounting base — rotatable guy wire ring — bakelite insulator — aluminum element support castings — connecting links — Technical Data and Instruction Sheets.
Individually packed: six to a master carton.
Approx. individual shipping weight: 12 lbs.
List Price **$24.95**

Model
TVHA-9
54-88
174-216 mc.

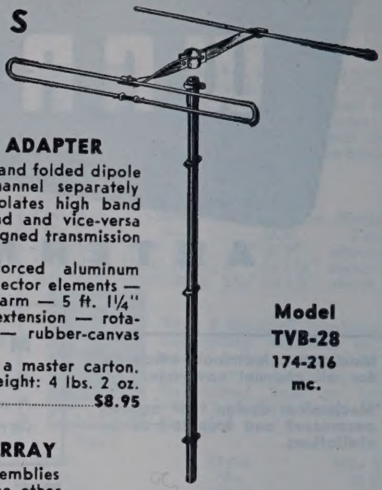


ALL CHANNEL STACKED ARRAY

Combination Low Band stacked folded dipoles and reflectors and High Band stacked folded dipoles and reflectors for complete all channel coverage.
Specifically designed for areas on the fringe of both high and low band stations.
Half wave bay spacing with phasing link scientifically determined for maximum gain on entire band.
Ingenious design allows High Band section to be oriented independently of Low Band section.
Sturdy construction insures permanent installation. Correct ½ wave spacing proven by extensive tests to achieve greater forward gain than ordinary stacked arrays. Eliminates signals from the rear for maximum ghost rejection. Broad banded for maximum pick up on all channels. Use of folded dipoles in scientifically designed arrangement to provide broad response and maximum energy transfer.
Completely Pre-Assembled.
Contents: Two ⅜'' reinforced aluminum high band assemblies and two ½'' reinforced aluminum low band assemblies — rotatable guy wire rings — rubber-canvas laminated standoffs pads — grounding solder lug — all angle self-supporting mounting base — Technical Data and Instruction Sheets.
Individually packed: six to a master carton.

Model
TVS-47
54-88
174-216 mc.

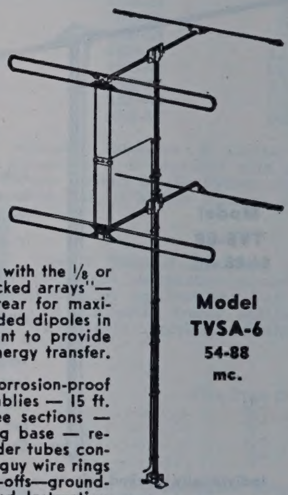
Approximate individual shipping weight: 21 lbs. 12 oz.
List Price **$49.50**



HIGH BAND ADAPTER

Used to convert low band folded dipole to dual band all channel separately orienting antenna. Isolates high band section from low band and vice-versa with scientifically designed transmission line link.
Contents: ⅜'' reinforced aluminum folded dipole and reflector elements — sturdy reflector cross arm — 5 ft. 1¼'' O.D. Vinsynite mast extension — rotatable guy wire ring — rubber-canvas laminated stand-offs.
Indiv. packed: six to a master carton.
App. ind. shipping weight: 4 lbs. 2 oz.
List Price **$8.95**

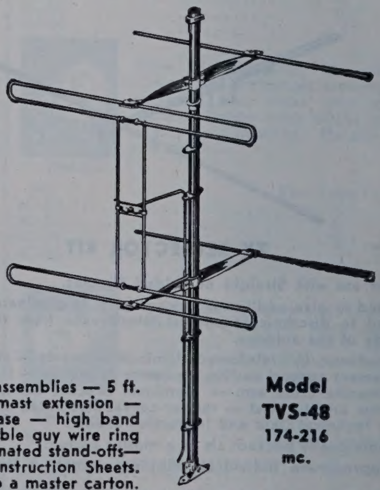
Model
TVB-28
174-216
mc.



TV STACKED ARRAY

Two Low Band assemblies stacked one above the other to produce the extra forward gain needed for good TV reception in remote installations and poor signal locations.
Half wave bay spacing with phasing link scientifically determined for maximum gain on entire band.
Broad Banded to give full coverage on channels 2 through 6.
Sturdy design and extra-strong construction assures permanently secure mounting in any weather — correct ½ wave spacing proven by extensive tests to achieve greater forward gain, much more than with the ⅛ or ¼ wave spacing of ordinary "stacked arrays"— elimination of signals from the rear for maximum ghost rejection — use of folded dipoles in scientifically designed arrangement to provide broad response and maximum energy transfer.
Completely Pre-Assembled.
Contents: Two ½'' reinforced corrosion-proof folded dipole and reflector assemblies — 15 ft. 1¼'' O.D. Vinsynite mast in three sections — all angle self-supporting mounting base — reinforced aluminum telescopic feeder tubes connecting the two bays — rotatable guy wire rings —rubber-canvas laminated stand-offs—grounding solder lug—Technical Data and Instruction Sheets.
Individually packed: six to a master carton.
Approximate individual shipping weight: 20 lbs. 4 oz.
List Price **$42.50**

Model
TVSA-6
54-88
mc.

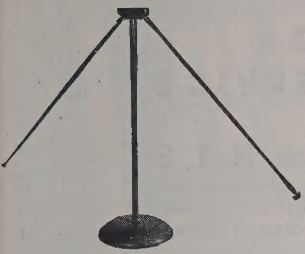


TV HIGH BAND STACKED ARRAY

High Band Stacked folded dipole. Can be used as a stacked high band antenna by itself or as adapter to convert low band stacked array to all channel stacked array.
Half wave bay spacing with phasing link scientifically determined for maximum gain on entire band.
Superb antenna for use in fringe areas having high band stations.
Contents: Two ⅜'' reinforced aluminum high band folded dipole and reflector assemblies — 5 ft. 1¼'' O.D. Vinsynite mast extension — universal mounting base — high band phasing link — rotatable guy wire ring — rubber-canvas laminated stand-offs— Technical Data and Instruction Sheets.
Individ. packed: six to a master carton.
Approximate individual shipping weight: 5 lbs. 2 oz.
List Price **$13.50**

Model
TVS-48
174-216
mc.

WARD *Magic Wand* INDOOR TV ANTENNAS



MODEL TVI-43

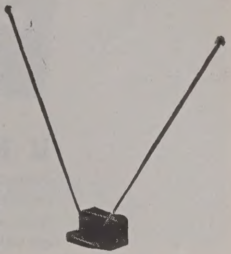
The TVI-43 is the finest indoor antenna modern skill and technology can produce — far superior by any standard than anything else on the market. Brings in all channels precisely and brilliantly. Beautifully designed in satin beige brown finish — blends perfectly with the most exacting interior.
Contents: 2½ ft. metal mast — heavy base. Two 45" telescopic tuneable elements of chrome-plated brass tubing — 12 ft. colinear transmission line. Instruction sheet.
Individually packed: six to a master carton.
Approx. individual shipping weight: 9 lbs.

List Price..........**$17.95**

MODEL TVI-49

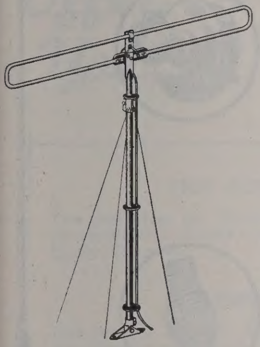
Excellent reception on all channels. Top quality electric insulation. Orients easily in all directions. Heavy base with large surface for mechanical stability. WILL NOT TIP OVER. Telescopic dipole elements.
Contents: Ebony black ceramic base — Two 43" tuneable elements of chrome-plated brass tubing — Stainless steel rod allows no corrosion. Ind. packed: six to a master carton. App. in. shipping wt.: 5 lbs.

List Price..........**$6.95**



WARD *Magic Wand* FM ANTENNAS

FM MODELS



FM FOLDED DIPOLE

Bi-directional.
Matched impedance to 300-ohm line for broad tuning, high signal gain over entire 88-106 mc. band.
Adjustable mounting design for greater ease of orienting.
Pre-assembly into component parts for quick installation.
Contents: Dipole element of ⅜" reinforced aluminum — molded bakelite insulator — 5 ft. 1" O.D. mast and guy wire ring — universal mounting base — conduit clamp—grounding solder lug—Technical Data and Instruction Sheets.
Ind. packed: twelve to a master carton.
Approx. individ. shipping weight: 5 lbs.

List Price..........**$10.95**

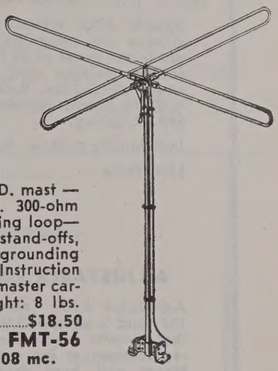
Model FM-55 **88-108 mc.**

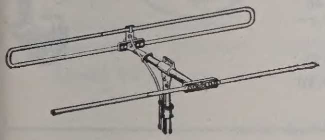
FM FOLDED TURNSTILE

Exceptional high signal gain from All DIRECTIONS.
Does not require orienting.
Packed complete, partially Pre-Assembled components for quick and simple installation.
Contents: ⅜" reinforced aluminum folded dipole elements — 5 ft. 1" O.D. mast — molded bakelite insulators — 60 ft. 300-ohm colinear line and ¼ wave length phasing loop—rubber stand-off pads — 6 plastic stand-offs, guy wire ring and conduit clamp — grounding solder lug — Technical Data and Instruction Sheets. Individually packed: six to a master carton. Approx. individ. shipping weight: 8 lbs.

List Price..........**$18.50**

Model FMT-56
88-108 mc.





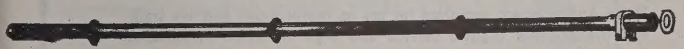
FM REFLECTOR KIT — Model FMR-63 88-108 mc.

Combines quickly and easily to make high gain directional array with Model FM-55. Increases gain and eliminates reflections. Most effective when transmitting stations are in same general direction. Maximum energy transfer of signal from antenna to set as result of accurately determined spacing and correct reflector length. — Contents: ⅜" reinforced aluminum reflector element—weather-proofed metal cross arm and brackets plus mounting hardware—Technical Data and Instruction Sheets.
Ind. packed: six to a master carton. Approx. indvid. shipping weight: 3 lbs.

← Reflector for use with Folded Dipole

List Price..........**$5.25**

TELEVISION AND FM ACCESSORIES



MAST EXTENSION

Model MEA-60 — *For use with Television Models*

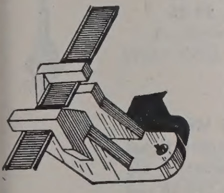
Five-Foot Vinsynite mast extension to increase height of vertical mast and raise antenna into area of greater signal strength. Should be used also to comply with local codes in keeping antenna above required height. — Contents: 5 ft. 1¼" O.D. Vinsynite mast—weather-proofed inside and out—guy wire ring—rubber-canvas laminated stand-offs. — Individually packed: six to a master carton. — Approx. shipping weight: 16 lbs. 4 oz.

List Price..........**$3.25**

MODEL ME-60 MAST EXTENSION FOR USE WITH FM MODELS

5 ft. 1" O.D. Mast Extension weather-proofed inside and out — rubber stand-off pads — guy wire ring — Packed: six to a master carton — Approximate shipping weight: 12½ lbs.

List Price..........**$2.60**



PLASTIC STAND-OFFS

Model SO-144

Unique design holds transmission line completely captive yet cannot pinch line to change impedance. Made of polystyrene to insure minimum loss. Stand-offs are sold in quantities of 144 and shipped in attractive counter display container to increase counter sales.
Individ. packed: 144 to a carton.
Approx. shipping weight: 2 lbs.

List Price..........**$14.40**

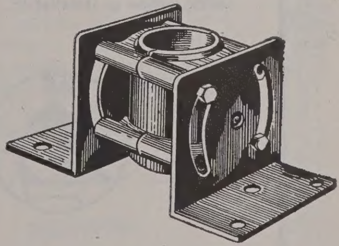
SELF-SUPPORTING BASE

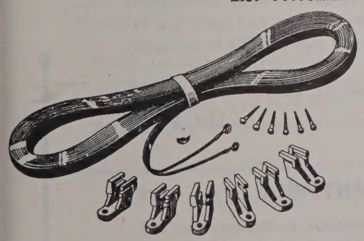
Model C-14

New, heavy, weather-proofed metal base for sturdy installation on any angle. The self-supporting base eliminates the need for guy wire on most installations. Accommodates 1¼" O.D. Mast.
Ind. packed: six to a master carton.
App. ind. shipping wt.: 1 lb. 7 oz.

List Price..........**$2.45**

Model C-11:
For use with 1" O.D. Mast.
List Price..........**$0.00**
Ind. boxed. — App. ind. shipping weight: 1 lb. 7 oz.



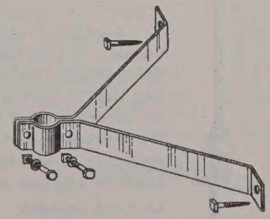


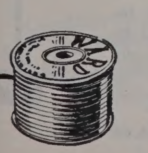
LEAD AND INSULATOR KIT

Model C-15

Contains 60 ft. 300-ohm line with terminals — 6 plastic stand-off insulators — 6 wood screws.
Individually packed: six to a master carton.
Approximate individual shipping weight: 14 oz.

List Price..........**$3.00**





COLINEAR TRANSMISSION LINE

Parallel line of 300-ohm impedance insulated with polyethylene for highest quality FM and TV reception. For easy installation, line comes on handy reel.
List Price, $39.00 1,000 ft.......... **Model WR-1000**
Approximate individual shipping weight: 18 lbs.
Model WR-500 500 ft.......... **List Price, $19.50**
Approximate individual shipping weight: 10 lbs.

MAST STAND-OFF BRACKET KIT

Two pairs of heavy, cadmium-plated steel stand-off brackets, for 1¼" O.D., to extend mast from side of house or parapet for clearance of 7" or larger size for clearance of 14". Complete with all necessary mounting hardware.
Model C-16 — For 7" clearance.......... **List Price, $3.25**
Individually packed: 6 kits to a master carton.
Model C-17 — For 14" clearance.......... **List Price $4.25**
Individually packed: 6 kits to a master carton.

Special COMMUNICATION *ANTENNAS*

by WARD

BUILT FOR RIGOROUS SERVICE

UNIVERSAL SWIVEL MOUNTS

Antennas built for the hardest mobile use. Separate components may be combined to meet any requirements. These rear-mounting Transmitting Antennas are designed for the 25-45 mc. services. Base mounts in such a way as to allow the whip rod to be held vertically regardless of contour of vehicle body.

← SPP-3B

SINGLE ROD

Special Alloy Whip Rod of maximum resilience and durability. 84" Single rod for use in the range of 30 to 45 mcs. Non-Corroding, stainless steel tapered for proper stress distribution. Base Adapter threaded 3/8-24 to permit mounting on SPP-3 Base or SPP-3A Spring.

Individually packed. Approx. weight: 2 lbs.

List Price..**$11.50**

SPP-12 →

ADJUSTABLE 2-SECTION ROD

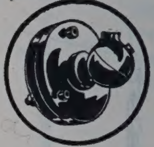
Adjustable Rod. Telescopes from 85" to 103" and is equipped with a locking device that permits removal of the whip rod and replacement at the exact previous length. Heavy wall, hard drawn brass tubing — threaded 3/8-24 to fit either SPP-3 Base or SPP-3A Spring. See SPP-3B for Rod description.

Ind. packed. Approx. weight: 2 lbs. 10 oz.

List Price..**$22.50**

SPP-3

SWIVEL BASE



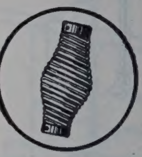
Swivel base for mounting at any desired point. Half balls of cast aluminum tapped 3/8-24 to accept whip rods and shock springs. Insulator of black bakelite — rubber gaskets — steel backup plate. All screws are Allen Head type with wrenches supplied.

Individually packed. Approx. weight: 3 lbs. 4 oz.

List Price..**$13.25**

SPP-3A

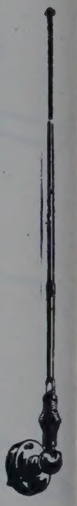
SHOCK MOUNTING SPRING



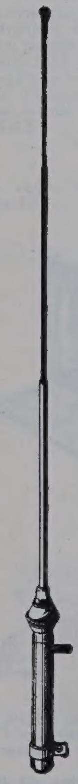
This sturdy spring is used to lessen damage to the whip rod. A flexible lead through the center of the spring maintains constant electrical impedance through the spring assembly. 3/8-24 stud on one end — 3/8-24 tapped hole on opposite end — approximately 6" in height — made of oil tempered wire.

Individually packed. Approx. weight: 2 lbs. 12 oz.

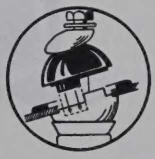
List Price..**$7.90**



FENDER MOUNTS



Disappearing type antenna — For Transmitting and Receiving — Designed for rigorous service of Emergency Communications. Non-telescopic construction exactly duplicates standard automotive models in appearance — gives perfect disguise for detective or patrol service. Antenna mounts in fender or cowl — removable whip for quick service or installation.



55" permanent whip eliminates contact troubles . . . Lead take-off accepts standard AN connector. For low or high band services. Used as short 1/4 wave vertical for 25-44 mc. service . . . "J" for 152-162 mc. service. The universal split ball design insures a perfect fit as well as that neat built-in appearance and easy installation.

Lead not included.

Model SPP-71

Individually packed.

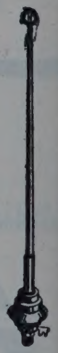
Approximate weight: 1 lb. 12 oz.

List Price..**$22.50**

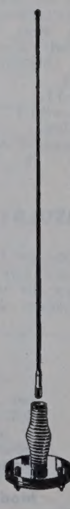
MOTORCYCLE MOUNTS

These Antennas are designed for use on motorcycles and are built to withstand the rugged service and high vibration of vehicle. Rod is electrically short but can be used on all frequencies. 40" rod of same material as SPP-3B — 1/4-20 mounting stud in insulator for mounting to motorcycle. Flexible base of rubber to allow movement when rod is bent — Model SPP-6 with safety ring tip — Model SPP-6A with stainless steel ball tip — no lead supplied. Individually packed. Approx. weight: 1 lb.

Model SPP-6 Ring Tip (Illustrated)........**List, $9.25**
Model SPP-6A Ball Tip (Not Shown)........**List, $9.25**



ROOF TOP MOUNT



Developed for roof top mountings in 30 to 45 Megacycle range. Advantages of this type of antenna is that directional effects caused by car body shielding of antenna are avoided. Base is designed to be used with the SPP-3B rod which is sold separately. This unit consists of all components of Universal Swivel Mounts except that half-balls are replaced by SPP-3A Spring fastened permanently to insulator. No lead supplied.

Individually packed. Approximate weight: 3 lbs.

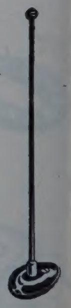
Model SPP-26 Base..**List, $16.50**

ROOF TOP ANTENNA →

This model is designed for taxicabs, police services, and others using the 140 to 165 Megacycles frequencies. Installed entirely from the outside of vehicle — 12 ft. length of RG-58/U coaxial cable attached permanently to antenna. Whip rod is replaceable.

Individually packed. Approximate weight: 1 lb.

Model SPP-18..**List, $6.60**



WARD AERIALS

World's Finest

FOR CAR AND HOME

Offer You

- ✓ SIMPLIFIED ONE-MAN INSTALLATION.
- ✓ UNIVERSAL DESIGNS TO FIT EVERY CAR.
- ✓ RUGGED, LASTING CONSTRUCTION with —
  - Heavy wall brass tubing
  - Weather-resistant triple chrome
- ✓ GREATEST SIGNAL PICKUP with —
  - High "Q" low-loss lead cables
  - Positive coaxial connections
  - 100% shielding
- ✓ PATENTED FLUID TYPE ANTI-RATTLE.
- ✓ HEAVY CARTONS READY FOR RESHIPMENT.

SIDE COWL MOUNTS

Two stanchions for sturdy installation. Smartly designed insulators with chrome caps. Conversion kit for torpedo bodies included.

LONG RANGER

Four-section, 100-inch, EZ-on installation. A favorite in low Signal areas where its extra length provides fine reception.

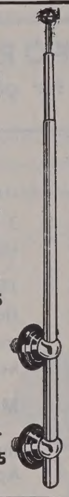
Individually packed: 12 to a master carton.
Approximate individual shipping weight: 1 lb. 11 oz.

Model SC-8..........List Price, $6.95

AIR KING

Three-section, 66-inch, EZ-on installation.
Individually packed: 12 to a master carton.
Approximate individual shipping weight: 1 lb. 4 oz.

Model SC-6..........List Price, $4.95



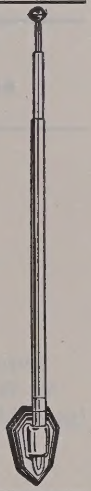
SIDE COWL OR FENDER
FLEX-ANGLE

Three-section, 68-inch, EZ-on installation.

Individually packed: 12 to a master carton.
Approx. individual shipping weight: 1 lb. 8 oz.

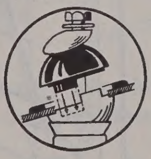
Model CF-6..........List Price, $5.45

Tops in popularity because of trim styling and a flexible adjustment so rod can be locked in a vertical position, regardless of body contour. Ideal design for new body styles.



TOP COWL OR FENDER
"8-BALL"

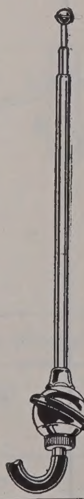
***Featuring the* SPLIT BALL DESIGN**

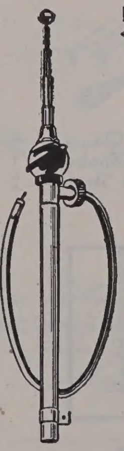


Three-section, 56-inch, collapses to 22 inches.
Individually packed: 12 to a master carton.
Approximate individual shipping weight: 1 lb.

Model TCF-3..........List Price, $5.35

Smart looking "8-Ball" design developed and engineered by WARD is the answer to every installer's dream. One man installs in five minutes! Secure installation! Perfect fit on every car!





DISAPPEARING COWL OR FENDER
← IMPERIAL

Four-section, 100-inch, 8-9/16" exposed when collapsed.
Individ. packed: 12 to a master carton.
App. ind. shipping weight: 1 lb., 10 oz.

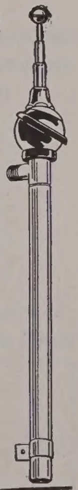
Model DCF-4..........List Price, $10.95

A disappearing antenna — 100% shielded from engine noises and completely water-sealed. Unique split-ball design plus popular disappearing feature gives that smart built-in appearance. Universal bracket for sturdy mounting. Ward 36" coaxial lead cable.

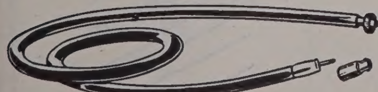
PHANTOM

Three-section, 56-inch, 3½" exposed when collapsed.
Ward 36" coaxial lead cable.
Individ. packed: 12 to a master carton.
Approx. ind. shipping weight: 1 lb.

Model DCF-3..........List Prict $6.95

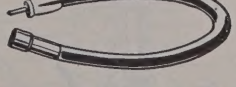


EACH MODEL COMPLETE WITH A WARD COAXIAL LEAD CABLE



Made of the finest insulating materials — Polyethylene, wire shield braid, oil and abrasion-proof vinylite.

WARD's exclusive lead connector fitting provides an easy coaxial connection, 100% shielded. Bayonet adapter for pin plug included so lead will fit every car radio.



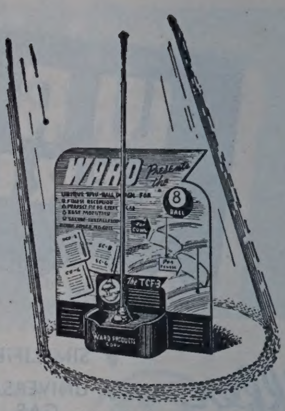
Model C-8 *(12 in.)* List, $0.75
Model C-9 *(18 in.)* List, $1.00
Provides additional lead length required for fender installation.

Covered by one or more of the following Patent Numbers: 104968, 119160, 2152316, 2251889, 2252671, 2269947, 2366634.

SPOT LITE WARD AUTO AERIALS

WITH THIS *NEW* ATTRACTIVE 3-COLOR DISPLAY —

FREE!



Model CD-1

Featuring the "8-Ball" TCF-3 aerial and beautifully designed in 3 colors — yelow, orange and black. This display will catch the eye of every customer.

Display is FREE!

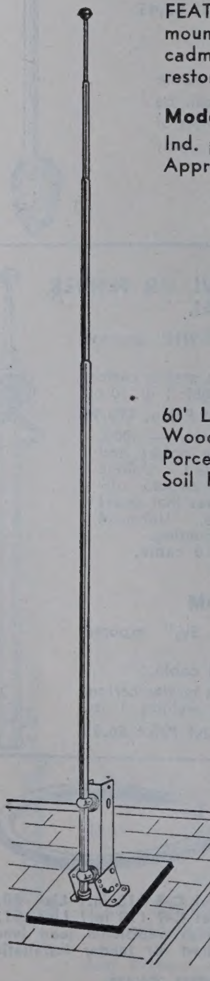
Just mount an "8-Ball" TCF-3 and set it up on the counter and watch your aerial sales grow.

A WARD Development to fit every antenna need!

WARD ANTENNAS FOR THE HOME

Are vertical, the same as broadcasting antennas, for greatest signal pick-up, finest reception

HOUSE MAST



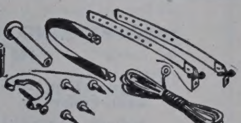
4-SECTION, 12-FOOT, COLLAPSIBLE TO 47 INCHES.

FEATURES . . . Easy installation, Universal mounting brackets, Heavy weatherproof cadmium plating, Built-in lightning arrestor.

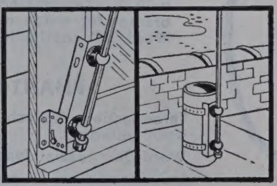
Model HM-4....................................List, $7.45

Ind. packed — 12 to the master carton. Approx. ind. shipping wt. 4 lbs.

Complete Installation
Fittings Included



60' Lead Wire — Ground Clamp — 4
Wood Screws — 2 Nail-It-Knobs — 1
Porcelain Tube — 1 Lead-in Strap — 2
Soil Pipe Straps.



WINDOW FRAME **SOIL PIPE**

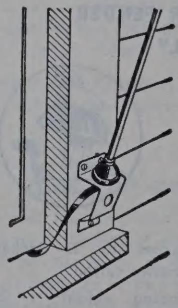
WINDOW MAST

3-SECTION, 8-FOOT, COLLAPSIBLE TO 42 INCHES.

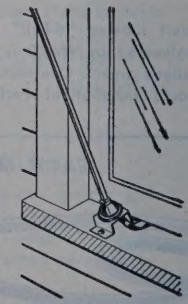
FEATURES . . . Simple 3-point, 3-minute installation for apartments, homes, office buildings, Two-way mounting bracket, 12-inch lead-in strap, and heavy, weatherproof cadmium plating.

Model WM-3...List, $3.25

Individually packed — 12 to a master carton. Approx. ind. shipping weight — 1 lb. 2 oz.



WINDOW FRAME INSTALLATION



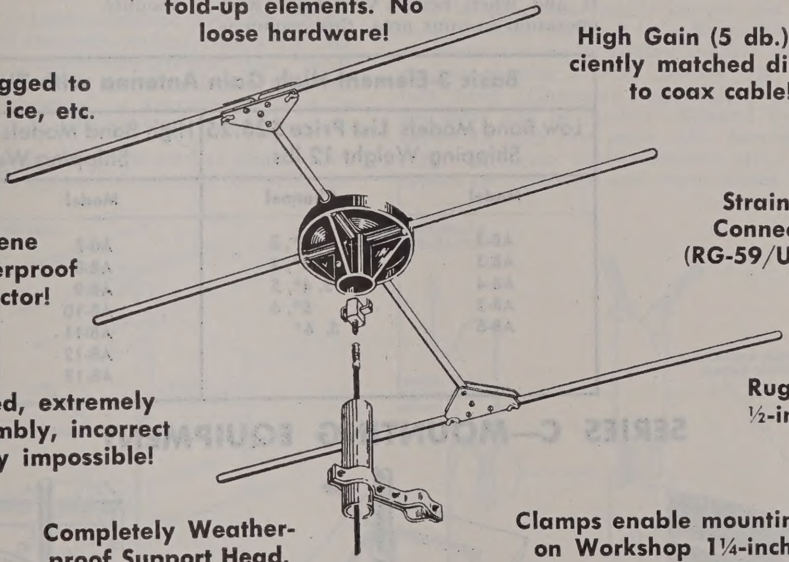
WINDOW SILL INSTALLATION

WORKSHOP TELEVISION ANTENNAS and ACCESSORY EQUIPMENT

The Workshop line for '49 has been redesigned to produce even better pictures at lower cost. Three-element arrays, designed for specific channels and combined on a single mast for particular areas, have been pioneered by the Workshop with outstanding success—even to the point of nationwide imitation during 1948.

SERIES A-BASIC THREE ELEMENT ANTENNA

This is a high-gain (5 db.) directional antenna having sufficient broad band response to cover the 6 mc. channel for which it is engineered. It is the basic unit of all Workshop multi-channel systems. Note the following desirable features—



Foolproof, preassembled fold-up elements. No loose hardware!

High Gain (5 db.) efficiently matched directly to coax cable!

Mechanically rugged to withstand wind, ice, etc.

Strainproof Cable Connector for W-59 (RG-59/U). No soldering!

New Polystyrene Low-Loss Weatherproof Element Connector!

Rugged, lightweight ½-inch duraluminum Elements!

Simplified, extremely fast assembly, incorrect assembly impossible!

Completely Weatherproof Support Head.

Clamps enable mounting on Workshop 1¼-inch O. D. mast or 1-inch standard pipe.

Basic 3-Element High Gain Antenna with Mounting Clamps for 1¼" O.D. or 1" Standard Pipe Mast

Low Band Models—List Price $21.00
Shipping Weight 6 lbs.

Model	For Channel
A-2	2*, 3
A-3	2, 3*, 4
A-4	3, 4*, 5
A-5	5*, 6
A-6	5, 6*

*Optimum Channel

High Band Models—List Price $17.00
Shipping Weight 5 lbs.

Model	For Channel
A-7	7*, 8
A-8	7, 8*, 9
A-9	8, 9*, 10
A-10	9, 10*, 11
A-11	10, 11*, 12
A-12	11, 12*, 13
A-13	12, 13*

WORKSHOP SERIES B—MAST SECTIONS

B-1

B-2

MODEL B-1 Top Mast Section

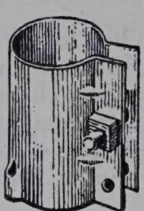
A sturdy 1¼ inch O.D. mast of heavy gauge seamless steel tubing, four feet long. Gray enameled. Holes provided at top for mounting three-element-basic antenna. Slot at bottom aids self-tapping screw to hold mast extension described below. Net weight each, 2 lbs.

List Price $2.50

MODEL B-2 Mast Extension

A swedged 1¼-inch O. D. seamless steel mast tube that will fit into B-1 mast listed above or bottom of another B-2 to extend overall height by approximately four feet. Gray enameled. Net weight each 2 lbs.

List Price $2.75

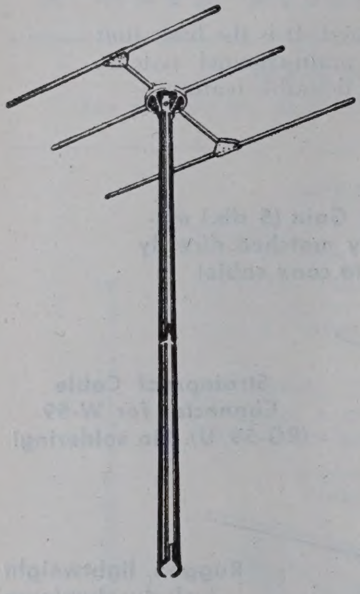


MODEL G-3 Guy Wire Fixture

This fixture can be placed on 1¼-inch O. D. or 1-inch standard pipe mast and tightly clamped in place so that three guy wires can be attached to aid in supporting mast equipment.

List Price $0.50

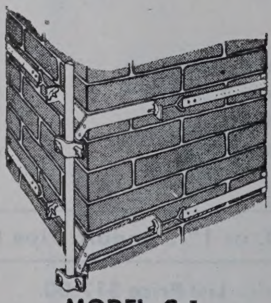
SERIES AB—BASIC ANTENNA WITH MAST



This series consists of a basic high-gain, Series A, three-element antenna described on page S-55 plus a 7½-foot mast (B-1 and B-2 mast sections). Appropriate mounts can be selected from those described under Series C. Clamps for 1¼-inch O. D. mast or 1-inch standard pipe are also furnished. If and when new TV stations start operation in your area, this combination may be readily converted to a multi-channel system by the simple addition of Series A antennas and Model B-2 mast extensions. Series AB antenna with mast should be selected from the list below for the channel on which reception is desired. This series is furnished less transmission line and mounts.

Basic 3-Element High Gain Antenna with 7½-foot Mast			
Low Band Models **List Price $26.25** Shipping Weight 12 lbs.		High Band Models **List Price $22.25** Shipping Weight 10 lbs.	
Model	**Channel**	**Model**	**Channel**
AB-2	2*, 3	AB-7	7*, 8
AB-3	2, 3*, 4	AB-8	7, 8*, 9
AB-4	3, 4*, 5	AB-9	8, 9*, 10
AB-5	5*, 6	AB-10	9, 10*, 11
AB-6	5, 6*	AB-11	10, 11*, 12
		AB-12	11, 12*, 13
		AB-13	12, 13*

SERIES C—MOUNTING EQUIPMENT

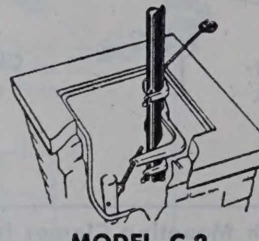


MODEL C-1, Conventional Chimney Mount

An excellent support for antennas with mast equipment that can be mounted on chimneys, posts, and other irregular objects. Made of heavy gauge steel and heavily plated to resist rust. Separation between clamps is variable. Masts from 1 to 2 inches O. D. can be used. Preassembled parts cut installation time. Shipping weight 5 lbs.

List Price $6.50

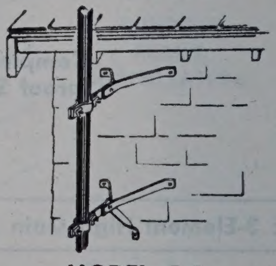
Extra 10 feet of strapping, Model ST-1. **List Price $0.75**



MODEL C-2, Revolutionary New "Minute Mount" for Internal Chimney Mounting

This ingenious "Minute Mount" can be installed a short way *inside* a chimney. Completely adjustable for all chimney flues—tile lined or brick. Will not interfere with operation of chimney. Made of heavy cast alloy capable of supporting 150 lbs. with a generous safety factor. Mast ¾-1½ inches O. D. and antennas can be oriented while mount is in position. Built-in strain guide prevents chafing of cable against chimney. Shipping weight 2 lbs.

List Price $8.95

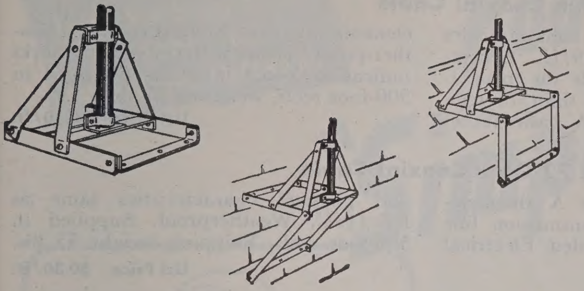


MODEL C-3, Wall Brackets

These rugged braced steel brackets, heavily plated, will furnish a 12½-inch clearance for mast equipment that must be supported adjacent to siding or wall. Will hold masts from 1 to 2 inches in diameter. Furnished with wood screws. Packed 2 to a carton. Shipping weight 3 lbs.

List Price $5.50

WORKSHOP SERIES C — MOUNTING EQUIPMENT (Con.)



MODEL C-4, Universal Base Mount

For installations requiring a truly sturdy braced mount none can compare with the stability of this universal mount. Made of heavy steel protectively plated to resist rust. This versatile mount has an 11 x 12-inch base. The mast is clamped at two places 9½ inches apart and can range from 1 to 1½ inch in diameter. Its durable and ingenious mounting features will allow mounting relatively heavy antennas and masts on flat, peaked, or inclined roofs, even walls with a 10-inch clearance. Complete with hardware and instructions. Individually packaged. Shipping weight 6½ lbs.

List Price $11.00

SERIES 2A — SUPER HIGH-GAIN SIX-ELEMENT ARRAY

This six-element array consists of two basic three-element antennas spaced a ½-wave apart and connected by a pre-assembled cable harness as an efficient "broadside array." The forward gain is 7.8 db. compared to the conventional ½-wave dipole and will produce a signal approximately six times as strong in power. The array is essentially single channel with an adjacent channel gain of 5 db. The high front-to-back ratio of 18 db. signifies that the possible response of an interfering co-channel signal arriving from behind the array would be 2% of that picked up from the front.

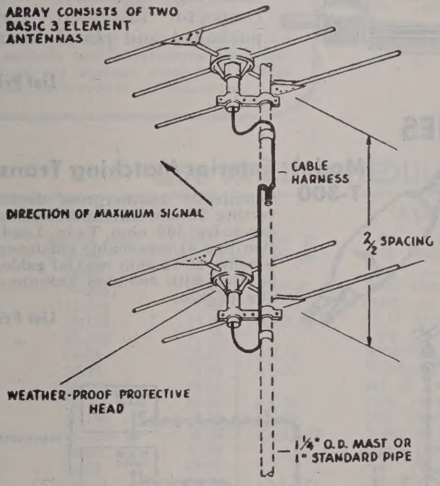
The sharp directional pattern combined with the advantages of shielded coaxial transmission line, means that the signal-to-noise ratio is considerably greater, and "snow effect" less, than that of other so-called fringe area antennas. In addition, "ghosting" is discouraged, even in city areas where multi-path reflections are numerous.

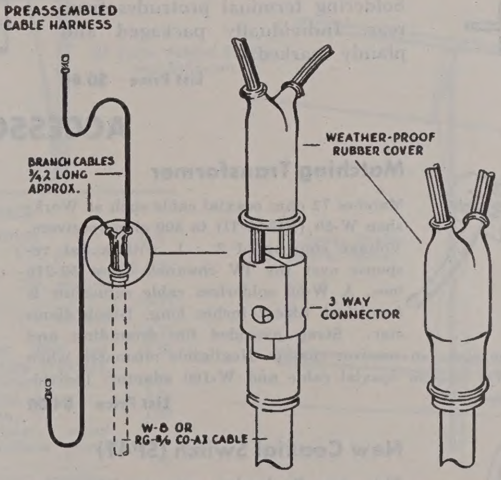
W-8, 52-ohm coaxial cable should be used as transmission line with this array. If a direct connection between the cable and receiver is not practicable, impedancewise, a W-100 adaptor together with a T-72 matching transformer and fittings may be necessary.

No mast equipment is supplied with this antenna yet mounting is extremely simple, since the clamp brackets furnished fit any 1¼-inch O. D. mast or 1-inch standard pipe. This feature along with "foolproof" assembly of the 2A antennas make installation very simple.

Preassembled Cable Harness Only

The installer can readily convert his present Series A, three-element antenna to a Series 2A, super high-gain, six-element array by adding another corresponding Series A antenna plus a cable harness. The performance of a high band (Channels 7 through 13) six-element Series 2A array can be further enhanced by stacking another Series 2A plus one more cable harness to make a very super high-gain twelve-element array. Details of these arrays are furnished with every Series 2A antenna.


ARRAY CONSISTS OF TWO BASIC 3 ELEMENT ANTENNAS
CABLE HARNESS
DIRECTION OF MAXIMUM SIGNAL
λ/2 SPACING
WEATHER-PROOF PROTECTIVE HEAD
1¼" O.D. MAST OR 1" STANDARD PIPE


PREASSEMBLED CABLE HARNESS
WEATHER-PROOF RUBBER COVER
BRANCH CABLES ¾λ LONG APPROX.
3 WAY CONNECTOR
W-8 OR RG-8/U CO-AX CABLE

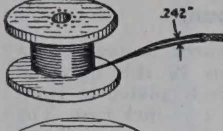
Super High Gain 6-Element Array

Low Band Models List Price $52.00 Shipping Weight 11 lbs.		High Band Models List Price $43.50 Shipping Weight 8 lbs.	
Model	Channel	Model	Channel
2A-2	2	2A-7	7
2A-3	3	2A-8	8
2A-4	4	2A-9	9
2A-5	5	2A-10	10
2A-6	6	2A-11	11
		2A-12	12
		2A-13	13

Cable Harness Only—For Making 6- and 12-Element Arrays

Low Band Models $10.00		High Band Models $9.50	
Model	Channel	Model	Channel
CH-2	2	CH-7	7
CH-3	3	CH-8	8
CH-4	4	CH-9	9
CH-5	5	CH-10	10
CH-6	6	CH-11	11
		CH-12	12
		CH-13	13

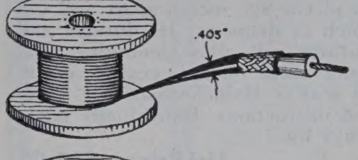
COAXIAL CABLE TRANSMISSION LINE



W-59 Standard 72 Ohm Coaxial Cable

Electrical and physical characteristics are the same as RG-59/U. Recommended as the ideal cable for installations not requiring more than 75 feet, directly matches Series A basic three-element antennas. Neutral colored (weather-proof) jacket with convenient marks indicating 5-foot intervals. Supplied in 500-foot reels, weighing 22 lbs.

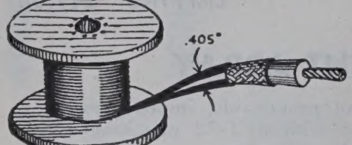
List Price $0.10/ft.



W-11 Very Low Loss 72 Ohm Coaxial Cable

Recommended for Series A three-element antennas when transmission line in excess of 75 feet is needed. Electrical and physical characteristics same as RG-11/U. Weatherproof. Supplied in 500-foot reels. Shipping weight 55 lbs.

List Price $0.30/ft.



W-8 Very Low Loss 52 Ohm Coaxial Cable

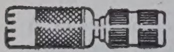
Electrical and physical characteristics same as RG-8/U. Recommended for transmission line with Series 2A six-element arrays. Weatherproof. Supplied in 500-foot reels. Shipping weight 60 lbs.

List Price $0.33/ft.

SOLDERLESS CABLE FITTINGS

Silver Plated Solderless Cable Connector (Male)

Model W-50

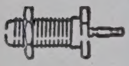


Used with W-59 (RG-59/U) coaxial cable. Specially slotted to withstand considerable strain. Mates with W-60 receptacle (on R-4A switch) and W-80 junction listed below. Individually packaged and plainly marked.

List Price $0.60

Silver Plated Chassis Receptacle (Female)

Model W-60



Mates with W-50 cable connector. For chassis or panel mounting. Threaded stem ⅝ inch long. Soldering terminal protrudes from rear. Individually packaged and plainly marked.

List Price $0.80

Silver Plated Cable or Panel Junction (Female)

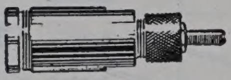
Model W-80

Mates at either end with W-50 male connector. A complete splice requires one W-80 junction and two W-50 connectors which must be ordered separately. Each W-80 individully packaged and plainly marked.

List Price $1.00

Cable Adaptor

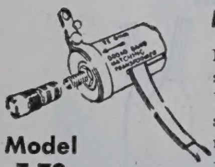
Model W-100



Required when changing from larger size W-11 (RG-11/U) or W-8 (RG-8/U) to smaller W-59 (RG-59/U) coaxial cables. No soldering necessary. W-50 cable connector furnished. Individually packaged and plainly marked.

List Price $2.50

ACCESSORIES

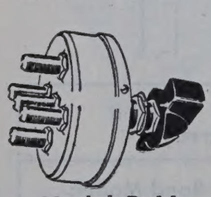


Model T-72

Matching Transformer

Matches 72 ohm coaxial cable such as Workshop W-59 (RG-59/U) to 300 ohm receivers. Voltage step up of 2 : 1, with a flat response over the TV channels from 52-216 mcs. A W-50 solderless cable connector is furnished. Size 2 inches long, 1-inch diameter. Strap provided for grounding and mounting container on receiver chassis. Negligible mismatch when used with W-8 52-ohm coaxial cable and W-100 adaptor. Individually packaged.

List Price $4.00



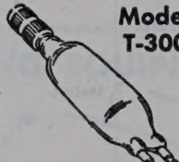
Model R-4A

New Coaxial Switch (SP4T)

This virtually lossless, constant impedance switch will connect any one of four single-channel TV antennas to a receiver. By simply using additional switches it can also be used for demonstrating any number of TV receivers in a display room, or for low-level audio applications.

Receptacle fittings mate with W-50 solderless connectors for W-59 cable and must be ordered separately. Decals are supplied for panel marking of TV channels. Only one 7/16-inch hole need be drilled for panel mounting. Size—2⅜ inches front to back; 2-inch diameter. Individually boxed.

List Price $12.00



Model T-300

Exterior Matching Transformer

Completely weatherproof device for converting 72 ohn antennas for use with inexpensive 300 ohm Twin Lead transmission line at reasonable efficiency. Can also benefits of 72 ohm coaxial cable. Individu-
be used with 300 ohm antennas to realize ally packed.

List Price $3.50

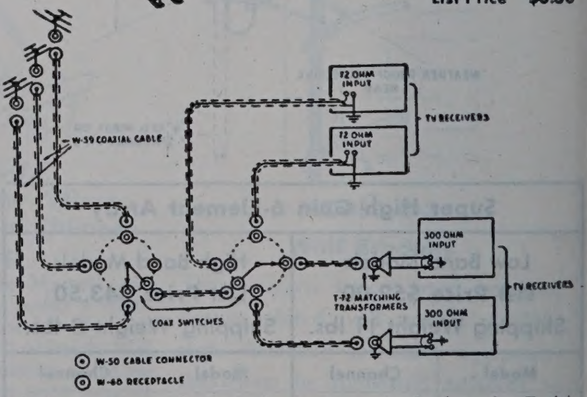


Diagram of a typical display system employing the R-4A coaxial switch and T-72 matching transformer.

THE WORKSHOP ASSOCIATES, INC.

Specialists in High Frequency Antennas

The "TOP" Name In Automobile Aerials Now Brings You The "TOPS" In TV and FM ANTENNAS

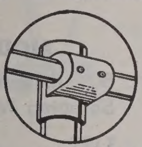
Radiart "Simpli-Flex"

STANDARD OF COMPARISON
RADIART

TELEVISION and FM ANTENNAS

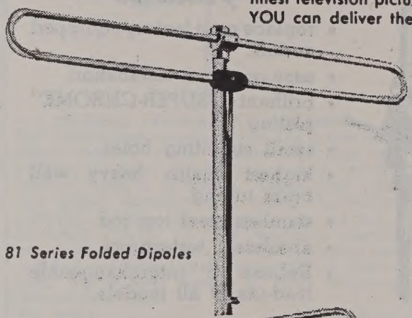
True to Radiart tradition . . . these new Television and FM antennas are the finest available! They are laboratory engineered and designed to deliver peak performance, always! Their top quality construction will produce the finest television picture possible. For just a little more . . . YOU can deliver the best . . . it pays!

No "assembly puzzles" with Radiart's "SIMPLI-FLEX" design. No degree in engineering or truck-load of tools needed — absolutely no loose hardware. One minute assembly, one man installation!

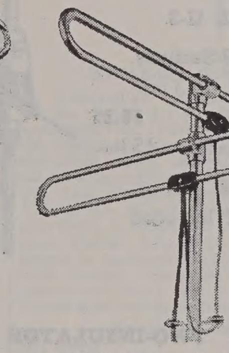


High strength, well engineered design of more than ample safety factor, with simple, sturdy all aluminum castings, elements, and heat-treated support masts for PERMANENT installations.

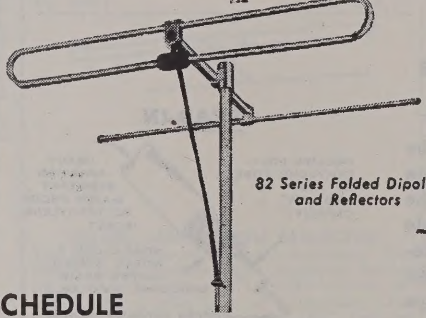
"WEATHER - SHIELD" polystyrene terminal block encloses lead-in connections and protects from all weather conditions! Keeps electrical performance at maximum.



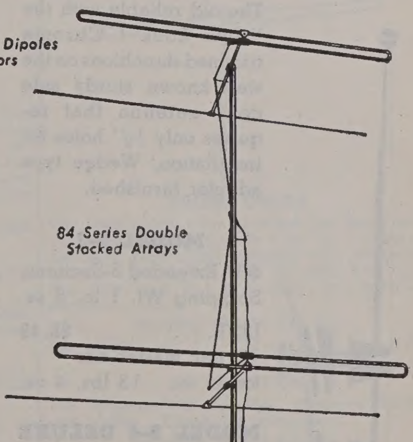
81 Series Folded Dipoles



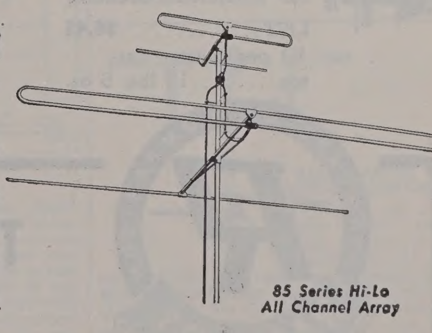
83 Series Turnstile Dipole — Non-directional FM Antenna



82 Series Folded Dipoles and Reflectors



84 Series Double Stacked Arrays



85 Series Hi-Lo All Channel Array

LIST PRICE SCHEDULE

TV and FM ANTENNAS

Model	Range, MC	List
T81-LTV	54-88	$14.95
81-LTV	54-88	12.45
T81-HTV	174-216	13.50
81-HTV	174-216	11.00
T81-FM	88-108	14.25
81-FM	88-108	11.75
T82-LTV	54-88	20.95
82-LTV	54-88	18.45
T82-HTV	174-216	19.00
82-HTV	174-216	16.50
T83-FM	88-108	19.50
83-FM	88-108	17.00
T84-LTV	54-88	42.50
84-LTV	54-88	40.00
T84-HTV	174-216	27.00
84-HTV	174-216	24.50
T85-ATV	54-216	30.50
85-ATV	54-216	28.00
85-X	54-216	23.00
T85-X	54-216	25.50
T85-XAX	54-216	45.00
85-XAX	54-216	42.50
ADAPTOR KITS		
81-RL	54-88	$6.75
81-RFM	88-108	6.45
81-RH	174-216	6.00
81-TK	88-108	5.75
"ADD-ON" ARRAYS		
K82-HTV	174-216	$8.00
K82-LTV	54-88	10.00
K84-HTV	174-216	8.00
K84-LTV	54-88	10.00

ACCESSORIES

Part #	Description	List
AMT-56-1	4 ft. Mast, 1⅛" OD, plug-in type	$ 3.25
AMT-62-1	8 ft. Mast, 1⅛" OD, plug-in type	5.75
AMT-62-2	12 ft. Mast, 1⅛" OD, plug-in type	8.25
AK-26	Mounting straps, dble. set	2.50
AK-27	Universal mounting brackets, set of two, hdwre	5.00
AK-30	Hvy. swivel mtng. base	2.00
AK-31	Std. swivel base	1.00
AMX-122	Stand-off insulator, wood screw type, polythene grommet	.15
ASA-230	Stand-off insulator, machine screw type, 4¼" long, #10-32 thrd.	.20
ATX-7	300-Ohm Trans. Line, per M	38.00
ALW-87	75 ft. coil 300-ohm line, 2 solder lugs attached	3.00
	ANTENNA PARTS	
AK-32	"Weather-Shield" Terminal Block, Polystrene, for flat 300 ohm line, set	1.00
AK-33	"Weather-Shield" Terminal Block, Polystrene, for RG-59U Cable	1.25
ASA-232	Large main aluminum casting, with screws	1.50
ASA-229	Small aluminum casting, with screws	1.25
AMX-125	Barrier type junction block, for stacked arrays	.50

THE RADIART CORPORATION

MANUFACTURERS OF THE FAMOUS RED SEAL VIBRATORS

1949 RADIART AUTO AERIALS

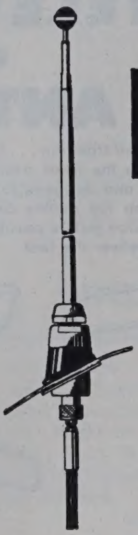
UNIVERSAL LOK-JOINT

This new design has eliminated the last "bug" in this style aerial. Locks easily and positively in any pre-set position without swinging the mast when tightened; ½" mounting hole.

MODEL U-3

63" Extended 3-Sections.
Shipping Wt. 1 lb. 3 oz.
LIST.................. **$6.25**
10 per master carton. . 15 lbs.

CHEVROLET & GM ADAPTOR KIT Included



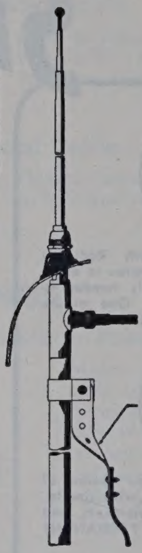
EASY TO INSTALL

— *Features* —

- replace most factory equipped aerials.
- easy one man installation.
- brilliant "SUPER-CHROME" plating.
- small mounting holes.
- highest quality heavy wall brass tubing.
- stainless steel top rod.
- absolutely waterproof.
- DeLuxe 48" interchangeable lead-ins fit all models.

DISAPPEARING MOUNT

This newest addition to the Radiart line collapses to 6" and extends to 60". Fits fender or cowl and features the exclusive "O" Ring Seal around the mast that shuts the door to water entry inside the aerial. Only one $\frac{9}{16}$" mounting hole required.

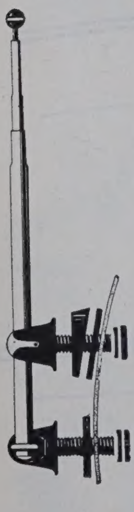


MODEL D-3

60" Extended 3-Sections.
Shipping Wt. 2 lbs.
LIST................ **$7.45**
10 per master carton.............. 19 lbs.

TWO-INSULATOR SIDE MOUNT

The old reliable with the "New Look"! Chrome trimmed stanchions on the well known sturdy side cowl antenna that requires only ½" holes for installation. Wedge type adaptor furnished.



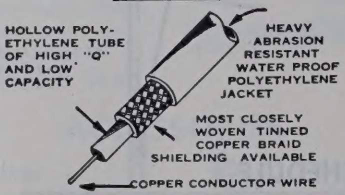
MODEL S-3

63" Extended 3-Sections.
Shipping Wt. 1 lb. 5 oz.
LIST.............. **$5.45**
10 per master carton........ 13 lbs. 4 oz.

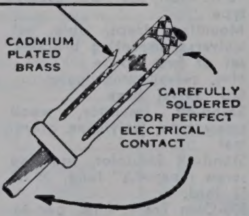
MODEL S-4 DELUXE

92" Extended 3-Sections,
LIST.............. **$6.45**
10 per master carton........ 17 lbs. 5 oz.

LEAD-IN


HOLLOW POLYETHYLENE TUBE OF HIGH "Q" AND LOW CAPACITY
HEAVY ABRASION RESISTANT WATER PROOF POLYETHYLENE JACKET
MOST CLOSELY WOVEN TINNED COPPER BRAID SHIELDING AVAILABLE
COPPER CONDUCTOR WIRE

WIPING SPRING FINGERS

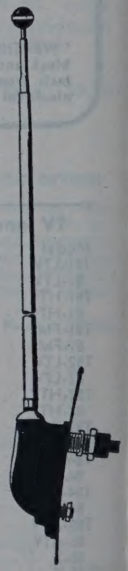

CADMIUM PLATED BRASS
CAREFULLY SOLDERED FOR PERFECT ELECTRICAL CONTACT

SWING ANGLE SIDE MOUNT

For side of cowl or fender — with 16° swing adjustment — locked PERMANENTLY with hex nut at mast base. Chrome trimmed "Tear Drop" styled insulator mounting through one ½" and one ¼" hole.

MODEL A-3

63" Extended 3-Sections. Shipping Wt. 1 lb. 2 oz.
LIST............ **$5.95**
10 per master carton...... 14 lbs. 3 oz.



THE RADIART CORPORATION

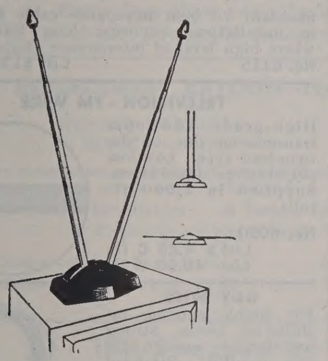
MANUFACTURERS OF THE FAMOUS RED SEAL VIBRATORS

ICA INSULINE ICA
RADIO PRODUCTS

TELEVISION-FM ANTENNAS — ACCESSORIES

Latest Design

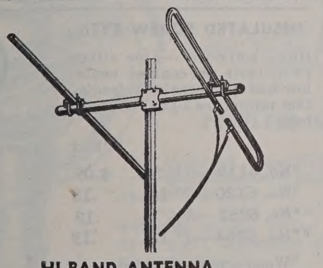
An entirely new and complete line of Television and FM antennas and accessories — precision made by ICA, pioneers in Television for over twenty years. Precision engineered; precision fabricated.



THE "SUPER-WASP"
NEW! IMPROVED! SENSATIONAL!

The new INDOOR Television Antenna with amazing reception qualities. Instantaneous horizontal-vertical orienting and tuning for maximum reception. All-Channel selection. Beautifullly designed golden-tone brass dipoles and bakelite walnut base with non-scratch cushions. Jiffy installation. Also improves reception when used to supplement existing outdoor antennas.

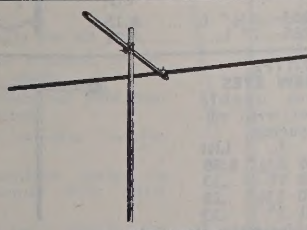
No. 6468—With 300 ohm lead........**List $6.95**



HI-BAND ANTENNA

Adds to the performance of existing television installations. Broadens reception range of low band antennas to include the higher channels (7 to 13). May be independently rotated for maximum directional response. Matching feature results in more even reception from channel to channel. All metal; weather-resistant. Includes 300 ohm connecting lead.

No. 6440—Ship. Wt. 2½ lbs.........**List $6.45**



REFLECTOR

Add to existing folded or simple dipole for stronger pick-up.

Improves response; cuts down interference. May be added to ICA No. 6420.

No. 6425—Ship. Wt. 3 lbs.............**List $4.45**

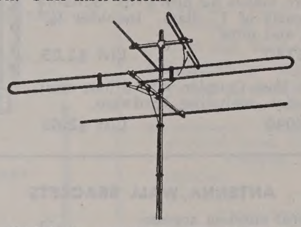
FM RECEPTION

Improves directional strength of FM reception in low signal areas. Eliminates reflections. May be added to No. 6405.

No. 6410—Ship. Wt. 2½ lbs.........**List $4.45**

Latest Features

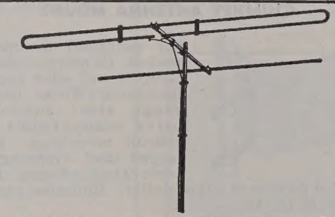
Includes sturdy, rust-proof, all-metal construction; non-corrosive aluminum dipoles, independently rotable elements. Offers broad-band reception. Easy-fitting units for "jiffy" installation. Full instructions.



HI-BAND LO-BAND TV ANTENNA

For outstanding reception over the entire television channel range. Perfect 300 ohm impedance matching to transmission line and set making losses a minimum. Offers high gain and broad response with strong horizontal reception pattern. Separate elements are independently rotated to yield maximum clarity and signal strength in each band. Dipoles and reflectors of heavy wall non-corrosive aluminum; sturdy steel mast 5 ft. long. Shipping Weight 8½ lbs.

No. 6444............................**List $14.75**



FOLDED DIPOLE WITH REFLECTOR

For areas of unusual natural interference. The folded dipole element offers matching feature for more even reception. Yields uniform response over a wide band of frequencies. For use with 300 ohm transmission line. Includes rubber stand-off insulators to prevent lead-in "contact" interference or sway.

Hi-Band Antenna (No. 6440) may be attached for coverage of higher channels.

Shipping Weight 7½ lbs.

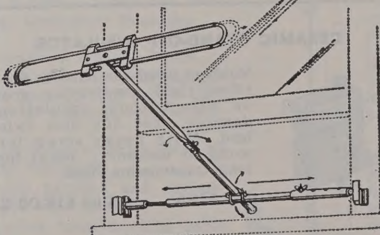
No. 6430.....................................**List $13.75**

FM RECEPTION

For maximum FM reception. Especially adaptable to high interference areas. Eliminates reflections.

Shipping Weight 4½ lbs.

No. 6415.....................................**List $13.75**



WINDOW ANTENNA

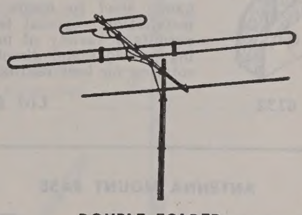
For All-channel Television Reception. Precision engineered, featuring ease of installation; maximum adjustable dipole for best all-channel reception; durable aluminum and steel construction; excellent reception. Special adjustable base spans 30 to 50 inches to fit any wood or casement window frame. Skillfully designed support permits horizontal or vertical positioning for maximum directional response.

Shipping Weight 5½ lbs .

No. 6450.....................................**List $15.35**

Latest Types

ICA's new television series offers a wide assortment of antennas and accessories for every type of installation. Includes latest indoor type antennas and varied outdoor set-ups.

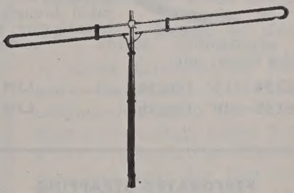


DOUBLE FOLDED
DIPOLE-REFLECTOR ARRAY

An outstanding uni-directional broad band antenna system for all-channel, high band-low band reception. Small folded dipole serves as the high band antenna and as a director for the larger dipole. Matching stub provided for use between high and low band dipoles. Excellent 300 ohm impedance matching to transmission line and set. Possesses extremely high sensitivity to build up weak signal reception from distant television transmitters. Engineered to overcome unusual interference from local sources. Includes high band-low band connecting lead; sturdy 5 ft. steel mast; rubber stand-off insulators.

Shipping Weight 8 lbs.

No. 6448..**List $15.75**



FOLDED DIPOLE

The ideal antenna for excellent low band television reception (channels 2 to 6) in areas of normally good signal strength with minimum interference present. For use with 300 ohm line. Sturdy 5 foot steel mast; non-corrosive aluminum dipole.

Shipping Weight 4½ lbs.

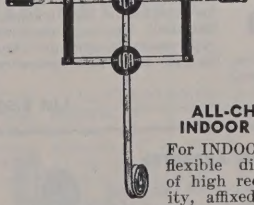
No. 6420...**List $8.95**

FM RECEPTION

For optimum FM reception. Features clarity and fidelity. Eliminates reflections.

Shipping Weight 3½ lbs.

No. 6405...**List $8.95**



ALL-CHANNEL TV
INDOOR ANTENNAS

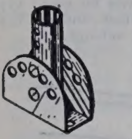
For INDOOR use. Folded flexible dipole elements of high receptivity quality, affixed to 10 ft. of standard 300 ohm twin lead transmission line. May be placed under rug, in attic or other out of way spot. For all television channels.

No. 6012—All-channel ....**List $2.95**
No. 6009—For channels 2 to 6.........**List 1.95**
No. 6008—For FM reception...........**List 1.65**

ICA INSULINE ICA
RADIO PRODUCTS

TELEVISION ACCESSORIES — TOOLS

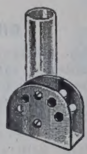
VARI-ANGLE ANTENNA BASE ASSEMBLY



Suitable for flat or peaked roofs, gable roofs or side walls. Made of extra heavy gauge steel to insure rigid installation. Special feature permits a variety of mounting positions and directional rotating for best results.

No. 6132..**List $2.65**

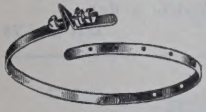
ANTENNA MOUNT BASE



This separate section of the ICA antenna base unit is a useful aid in unusual installation problems where the entire ICA unit is not required. Excellent for side wall mounting. Heavy gauge steel.

No. 6133..**List $1.25**

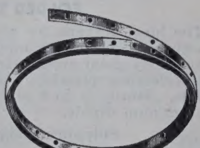
PERFORATED MOUNTING STRAP



Designed for quick easy fastening of antenna masts to piping, etc. Perforated through entire length for maximum adjustability. Sturdy . . . flexible. Includes screw; nut.

No. 6134—15″ Length....................**List $.15**
No. 6135—20″ Length....................**List .20**

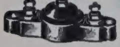
PERFORATED STRAPPING



Strong, flexible galvanized steel strapping that will serve a multitude of uses in antenna installation work. Ideal for mounting masts on vari-shaped objects —chimneys, posts, etc. Width ¾″. In 12 or 100 ft. lengths.

No. 6148......**List $.75 12 ft.......$4.95 C ft.**

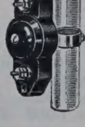
DOUBLET LIGHTNING ARRESTER



Weatherproof lightning arrester specially designed for television application. Suitable for any doublet type antenna system. Accommodates twin lead or any other two-wire transmission line.

No. 6111..**List $.60**

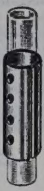
LIGHTNING ARRESTER



The same weather-proof lightning arrester described above with convenient metal ground strap to permit ready affixing to water pipes or similar posts.

No. 6112......................**List $.75**

MAST COUPLER



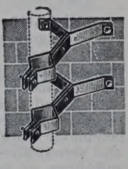
Makes addition of masts for greater height a simple matter. Sturdy heavy steel tubing assures rigidity. Slotted feature makes for firm grip. Suitable for masts of 1″ diam. Includes ¼″ bolts and nuts.

No. 6140...........................**List $1.25**

ICA's Mast Coupler with 5 foot mast extension including hardware.

No. 6040...........................**List $2.65**

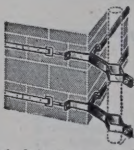
ANTENNA WALL BRACKETS



A useful antenna accessory where a vertical wall installation is desired. Offers a tight-gripping clamping action. Suitable for masts from ⅞″ to 1½″ in diameter. Made of weather - resistant plated heavy gauge steel.

No. 6131 List $2.50 pr.

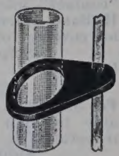
CHIMNEY ANTENNA MOUNT



For simplified mounting against chimneys, rough parapets and other superstructures. These heavy gauge steel supports solve many types of difficult mountings. The rugged steel strapping is perforated offering the added feature of adjustability. Minimizes sway, shift or bending.

No. 6130..................................**List $4.25 Set**

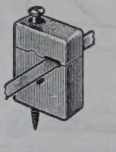
RUBBER STAND-OFF INSULATOR



Fits antenna mast with a snug grip to assure minimum shifting of lead-in cable. Made of long-lasting, tough, natural rubber. Insulates antenna from local grounded objects. Suitable for 300 ohm twin lead. For masts 1″ to 1¼″ diameter.

No. 6125..........**List $8.00 C**

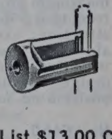
CERAMIC STAND-OFF INSULATOR



Moisture-proof for outdoor use. Offers rigid non-swaying grip on wire without insulation damage. For 300 ohm twin lead. With heavy screw for wood or masonry. Ideal for long transmission lines.

No. 6126............**List $18.00 C**

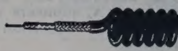
POLYSTYRENE TWIN-LEAD INSULATOR



For either indoor or outdoor application. Maintains firm non-slipping grip without insulation damage. Designed for 300 ohm twin-lead. Weather-resistant plastic. Convenient base hole.

No. 6127...................................**List $13.00 C**

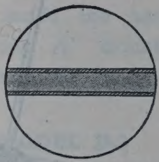
COAXIAL CABLE



Standard 70 ohm impedance cable necessary in installations requiring long lead-ins or where high level of interference exists.

No. 6115................................**List $13.00 C ft.**

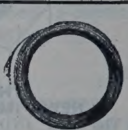
TELEVISION - FM WIRE



High-grade 300 ohm transmission line of the twin-lead type. Low-loss polyethylene insulation. Supplied in 1,000 ft. rolls.

No. 6020
List $ 4.25 C ft.
List 40.00 M ft.

GUY WIRE



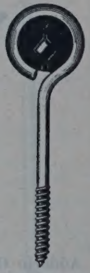
For simple antenna installation needs. Strong but flexible enough for easy handling. Stranded copper and monel — 7 strands No. 26. 100 foot coils.

No. 6147.....................................**List $.40 Coil**

The perfect guy wire. Rugged, galvanized steel twisted wire—6 strands No. 20. Weatherproofed—450 lbs. tensile strength.

No. 6186— 50 ft...............**List $ .88 Coil**
No. 6187— 100 ft...............**List 1.75 Coil**
No. 6188— 500 ft...............**List 8.38 Coil**
No. 6189—1000 ft...............**List 16.75 Coil**

INSULATED SCREW EYES

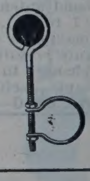


Dual purpose — for either twin-lead or coaxial cable. low-loss polyethylene insulation minimizes signal strength loss.

	List
*No. 6119—3½″ L.	$.09
*No. 6120—7″ L.	.15
**No. 6262—3½″ L.	.12
**No. 6264—7″ L.	.19

*Wood-screw threaded.
**Machine-screw threaded.

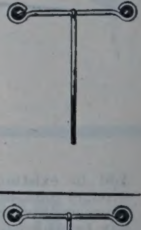
INSULATED SCREW EYES



Stand-off screw eye with convenient mast fitting metal loop for snug securing of transmission line. Fits 1″ masts. For twin-led or coaxial cable.

	List
No. 6263—3½″ L.	$.15
No. 6265—7″ L.	.21

T-TYPE SCREW EYES

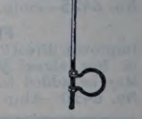


Secures double lead-ins with efficient spacing.

No.	L.	List
*6256	3½″	$.28
*6258	7″	.33
**6260	3½″	.28
**6261	7″	.33

*Machine screw threaded.
**Wood screw threaded.

T-TYPE SCREW EYES



Same as above with mast-fitting metal loop for easy secure installation. Fits 1″ mast.

No.		List
6257	3½″ L.	$.38
6259	7″ L.	.43

ICA INSULINE ICA RADIO PRODUCTS

ICA "DE LUXE" AUTO RADIO ANTENNAS

The Latest, Improved ICA Auto Antennas

Pioneer manufacturers of auto radio antennas, ICA presents its latest line featuring: Noiseless Performance — Rattleproof Engineering — Lifetime Rustproof Guarantee — Easy One-Man Installation. Equipped with BOTH Delco and Motorola fittings.

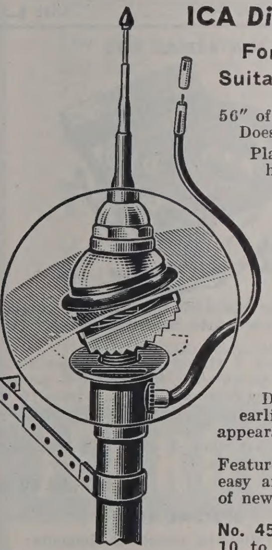
REPLACEMENT ANTENNA RODS

Specially Designed for
BUICK — FORD
and other cars using antennas of similar windshield mount type.
Precision made to assure peak performance

- Simple Installation
- Lasting Service
- Triple-chrome-plated brass

No. 4545—Buick—3 Sec. Extends to 36"............**List $2.75**
No. 4546—Ford—2 Sec. Extends to 54"..............**List 2.25**

ICA *Disappearing* ANTENNAS



For Fender and Cowl Mount
Suitable for all cars, old and new

56" of exposed antenna telescopes to 10". Does not obstruct vision.

Plastic and chrome-plated insulator hugs flat or convex surfaces.

Generous length cable . . . 48".

No. 4570....................**List $6.45**

Three-Section
Packed 10 to a standard carton
Weight 11 lbs.

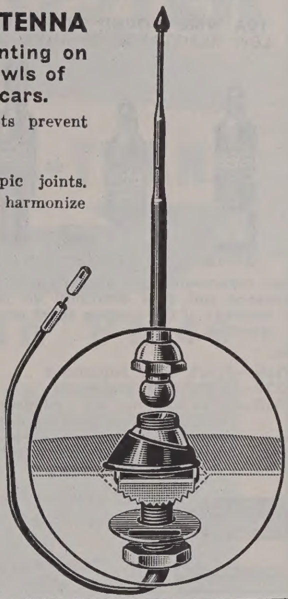
PEERLESS MODEL

Designed especially for 1948 and earlier model cars. Improved streamlined appearance.

Features unique swivel base permitting easy angle adjustment to match contours of new cars.

No. 4571—Three-Section ....**List $6.95**
10 to standard carton — Weight 11 lbs.

ICA "TOPPER" ANTENNA



For variable angle mounting on tops of fenders and cowls of newest streamlined cars.

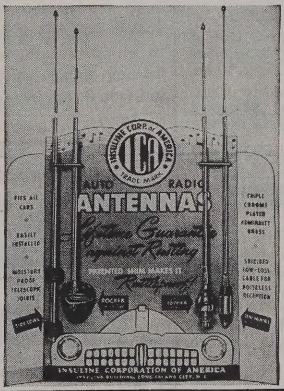
- Patented brass shim contacts prevent rattling or vibration.
- Dust and Moisture Proof.
- Snug-fitting tapered telescopic joints.
- Varied mounting positions to harmonize with contour of car.
- Generous length (48") shielded loom Lo-Loss cable . . . Vinylite covered insulation.

No. 4575....... **List $5.45**
Three-Section
Extends from 20" to 63"

"PIVOT TOPPER"

New development in variable angle mountings. Special type pivot permits universal angle mounts. Easily installed. Merely set rod to desired angle and tighten securing nut. Hi-Q loss cable. 48" lead-in.

No. 4576........**List $4.95**
Three-Section
Extends from 20" to 63"
10 to stand. carton. Wt. 10 lbs.


INSULINE CORP. of AMERICA
ICA
TRADE MARK
AUTO RADIO
ANTENNAS
Lifetime Guarantee against Rusting
PATENTED SHIM MAKES IT Rustproof
FITS ALL CARS
EASILY INSTALLED
MOISTURE PROOF TELESCOPE JOINTS
TRIPLE CHROME PLATED BRASS
SHIELDED LOW-LOSS CABLE FOR NOISELESS RECEPTION
ROCKER
TOPPER
INSULINE CORPORATION OF AMERICA

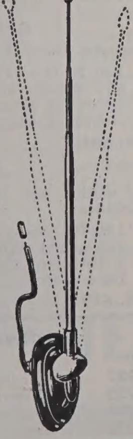
NEW ANTENNA DISPLAY

FREE . . . Ready to Use

A sales stimulating display. Colorful . . . Neatly styled. Suitable for window or counter. (Size 20" x 20".) Display is FREE, you pay only for the following fully-mounted Antennas:

No. 4541—"Rocker" No. 4801—Uni-Mount No. 4568—Side Cowl No. 4575—Topper	**Cat No. 4500** **List $19.90**

"ROCKER" ANTENNA

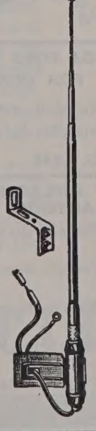


A Variable Angle Antenna to Fit the Contours of All Car Bodies

- Suitable for all cars.
- Easily adjusted to desired angle.
- Weatherproof joint construction.
- Easy, one-man installation.
- Streamlined design to harmonize with latest cars.
- High-luster bakelite insulator . . . tamper-proof.
- 48" Lo-Loss cable.
- Completely assembled, ready for installation.

No. 4541....**List $5.25**
Three-Section
Extends from 23½" to 72"
10 to standard carton.
Weight 16 lbs.

UNI-MOUNT ANTENNAS



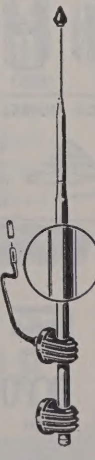
The Universal Aerial. Fits All Types of Cars . . . Old and New. For Underhood Mounting

- Streamlined modern design.
- Equipped with inter-changeable brackets for either side-hood or alligator hood mountings.
- No drilling of holes into car body necessary.
- Sturdy bakelite and chrome-plated brass insulator.
- Shielded loom LO-Loss cable 36" . . . vinylite insulated.

No. 4801............**List $4.45**
Three-Section
Extends from 20" to 63"
10 to standard carton. Wt. 11 lbs.

No. 4803............**List $5.45**
Three-Section
Extends from 31½" to 96"
10 to standard carton. Wt. 14 lbs.

SIDE COWL ANTENNA



A Series of Side Cowl Antennas for Wide Application

Includes patented brass shim contacts for noiseless performance; brass swivel coupling for easy installation; shielded Lo-Loss cable, 36" long.

No. 4566 (10 lbs.*) **List $4.45**
3-Section. Extends 20" to 63"
No. 4553 (11 lbs.*) **List $5.45**
3-Section. Extends 31½" to 93"

HEAVY DUTY AERIAL

Made of extra large diameter brass tubing. Ideal for long distance reception and rugged wear.

No. 4568 (14 lbs.*) **List $4.75**
3-Section. Extends 29" to 68"
No. 4569 (15 lbs.*) **List $4.95**
4-Section. Extends 30" to 80"
No. 4559 (15½ lbs.*) **$6.45**
4-Section. Extends 36" to 110"

"PACEMAKER"

Has most of the features of above antennas but priced low for quick sales.

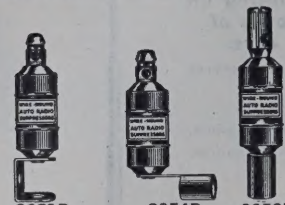
No. 4567 (10 lbs.*) **List $3.35**
3-Section. Extends 25" to 62"

*10 antennas in standard pkge.

ICA INSULINE ICA
RADIO PRODUCTS

AUTO RADIO CONDENSERS AND SUPPRESSORS

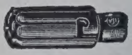
ICA WIRE WOUND SUPPRESSORS
LOW RESISTANCE 30 OHMS. D. C.



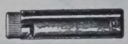
These suppressors have an extremely low D.C. resistance and thus definitely do not affect the intensity of the ignition spark or cut down the speed of the car.

No.	List
2351B—Spark Plug Suppressor	$.65
2353B—Distributor Suppressor	.65
2354B—1940-41 Slip-On Suppressor; Will Also Fit Older Type Cars	.65

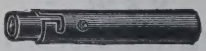
ICA AUTO ANTENNA CONNECTORS AND ADAPTERS



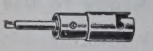
No. 2347—Antenna Connector. **List** ....**$.10 ea.**



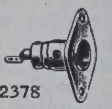
No. 2348—Standard Fuse Holder. **List** ....**$.15 ea.**

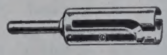


No. 2349
Jumbo Fuse Holder 2½ long x ½ wide
List ....**$.30 ea.**

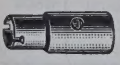


No. 2372 — Lead-in Adapter — converts standard leads to Motorola Fittings. **List** ....**$.30 ea.**

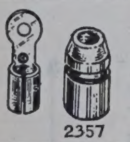




No. 2375—Motorola Pin Plug......**List $.10 ea.**
No. 2378—Motorola Shielded Jack **List $.20 ea.**



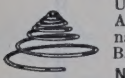
No. 2396—Lead-in Adapters —converts Motorola lead to Delco Fittings.
List ....**$.10 ea.**



No. 2357
Ignition Cap Nut
List ....**$2.00 C**

No. 2356
Ignition Cable Lug
List ....**$2.00 C**

ICA WHEEL HUB STATIC ELIMINATOR

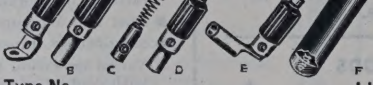


Used under hub of front wheel. An essential on all cars to eliminate front wheel static. Less Back Plate and screw.

No. 4476B....................**List $.15**

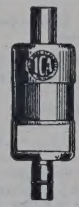
ICA SUPER-TEST AUTO RADIO IGNITION SUPPRESSORS

Made of Moulded Bakelite—All Metal Parts Made of Rugged Machined Brass



Type No.	List
E—349B—Spark Plug Slip-on Suppressor. Fits 1940-41 cars	$.30
E—349F—Slip-on Spark Plug Suppressors for New Model Ford cars	.30
D—350B—Spark Plug Suppressors with Dual Threaded Inserts	.30
D—351B—Spark Plug Suppressors for Ford cars up to 1939	.30
A—377 —Bracket type Suppressor	.30
B—352B—Distributor Suppressor for all cars	.35
C—4461—Ford Early Models	.35
C—4463—Ford Late Models	.35
F—4465—Cable Type Suppressor	.30

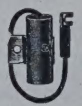
MASTER DIST. CARBON SUPPRESSOR — 10,000 OHMS



For use on new type cars where only one suppressor is needed. Master Suppressor is guaranteed to eliminate all motor noise—making unnecessary the use of individual suppressors.

No. 330.........................**List $.75**

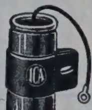
AUTO BY-PASS CONDENSER



For by-passing ammeter, dome light or generator. Capacity ½ mfd.

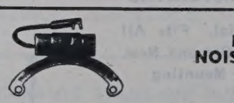
No. 1244.......................**List $.55**

ICA
GENERATOR SILENCER



Heavy duty generator condenser eliminates generator, ammeter, distributor noises. Capacity 1 mfd.

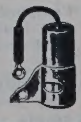
No. 1243.....................**List $.80**



ICA
FORD V8
NOISE SILENCER

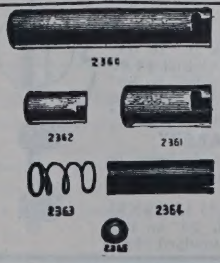
No. 1245
List $.85

ICA FORD V8 CONDENSERS FOR 1939-1941 MODELS



Equipped with Special Bracket. Capacity ½ mfd.

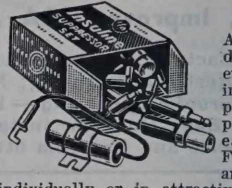
No. 1246.....................**List $.80**



REPLACEMENT PARTS FOR ANTENNA AND FUSE RETAINERS

No. 2360—Female sleeve of fuse connector **List $5.00 per C**
No. 2361—Female sleeve of antenna connector **List $3.50 per C**
No. 2362—Male part of antenna connector **List $3.00 per C**
No. 2363—Spring for both antenna and fuse connectors **List $1.00 per C**
No. 2364—Fiber insulator for auto fuse holder **List $ .90 per C**
No. 2365—Bakelite eyelet bushing **List $2.50 per C**

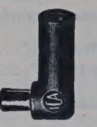
INTERFERENCE SUPPRESSOR SET



For Auto Radio All the needed condensers, suppressors, etc. for a complete installation. Neatly packaged as a complete unit. Includes easy instructions. For all cars — old and new. Packed individually or in attractive counter display holding 6 Sets.

No.	For	List
SK-1	8 Cyl. Cars (except Fords)	$4.00
SK-2	6 Cyl. Cars (except Fords)	3.40
SK-3	Ford Cars (to 1938)	4.00
SK-4	Ford Cars ('39 to current)	4.05

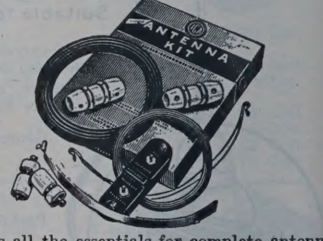
ELBOW SHAPED SUPPRESSOR



Auto ignition suppressor. Elbow type. Molded-in-bakelite. Machined brass. Metal parts.

No. 4464......................**List $.30**

ICA AERIAL KITS



Carries all the essentials for complete antenna installation, packed in handsome 2-color box. Includes:

50 ft. heavy 7 strand tinned copper aerial wire, 22 gauge—30 ft. stranded copper, insulated weatherproof, lead-in wire—10 ft. ground wire, 22 gauge—Ground Clamp—Lead-in Strip — Underwriters' Approved Lightning Arrester—2 Porcelain Insulators —2 Nail-it Knobs.

No. 654...**List $2.50**

SPECIAL KIT

Includes the following aerial kit elements:

50 ft. heavy 7/22 tinned copper aerial wire —30 ft. stranded copper insulated weatherproof lead-in wire—10 ft. No. 22 Ground wire. 2 Porcelain insulators — Ground Clamp—Lead-in strip—Lightning arrestor.

No. 653...**List $2.25**

CAPITALIZER KIT

Includes the following components:

100 ft. tinned aerial wire—7 strand copper and monel—30 ft. insulated lead-in wire—lightning arrestor—2 Porcelain insulators —Ground Clamp—Lead-in strip.

No. 651...**List $1.65**

JUNIOR KIT

A utility kit for high-grade performance. Includes:

100 ft. tinned aerial wire—7 strand copper and monel—30 ft. insulated lead-in wire—2 porcelain insulators — Ground Clamp — Lead-in strip.

No. 649...**List $1.35**

ANTENNA ACCESSORIES

No.		List
227	—Porcelain Insulator—glazed	$.10
223	—Ground Clamp—adjustable	.10
1504	—Lead-in strip—½" wide	.15
336	—Approved Lightning Arrestor	.35

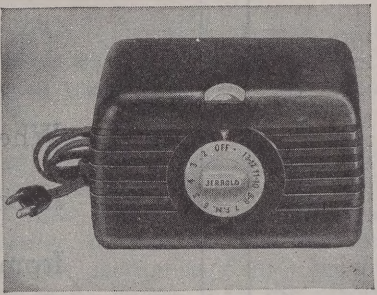
NOW only

JERROLD TV-FM BOOSTER

Comes Equipped with the Amazing New, Built-in

MATCH-A-TRAN

Included At No Increase In Price



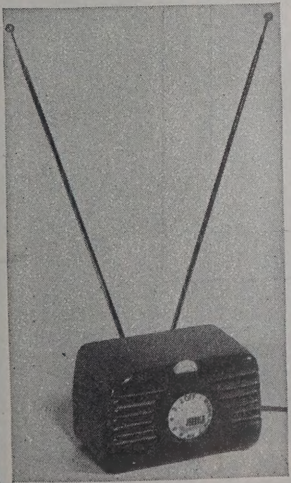
The Jerrold TV-FM Booster has been widely acclaimed for bringing better television reception to distant areas. Now, Jerrold makes another notable advance.

The Match-A-Tran is a new, variable step-impedence transformer that helps provide a perfect match between booster output and TV receiver—any receiver—on all channels. This assures that all the gain of the booster is delivered into the receiver. It is especially efficient on the high channels.

There Is A Difference

Yes, there is a difference between Jerrold and other boosters. Only Jerrold has a tuned-grid, tuned-plate circuit with a channel selector switch to select each channel. Only Jerrold gives a gain of 20 to 30 DB for the entire 6 megacycle bandwidth of each channel. Only Jerrold comes in a beautiful plastic cabinet. Only Jerrold has the Match-A-Tran. **Model TV-FM, $37.50 List**

JERROLD IN-TENNA



Indoor TV Antenna with Outdoor Antenna Gain

Jerrold In-Tenna combines an efficient indoor TV dipole with a high gain, wide band pre-amplifier. This combination offers a superior indoor antenna that is the perfect answer to TV installation problems in apartments, hotels, and private homes. Use it where an outdoor antenna cannot be installed and where an ordinary indoor antenna will not work satisfactorily.

The Jerrold In-Tenna is recommended as an indoor TV antenna, for use in any location up to 25 miles from the television transmitter. **Model TV IN, $42.50 List**

What is the MATCH-A-TRAN?

No present day receiver has an input impedence that is purely resistive for all channels. Thus, standing waves are present on all antenna lead-ins. These standing waves cause peaks and nulls of signal voltage to be spaced along the line at half wave length intervals for each frequency.

For best reception it is necessary that the receiver be connected at a peak signal point for each channel. In effect, the Match-A-Tran is an "electronic line stretcher" that can easily be adjusted for each channel. Thus, brighter, sharper pictures are obtained for all channels. Match-A-Tran is especially efficient on the high (7 to 13) channels.

JERROLD ELECTRONICS CORP.

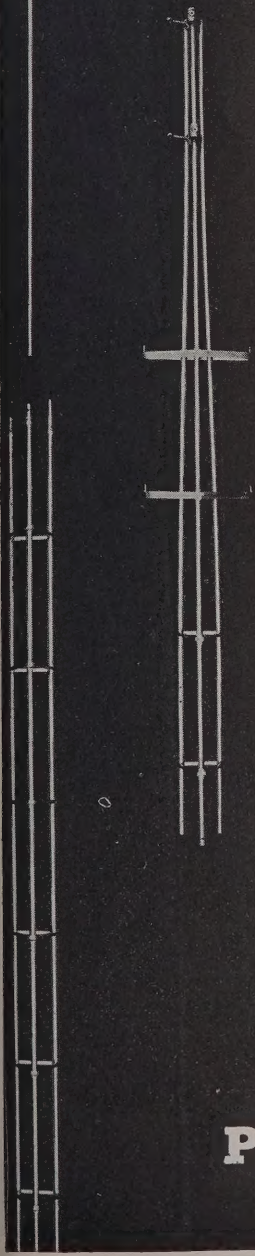
Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

RADIO'S MASTER

NEW *Teletower with*
EXCLUSIVE *Penn Pilot Hole*

So Foolproof . . . So Safe . . .
A Green Apprentice Can Zip it up Fast



2 Men Do the Job — Minimizes Wind Resistance . . . Reduces Vibration — Weighs Less Than 2 Pounds per Foot. Sectional Construction (in 10 foot lengths) — Saves Storage Space.

Penn Pilot Hole — Cuts Assembly Time 1/3.
(Patent Applied For)

Quick erection by the installer means quick profit for the wholesale distributor . . . that's the boiled-down truth about the new *Penn* TELETOWER.

Why? Because—at last— *a manufacturer has taken the trouble to engineer a simple mechanical feature that serves as a foolproof guide to speedier, safer tower erection.* One leg of the middle section in *Penn's* tripod-type tower is made longer than the others. Position this single leg correctly and — zip! — the other two are automatically brought into correct alignment.

As a result of this exclusive feature, *Penn* offers a tower with tripod stability that's as simply erected as a single pole. Two "green-hands" can put this tower up fast . . . and in safety!

When erected, this Penn Teletower forms a rigidly locked tripod that is unaffected by high winds and will not vibrate out of position. Yet, the entire assembly — built of lightweight steel — weighs less than 20 pounds. Sectional, prefabricated construction permits space-saving storage. Cross braces on tripod serve as rungs and make the tower a safe, useful ladder when erecting antenna. *Mount is so designed that not an ounce of tower weight rests on the motor!*

Penn Teletowers are already on the way "up"! . . . on roofs . . . and in sales! It will pay to drop us a line.

A profitable Penn Teletower connection in your territory may still be available — Though we anticipate heavy Distributor demand. Write or wire today. No obligation.

PENN BOILER AND BURNER
MANUFACTURING CORP.

All Channel Television and F-M
INDOOR PORTABLE ANTENNAS

The most beautiful antennas on the market—highly efficient—compact—colorful. SPICO Antennas have been accepted as standard equipment by leading television receiver manufacturers. The TENNA-MASTER is available in 2 colors, and with 3 section dipoles and plated faceplates.

EXCLUSIVE FEATURES:

● **Perma-Tension telescopic construction.*** ● Lock-Notch vertical orientation, — eliminates knobs and tightening. ● Clean job—no soldering or lugs showing, wires completely concealed. ● Rigid construction throughout; extra heavy wall, and larger diameter tubing.

● YET IT COSTS NO MORE!

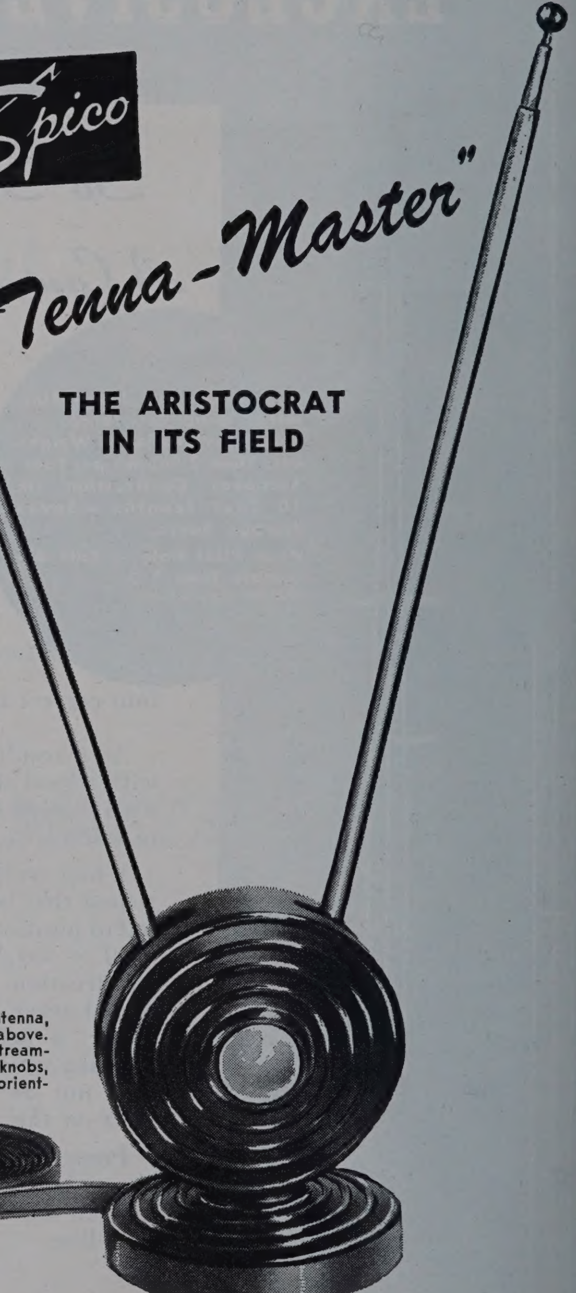
Tenna-Master Model TV 93B
Black bakelite housings and base.

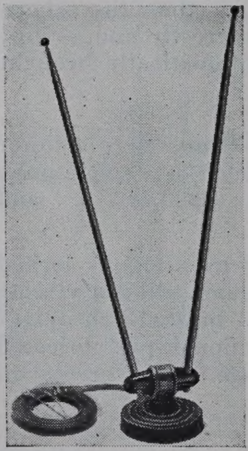
Tenna-Master Model TV 93A
Mahogany bakelite housings and base.

Spico

"Tenna-Master"

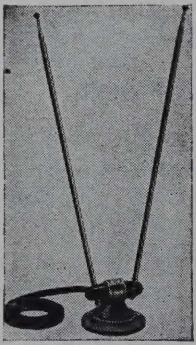
THE ARISTOCRAT IN ITS FIELD





PLUGIN-TENNA

● Contains all quality features of above. ● Antenna has built-in 4-prong plug which plugs into 4-prong socket molded into base, providing rigid support and excellent electrical contact. ● Antenna easily removed from base and stored in drawer when not in use. ● Engineer-tested, approved, and sold at standard equipment by leading TV set manufacturers.



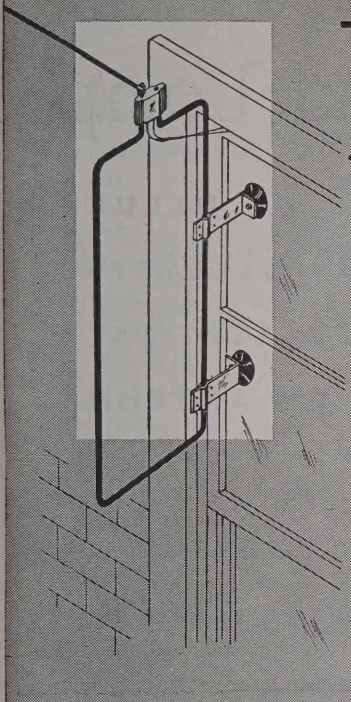
MASTERETTE

● Economy-priced indoor antenna, with quality features as above. ● Has bell-shaped base, streamline-designed, with no lugs, knobs, or solder showing. ● Easily oriented without knobs.

We manufacture a complete line of standard auto radio antennas. Television, F-M antennas and component parts manufactured to specifications. Your inquiry invited.

*Patented, U. S. Pat. Off.

SPIRLING PRODUCTS CO., INC. 62 GRAND ST., N.Y. 13, N.Y.



Wind-O-Loop

THE IDEAL APARTMENT HOUSE ALL CHANNEL TV & FM ANTENNA

WIND-O-LOOP is a completely novel approach to the problems affecting apartment house or restricted zone installation of television receivers. Constructed of a single rectangular loop and one di-pole, WIND-O-LOOP is attached to the pane of any window, indoors or out, by means of two rubber suction cups. The flat lead-in wire may be brought into the house over the top of the window sash and down behind the curtain or drape to the receiver, thus making the entire antenna invisible from the room.

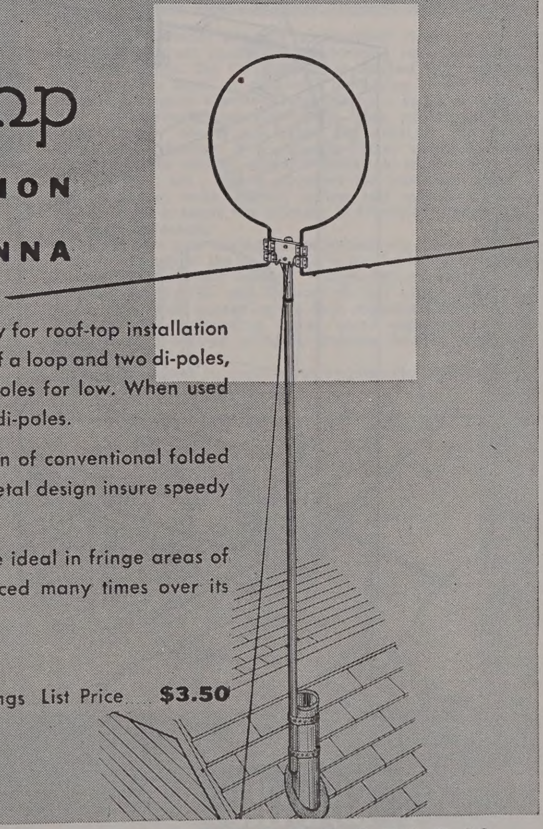
WIND-O-LOOP is packaged complete with twenty-five feet of lead-in, one end of which is already attached permanently to the antenna for greater convenience of installation. It is also provided with screws for use instead of the suction cups where installation upon a wood surface is desired. An all-channel antenna, WIND-O-LOOP may be oriented through 180° for maximum gain and may be permanently clamped in the most advantageous position. Since it is almost completely assembled upon delivery,

WIND-O-LOOP may be assembled and installed in three minutes or less by anyone. Complete with all necessary attachments and 25 feet of wire.

List Price.......................**$8.50**

Di-Loop

TELEVISION AND FM ANTENNA



DI-LOOP and all-channel TV and FM Antenna is intended primarily for roof-top installation and is packaged complete with an aluminum 6′ mast. Constructed of a loop and two di-poles, DI-LOOP uses the loop for high frequency reception and the di-poles for low. When used on low frequencies the loop acts as a resonated section for the di-poles.

DI-LOOP is a high-gain antenna, showing up to four times the gain of conventional folded di-pole antennas, yet its simplicity of construction and sturdy all-metal design insure speedy installation and a long life of excellent performance.

An excellent antenna in any area, DI-LOOP has been found to be ideal in fringe areas of reception where it has been found to out-perform antennas priced many times over its own low price.

Complete with 6′ Mast.............List Price **$12.50**

Additional 6′ extension sections with connector clamps and guy rings List Price.... **$3.50**

SQUARE ROOT

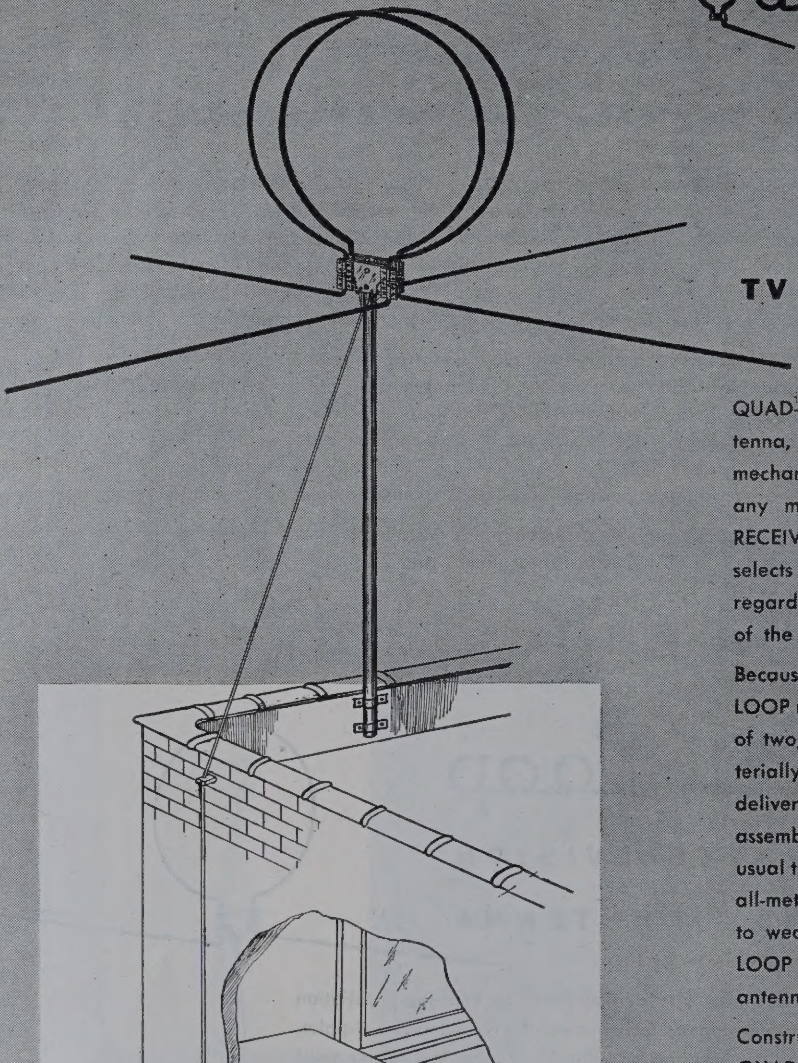
MANUFACTURING CORPORATION

YONKERS 3, N. Y.

"Wind-O-Loop" and "Di-Loop" are registered trade marks of Square Root Mfg. Corp. Patents Pending.

Quad-Loop

DELUXE
SELECTIVE
DIRECTIVITY
TV & FM ANTENNA



QUAD-LOOP, a quadrature-phasing antenna, achieves all of the advantages of mechanically rotated antennas without any moving parts. Controlled AT THE RECEIVER by a single knob, QUAD-LOOP selects maximum gain for each channel, regardless of the geographical location of the transmitting station.

Because it requires no orientation, QUAD-LOOP needs but one man to install instead of two, thus cutting installation costs materially. Ninety per cent assembled upon delivery, QUAD-LOOP may be completely assembled and installed in far less than the usual time required and because its sturdy, all-metal construction has no moving parts to wear or to become defective QUAD-LOOP will outlast mechanically rotated antennas without servicing or adjustment.

Constructed of two loops and four di-poles, QUAD-LOOP uses the loops for high frequency reception and the di-poles for low. When used on lower frequencies the loops act as resonated sections for the di-poles.

Kit.....................List Price **$34.50**

SQUARE ROOT

MANUFACTURING CORPORATION

YONKERS 3, N. Y.

"Quad-Loop" is a registered trade mark of Square Root Mfg. Corp. Patent Pending.

ANTENNA
DESIGN ENGINEERS
SINCE 1921

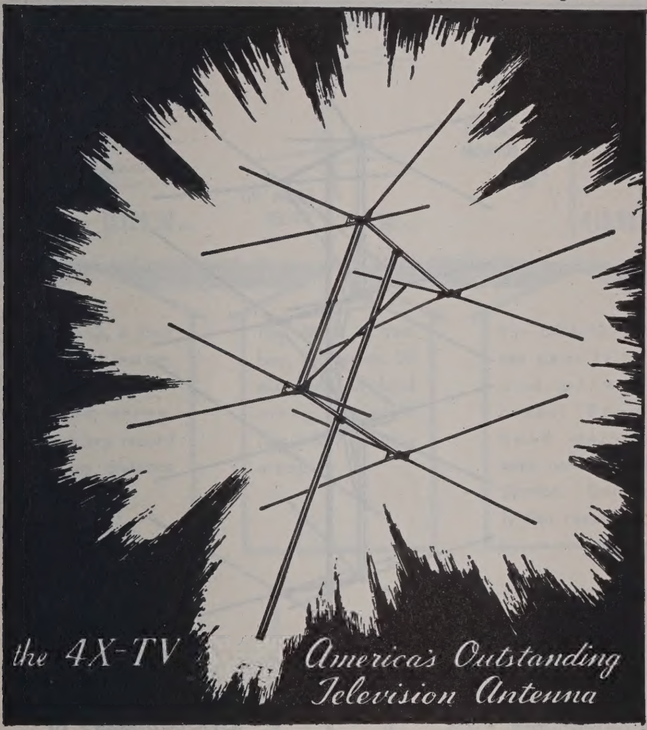
RUTHERFORD AVENUE ON ROUTE 35

telrex INC.

ANTENNA
• DEVELOPMENT •
• MANUFACTURING •

ASBURY PARK 1, NEW JERSEY

• CONICAL ANTENNAS •



TECHNICAL NOTES

Telrex Conical Antennas technically and practically assume response characteristics similar to a solid conical cone, giving broad band and high gain response with full audio and video band pass over the entire television spectra.

The nominal center impedance is designed to be 150 ohms and is non-varying because of the conical shaped receiving dipoles. The receiving dipoles are tilted forward to present a "V" to the incoming wave, preventing the receiving lobe changing with increasing frequency, and narrowing the forward receiving lobe. Thus the Telrex receiving dipole is an effective ½ wave element on channel 2 increasing to ⅝ wavelength on channel 3 and increasing in effective "V" beam action to channel 13 where it has become a full wevelength on each leg with the maximum receiving lobe being in line. The reflectors are effective at all frequencies with a front to back ratio of better than 12 DB on all frequencies.

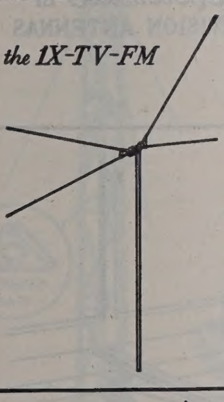
Unlike other methods of covering both bands, Telrex Antennas do not introduce phase shift or discriminate in favor of one band versus the other or one station versus another, and need only one transmission line. Closer to the stations at some locations it may be necessary to use another antenna because one or more stations are located too far either side of the receiving lobe. This antenna should have its own transmission line. Results can be obtained by connecting the antennas together, although this should be avoided as it may impair the reception on one or more stations. When the stations are within a 5 to 15 degree sector depending on distance from the transmitter the Telrex antenna used for maximum efficiency at low frequencies becomes a much more efficient antenna on the high frequencies than a separate cut-to-frequency stacked antenna.

The 2X-TV model presents a modified stacking of ⅛ wave with highest possible signal-to-noise ratio and minimum reflections. The 4X-TV model is stacked to present a spacing of ¼ wave on channel 2 increasing to full wavelength spacing on channel 13 lowering the angle of inception tremendously and eliminating high angle response lobes directly above and below the antenna. The gain effected by stacking is a variable factor depending on distance to the station, angle of radiation, season of year, time of day, etc., but it accounts for tremendous gain and minimizes noise, flutter, fading and reflections. The 8X-TV model presents the ultimate in television arrays with all band coverage.

The 150-ohm non-varying center impedance makes it possible to use any of the commercially available transmission lines whether 75-ohm coaxial, 90-ohm twin-ex or the unshielded variety 150- and 300-ohm ribbons with a standing wave ratio never exceeding 1.6 to 1 regardless of channel being received. Standing waves cause excessive phase-shift, causing blurred pictures, multiple images and decreased sensitivity.

You are invited to consult our engineering staff on any unusual antenna problems.

the 1X-TV-FM

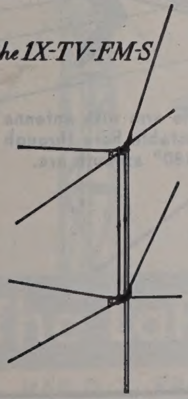


For Use in Primary Signal Areas

FEATURES:

- Bi-directional Hi-gain Conical "V"
- Beam Channels 2 to 13 and FM
- 2 to 1 Front to Back Ratio
- Low Inception Angle
- Extremely High Signal-to-Noise Ratio
- 150-Ohm Non-Varying Impedance
- Uses 72-, 150- or 300-Ohm Transmission Lines
- Minimizes "Ghosts"

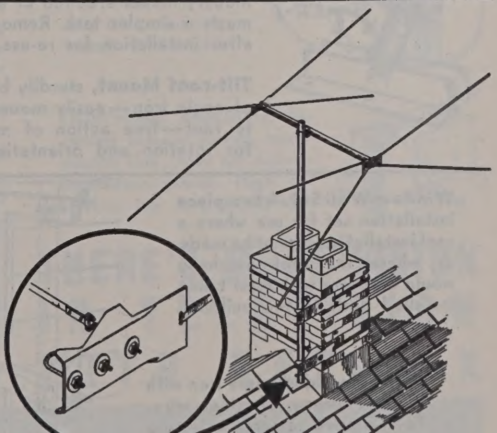
the 1X-TV-FM-S



For Use between Separated Television Stations

FEATURES:

- Bi-directional Hi-gain Conical "V"
- Beam Channels 2 to 13 and FM
- 2 to 1 Front to Back Ratio
- Low Inception Angle
- Extremely High Signal-to-Noise Ratio
- 150-Ohm Non-Varying Impedance
- Uses 72-, 150- or 300-Ohm Transmission Lines
- Universal Mounting Clamp



Model 2X-TV installed on chimney, using the Telrex CM-2A Chimney Mount with stainless steel band.

ANTENNA
DESIGN ENGINEERS
SINCE 1921
RUTHERFORD AVENUE ON ROUTE 35

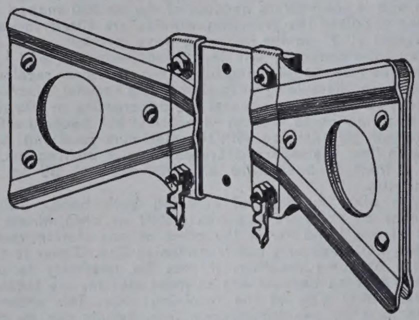
telrex INC.

ANTENNA
• DEVELOPMENT •
• MANUFACTURING •
ASBURY PARK 1, NEW JERSEY

• TV AND FM ACCESSORIES •

MECHANICAL NOTES

Telrex products are designed to minimize assembly time on the "job" assuring a considerable time-saving and a perfect mechanical installation.

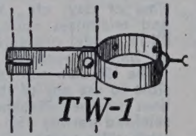


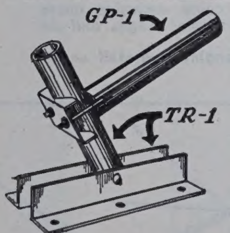
Telrex conical antennas are captivated within better than 3" of clamping action, providing better electrical contact over a longer period of time and a mechanical support that is second to none.

Mast or pipe clamps supplied are universal, allowing correct alignment and flexibility of mounting arrangements, from ¾" up to and including 1⅝" tubing.

The hardware in use is at all times the best money can buy overdesigned for the job.

Transmission Line Stand-off. Stainless steel banding and phenolic. Used on any size mast or tacked to the building to keep the transmission line away from the pipe or building. Durable; easily installed.



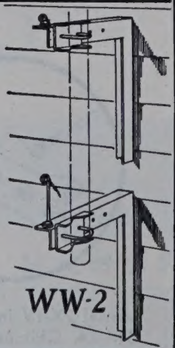


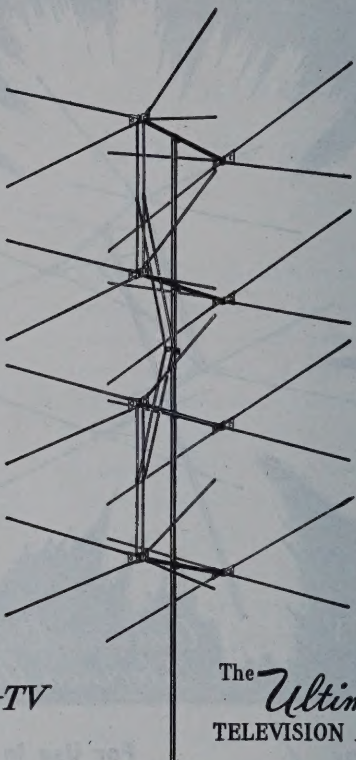
Gin Pole Accessory for use by the installer when a long mast is to be erected. Used in conjunction with the TR-1 (tilt-roof mount) makes erection of long masts a simpler task. Removed after installation for re-use.

Tilt-roof Mount, sturdily built of angle iron—easily mounted to roof—free action of mast for rotation and orientation.

Window Wall Set. A two-piece installation set for use where a roof installation cannot be made or where the roof overhang would interfere with mast being installed flush to the building.

Made of welded angle iron with a cross brace of steel wire. Paint-dipped, assures a lasting installation.

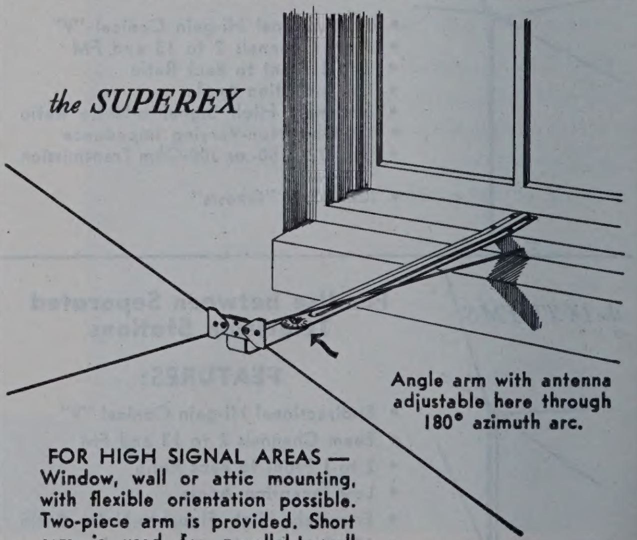




the 8X-TV

The *Ultimate* in TELEVISION ANTENNAS

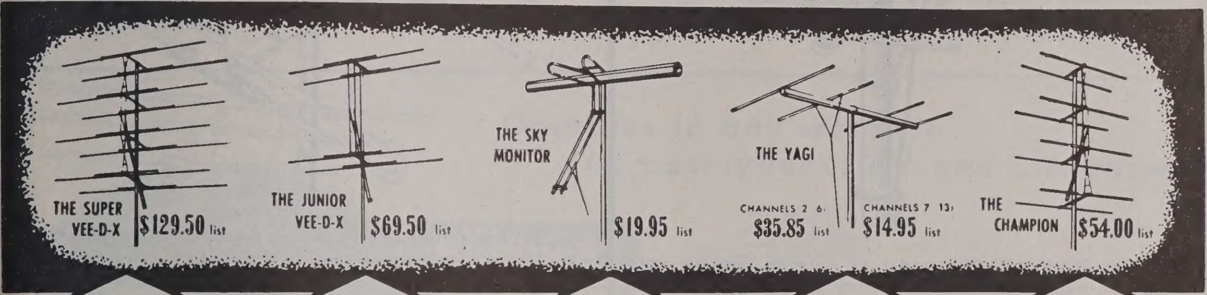
the SUPEREX



Angle arm with antenna adjustable here through 180° azimuth arc.

FOR HIGH SIGNAL AREAS — Window, wall or attic mounting, with flexible orientation possible. Two-piece arm is provided. Short arm is used for parallel-to-wall orientation. The second arm permits other than parallel orientation.

VEE-D-X HAS EVERYTHING YOU NEED FOR BETTER TV & FM INSTALLATIONS



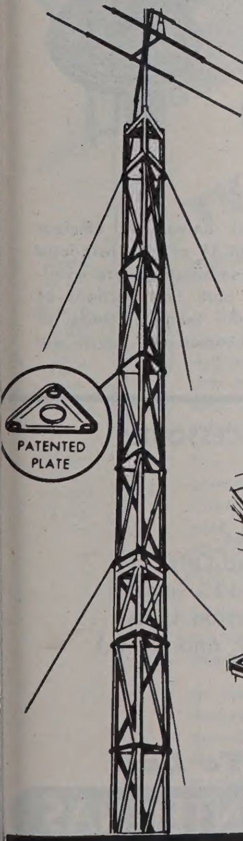
The RD-13, a four bay, full wave, thirty-two element, stacked array, holds every record for long distance reception.

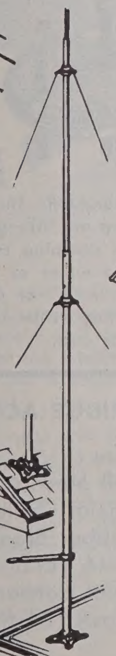
The JR-13, a two bay, full wave, 16 element, stacked array, adequate for most fringe areas.

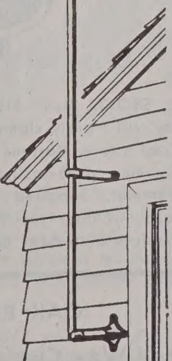
The DGA-12 — for the near fringe and primary areas. Broad band antenna with tunable "Q" Section. Extremely flat response.

The RDY Series, a four element beam cut especially for any channel. Utilizes 2" diameter boom with 1" elements for low channels. High gain at low cost.

The RDH series, a 16 element, full wave, four bay, stacked array, cut especially for any one of channels 7-13. This antenna will out-perform any other high channel antennas.



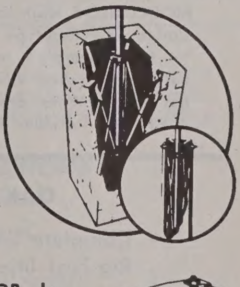




Whatever you need in the line of TV & FM antenna equipment may now be obtained from one dependable source. Why gamble with profits and customer good-will when you can be sure of all-around satisfaction with Vee-D-X—the complete single source quality line. Every Vee-D-X product is skillfully engineered for your active range of technical requirements and problems. Fast low cost installation insures full profit margin for you on every sale.

ALL ANGLE MOUNT. Particularly suited for mounting on side of house near a window for manual rotation of antenna. Designed to clear overhang of eaves, also excellent for flat or pitched roof. —$7.50 List

CHIMNEY MOUNT. Fits any opening — round, square or rectangular from 4" to 22", accommodates 1", 1⅛" & 1¼" masts, takes only 60 seconds to install. $7.50 List.



LIGHTNING ARRESTOR. Installed without cutting transmission line. Does not disturb impedence match. High dielectric, low loss. $2.50 List.

NEW LIGHT-WEIGHT MAST. Extremely light weight (a 20' section weighs only 11 lbs.) without sacrifice of strength. Can be rotated after guy cables have been installed.

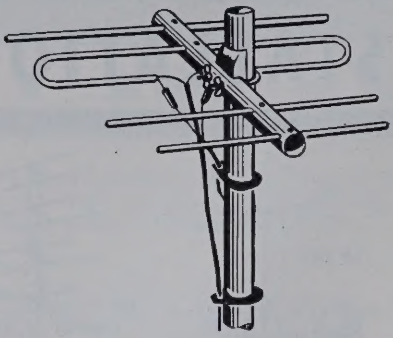
VEE-D-X SECTIONAL TOWER. Made in 10' and 20' Sections for mounting antennas up to 140' high. Sections are shipped assembled and painted. Strictly all welded construction. Antenna can be rotated from base.

THERE'S MORE VISION IN TELEVISION WITH VEE-D-X

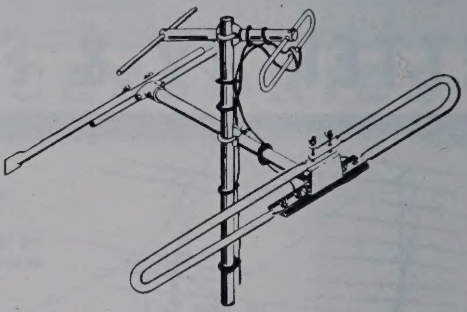
The LaPointe Plascomold Corp. UNIONVILLE, CONN.

ALL VEE-D-X PRODUCTS ARE FULLY PROTECTED BY PRODUCT LIABILITY INSURANCE

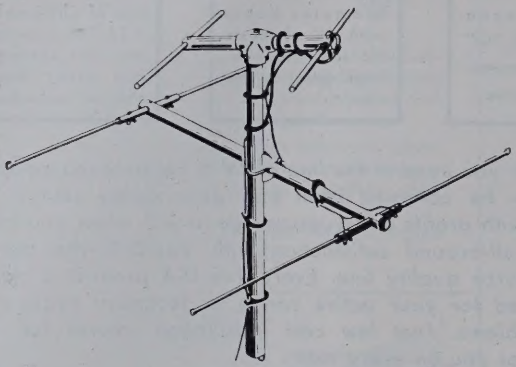
THE COMPLETE SOURCE OF TV AND FM ANTENNAS AND ANTENNA ACCESSORIES



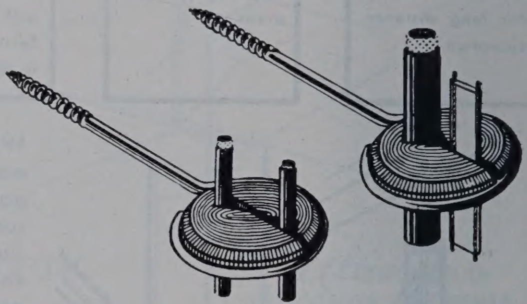
MODEL H-MFDR-5X. Highmaster TV Antenna. The last word in high frequency four-element array design. Super-sensitive pick-up in local or fringe areas. For channels 7-13 and can be independently oriented when used with low frequency array. Model shown contains patented A.A.K. filter divider network which is optional.



MODEL HLB-4. High-Low TV Deluxe Array. Factory assembled for fast installation — no hardware bag. Low array contains adjustable reflector elements for rejection of ghosts, also usable as directors when rotated to reverse position. For all channels and use in localities where there are reflection problems. This model has high forward gain and narrow band. Patented A.A.K. filter divider network is optional.



MODEL HLC-5. High-Low TV Standard Injector Array. Features slotted injection-type elements with bolts and wing nuts for fast assembly — no tools are required. Covers all channels and is used where a good signal level is available, but where there are slight reflection problems. Patented A.A.K. filter divider network is optional.



MODEL SSO-3. Steel Stand-Off. This universally efficient insulator will rigidly clamp any size of TV or F.M. twin-lead or coaxial cable. Various clamping combinations are available by merely reversing either or both half sections of the grommet. Supplied in 3" or 7" lengths. Made of semi-hard, weather resisting rubber compound, which will not deteriorate in heat or cold.

OAK RIDGE ANTENNAS

- Complete line of Model 5 TV Standard Rig-Fast Injector Arrays.
- Complete line of Model 4 TV Deluxe Factory Assembled Arrays.
- All lines contain single dipole to "lazy H" high and low frequency rigs; and, high-low combinations.

OAK RIDGE ACCESSORIES

- 4-Way Clamps
- Chimney Wall Mounts
- Flat and Coaxial Cables
- Steel and Rubber Stand-Offs
- Wall Mounts (6" and 12" sizes)
- Chimney Mount Conversion Units
- Telescopic Masts (24 ft. and 36 ft.)

Send for
FREE CATALOG

Rigged Fast To Last

OAK RIDGE ANTENNAS

239 East 127th Street, New York 35, N. Y.
Manufacturing Division of Video Television, Inc.

New!

TELEVISION ANTENNA ROTATOR
by alliance

Makes the Image Clear - Reduces Interference!

Operates in any weather
Fits most types of T.V. and F.M. antenna

alliance
TENNA-ROTOR
GETS
STRONGER
SIGNALS
ROTATES
TV AND FM ANTENNA
LIST PRICE $39.95
alliance
TENNA-ROTOR

This new Directional Aid *means* instant "arm-chair" control for Television Antenna. Dealers and Service Shops can order from their jobber now!

CONTROL BOX
Size: 5" x 5" x 4"

Announcement! New deluxe Tenna-Rotor with indication control case (Model DIR) now available. . . . List Price $49.95

Model
ATR
Size of
rotor
unit
7¾"
x 5¼" x
8"

Shipping
weight
12 lbs.

● The Alliance Tenna-Rotor is an antenna rotator designed to rotate the beam antenna in FM, Television and other high frequency radio applications. It consists of the rotator which is mounted on the antenna mast and a control box placed adjacent to the receiver.

The rotator unit, fully enclosed in a split zinc die-cast housing, is an electrically driven rotor — actually a rotating hollow shaft, into which the antenna center post is clamped. A four-conductor cable connects the rotator with a plastic control box which plugs into any 60-cycle 110-volt AC house circuit. A three-position selector switch controls the rotator. Throwing the switch to the right or left rotates the Rotor shaft clockwise or counter-clockwise through a complete arc of 365 degrees.

At the position of optimum reception, the switch is thrown to the center OFF position. Thus, Tenna-Rotor provides positive, instant control of rotation, enabling the operator to select the exact position for "peaked" reception! An automatic signal light illuminates a screen on the panel and tells when the limit of travel in either direction is reached. Tenna-Rotor is factory lubricated for life . . . designed for years of rugged service, works in any weather and the rotor unit resists corrosion. Tenna-Rotor reduces interference, expands the range and improves the performance of TV and FM installations. Amateurs can use it for transmission and reception with a special accessory thrust bearing (List Price $7.95 additional) which will handle most three element beams with a thrust load up to 200 lbs.

SPECIFICATIONS
Electrical

Input volts—110 volts 60 cycle AC
Input power—30 watts
Clockwise or counter-clockwise rotation
Instantly reversible motor
Minimum coast to stop
No receiver interference

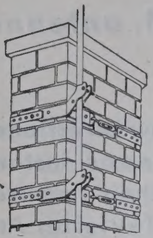
Mechanical

Positive mechanical stop at end of rotation
Rotates through 365 of arc at speed of approx. 1 r.p.m.
Factory lubricated for life
Moisture sealed
Corrosion resistant components throughout—
—cadmium plated parts
Maximum allowable antenna weight—20 lbs.
Maximum O.D. for antenna mast—1⅜"
Interconnecting cable—4 conductor No. 20 gauge
Rotator Size—7¾" x 5¼" x 8"
Control Case Size—5" x 5" x 4"
Approx. Shipping Wt., 12 lbs.

Metalace
SETS THE PACE

ANTENNA MOUNTING EQUIPMENT

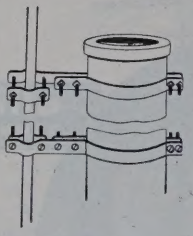
THE ONLY FULL LINE . . . a mount for every purpose . . . all constructed of heavy gauge steel — NOT Castings — treated with a new and improved waterproof coating made to Navy specifications for complete protection against weather conditions . . . in a handsome semi-gloss silver finish . . . vise-type clamps accommodating masts of ¾″ to 2½″ . . . all hardware pre-assembled so that no time is lost in installation.



CHIMNEY MOUNT

Model CMA

Designed to allow any spread between mast brackets. Exclusive turnbuckle feature provides rapid and secure take-up. Installed in a matter of minutes with ordinary tools . . . no drilling necessary. Several other chimney type mounts available.



VENT PIPE MOUNT

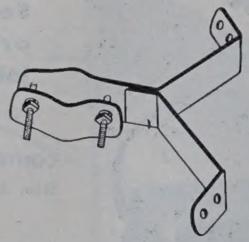
Model VM-6

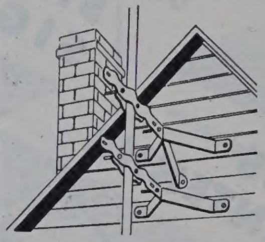
For speedy installation of mast on 4″ to 6″ vent pipes or poles.

EAVE BRACKET

Model EM-6

For a simple installation allowing a 6″ stand-off.

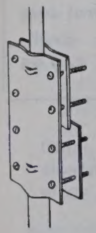




ADJUSTABLE EAVE MOUNT

Model EMX

A practical tripod support with simple adjustment permitting an 8″, 10″ or 12″ stand-off or as much as 16″ when used in conjunction with *Metalace Mast Joiner.* Three other non-adjustable models available for 12″, 18″ or 24″ stand-offs.



MAST EXTENDER

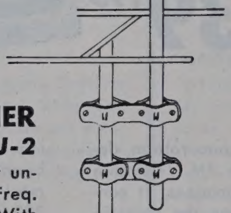
Model EM-8

Permits a 4″ bite on any two masts of equal or unequal diameter. With six guying points.

MAST JOINER

Model MJ-2

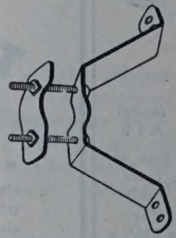
For joining masts of equal or unequal diameter . . to add Hi-Freq. to an existing installation. With four guying points.



WALL MOUNT

Model WM-4

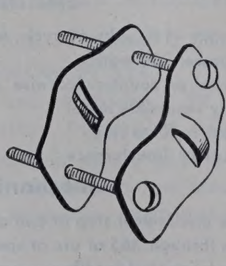
For rugged in-close mounting allowing a 4″ stand-off.

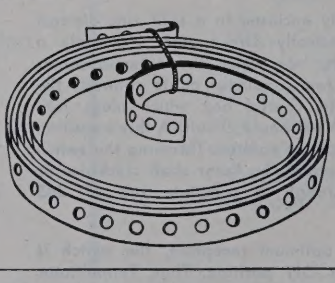


GUYING CLAMPS

Model GC-4

Vise-type clamps to hold guys at any point on a mast.





STEEL STRAPPING

Model SM-100

¾″ galvanized steel with ¼″ holes on ¾″ centers . . . for mounting and securing masts to odd shaped forms. In convenient 100′ rolls.

IMMEDIATE DELIVERY • LOWEST PRICES • MANY OTHER PRODUCTS • SEND FOR CATALOG

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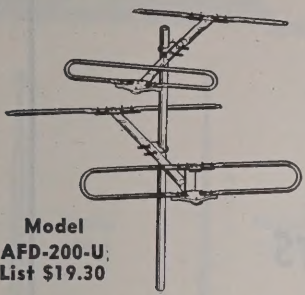
RMS TELEVISION ANTENNAS ACCESSORIES



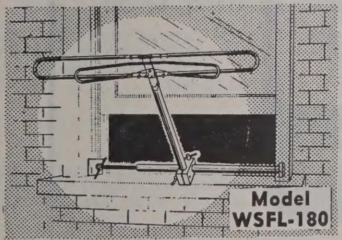
Model AFD-200-U
List $19.30

ALL-CHANNEL FOLDED DIPOLES
with Reflectors

Aluminum tubing, massively constructed, specially ridged at joints for maximum strength. Both arrays separately oriented. U-Bolt mounting. Complete with mast.

Other RMS All-Channel Television Antennas

	List Price
ASD-150—Straight Dipoles with Reflectors and mast	$18.20
AFD-200—Folded Dipoles with Reflectors and mast	20.00
ASD-150-U—Straight Dipoles with Reflectors, less mast, U bolt mounting	17.30
FFD-120—Folded Dipole, with hi-freq lobe, and mast	10.60
FRD-130—Folded Dipole with Reflector, hi-freq lobe, and mast	16.20
ALHS-675—Straight hi and lo dipoles, reflector, in line	15.30
ALH700—Folded hi and lo dipoles, reflector, in line	17.40
CAS725—Pyramidal, with reflector	21.15
CAD750—Stacked Pyramidal, with reflector	42.30
VAC800—Dual "U"	17.40

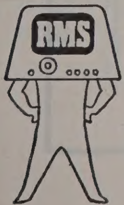


Model WSFL-180

WINDOW SILL TELEVISION ANTENNAS

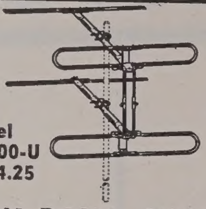
WSFL-180—All channel folded dipole with hi-freq lobes, mounts in any window, no drilling or cutting, no holes. Perfectly secure, dependable. List $17.00

WSS-160—Straight Dipole window antenna, similar to above, channels 2 to 6. List $13.80



MEMBER RMA

You are invited to write for catalog #215-U, illustrating complete line of outstanding RMS antennas and associated accessories.



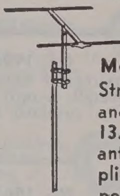
Model 2-LBF-400-U
List $24.25

LOW BAND FOLDED DOUBLE DIPOLES
with Reflectors

High gain array for channels 2 to 6. U-bolt mounting, less mast. Easily oriented. Rigid, massive construction.

Other RMS Low Band Antennas

	List Price
SD-10—Straight Dipole	$ 6.85
FD-25—Folded Dipole	9.40
SDR-50—Straight Dipole with Reflector	12.50
FDR-100—Folded Dipole with Reflector	15.00
LBS-30-U—Straight Dipole with Reflector, U-Bolt mounting, less mast	9.75
LBF-40-U—Folded Dipole with Reflector, U-Bolt mounting, less mast	11.60
2LBS-350-U—Stacked straight Dipoles with Reflectors, U-bolt mounting, less mast	19.25



HIGH BAND ATTACHMENTS

Model HFS-250 List $6.60

Straight Dipole with reflector and mast, for channels 7 to 13. Easily attached to main antenna mast, by clamps supplied. Heavy gauge aluminum, polystyrene insulation.

Other RMS High Band Attachments

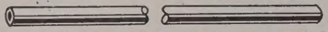
	List Price
SAH-1—Straight Dipole with Reflector	$ 5.10
DAH-5—Folded Dipole with Reflector	5.40
HFF300—Folded Dipole with Reflector, mast and brackets	7.00
2HBS-450-U—Stacked Straight Dipoles with Reflectors, U-Bolt mounting, no mast	10.65
2HBF-500-U—Stacked Folded Dipoles with Reflectors, U-Bolt mounting, no mast	11.60

TELEVISION ANTENNA DIRECTORS

D2 to D6—Directors cut to exact channels 2 to 6. List each $6.05

D7 to D13—Same, channels 7 to 13. List each $4.50

EXTENSION MASTS for Television Antennas

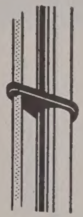


AM-6—Heavy walled aluminum 1⅛" OD, 6 ft. length. List each $3.50

SM-6—Heavy gauge plated lock-seam steel, 1" OD, 6 ft. length. List Price Cartons of Twelve $32.00

SM-10A—Steel, same as above, but 10 ft. length. List Price Cartons of Twelve $53.35

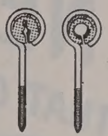
SM-10B—Steel, same, 10 ft. length, 1¼" OD. List Price Carton of Twelve $60.00



RUBBER STAND-OFF INSULATORS

For holding twin-lead neatly, securely at fixed distance from crossbars and masts.

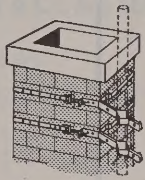
List Price
$8.25 per 100



SCREW EYE STAND-OFF INSULATORS

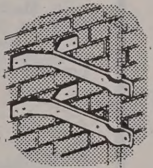
#3530—3½", for Twin Lead	$82.50 per M
#3572—3½", for Coax Cable	$82.50 per M
#730—7", for Twin Lead	$150.00 per M
#772—7", for Coax Cable	$150.00 per M

RMS TELEVISION ANTENNA CHIMNEY MOUNT



Model SCM-100

Made of heavy gauge plated steel. Fits any chimney or other upright rectangular roof structure, having girth up to 12 ft.
List Per Pair $4.30

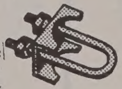


WALL & CHIMNEY MOUNT
for Television Antennas

Model WCM-500

Holds antennas securely 6" from any wall or chimney. Made of heavy gauge plated steel, easy to mount. All hardware included.
List Per Pair $2.00

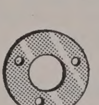
U-BOLT MOUNTING BRACKETS



Model UB-10

Permits joining together of two masts each up to 1⅜" OD. Packed 25 to carton. List Price per Carton $12.50

GUY WIRE RINGS

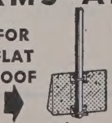


GR-1—1" I.D.
GR-2—1⅛" I.D.
GR-3—1¼" I.D.
List Price any type, cartons of 100 $15.00

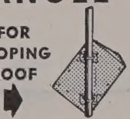
RMS ALL ANGLE MOUNTING BRACKET
for TELEVISION ANTENNAS

Model AMB

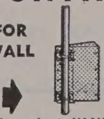
FOR FLAT ROOF



FOR SLOPING ROOF



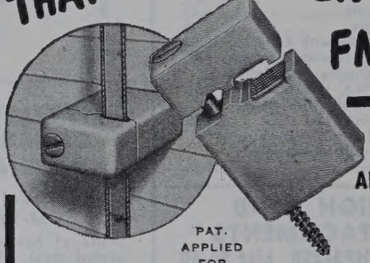
FOR WALL



Made of heavy gauge plated steel, supplied with 2 "U" Bolts, nuts, 4 lag screws. mounts against any surface.
List Price $5.25

RADIO MERCHANDISE SALES, INC. • NEW YORK, N. Y.

NEW LEAD-IN SUPPORTS THAT GIVE BETTER TELEVISION and FM RECEPTION!

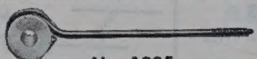


PAT. APPLIED FOR

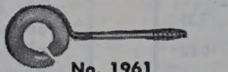
No. 9418

Porcelain Products' exclusively designed lead-in supports give rigid support preventing lead-in wire from twisting in wind or going slack. Quick moisture drainage prevents short circuits. Made of highest quality porcelain, resistant to weather extremes, factory assembled, screws rust-proofed, no maintenance, low initial cost. For all popular types of lead-in cables.

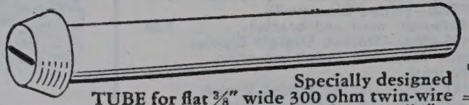
OTHER ANTENNA AND LEAD-IN ACCESSORIES

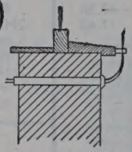


No. 1925
Insulated Screw Eye. Overall length 7-1/4", 5/16" insulator hole.



No. 1961
Split Bridle Ring Insulated Screw Eye, Overall length 3-5/8", 5/8" insulator hole, 1/4" diagonal slot.

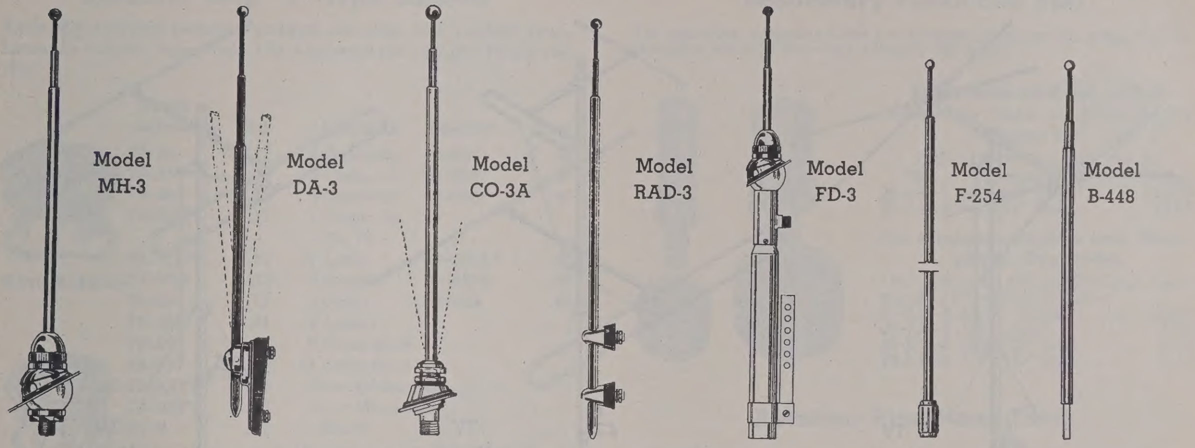




Specially designed TUBE for flat ⅜" wide 300 ohm twin-wire TV-FM Lead-in Conductors. Outside diameter ¹¹⁄₁₆"—fits hole made by standard ¾" drill bit. Finest electrical porcelain, rectangular hole prevents conductor from twisting. Write for folder.

Porcelain Products, Inc.
FINDLAY, OHIO

RAD-EL-CO AERIALS



THE CHOICE ACROSS THE NATION FOR QUICK, EASY INSTALLATION!

MH-3 MONARCH COWL-FENDER

Chrome plated all metal mounting base adjustable from flat to 30°. Does not crush. Holds adjustment permanently. 36" Radar Cable.

MH-3	**List $5.45**	**3 Sec.**	**57"**

DA-3 ADJUSTABLE SIDE COWL

Side mounting on sloping or vertical surfaces of cowl or fender. ½" mounting holes. Mast swing of 35°. 36" Radar Cable.

DA-3	**List $5.45**	**3 Sec.**	**72"**

CS-3 CHAMPION SIDE COWL

Quality Built—competitively priced. Chrome plated brass tubing. Black covered shielded cable with screw-on connector. Metal capped ceramic insulators.

CS-3	**List $3.45**	**3 Sec.**	**66"**

CO-3A ROTOLOK COWL-FENDER

Easy mounting through ½" hole. All tightening outside. Non-crushing chrome plated metal mount. VISE-LOCK eliminates braces. 36" Radar Cable.

CO-3A	**List $4.95**	**3 Sec.**	**57"**

RAD DELUXE SIDE COWL

Built to superior quality standards. Automotive specification chrome plate. Low loss 100% shielded 36". Radar cable with screw-on connectors.

RAD-3	**List $4.65**	**3 Sec.**	**70"**
RAD-4	**" 5.65**	**4 "**	**92"**
RAD-5	**" 6.65**	**5 "**	**112"**

FD-3 CONCEALED COWL-FENDER

Chrome plated all metal adjustable mounting base. Strong, non-crushable. Waterproof, electrically efficient, guaranteed trouble free. 48" Radar Cable.

FD-3	**List $6.95**	**3 Sec.**	**4" - 55"**

F-254 FORD REPLACEMENT MAST

For 1941-42-46-47 Ford-Mercury Roof Antenna that operates behind windshield center post.

F-254	**List $2.00**	**2 Sec.**	**54"**

B-448 BUICK REPLACEMENT MAST

Replacement mast for roof aerials on all Buicks 1940 to present.

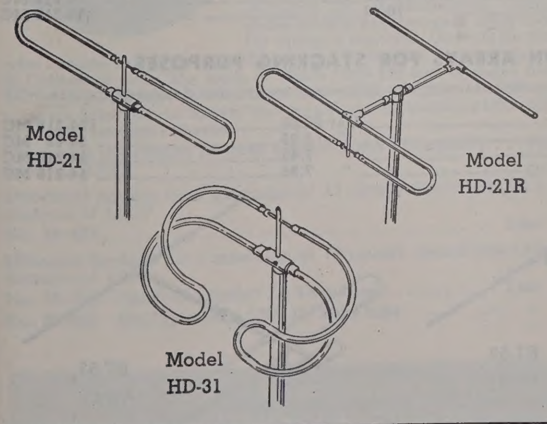
B-448	**List $2.50**	**4 Sec.**	**45"**

RADAR LEAD CABLES

Radar type coaxial polyethylene cable completely shielded. Type L as supplied with aerials. Extension type LE has male and female pin plug fittings.

Model	**L-36**	**L-48**	**LE-12**	**LE-24**	**LE-36**
List	**$1.35**	**$1.60**	**$ .75**	**$1.10**	**$1.35**
Length	**36"**	**48"**	**12"**	**24"**	**36"**

★ DOUBLE STAR FM DIPOLES ★



HD-21 FOLDED DIPOLE

Impedance of 300 ohms matches RMA Standard receiver input. Complete with 8 ft. mast, guy ring, stand-off insulator, wall brackets, base and 50 ft. of 300 ohm line.

HD-21	**List $8.25**	**88-108 MC**

HD-21R DIPOLE-REFLECTOR

Same accessories as Model HD-21 plus reflector to increase signal strength. More directional than Model HD-21 with much increase in forward gain.

HD-21R	**List $10.75**	**88-108 MC**

HD-31 DIFOLD DIPOLE

Much less directional than folded dipole. Use where signals come from several directions. Same accessories as HD-21.

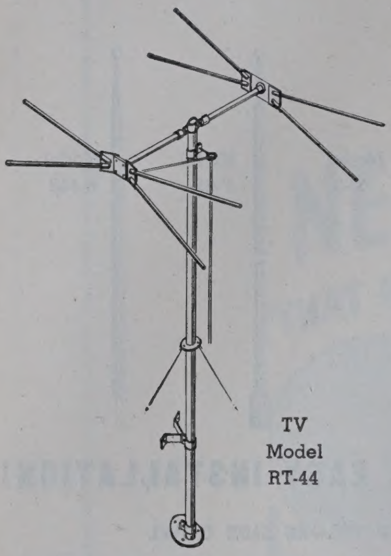
HD-31	**List $8.95**	**88-108 MC**

TV AND FM ACCESSORIES

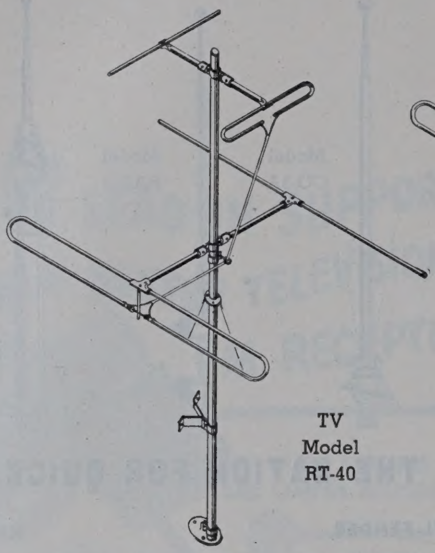
ME-48	4 ft. steel mast extension	**List $1.25**
HR-1	Reflector Kit for HD-21	**" 2.50**
RQ-42	Stacking Jumper Bar	**" .75**

RAD-EL-CO CLEVELAND

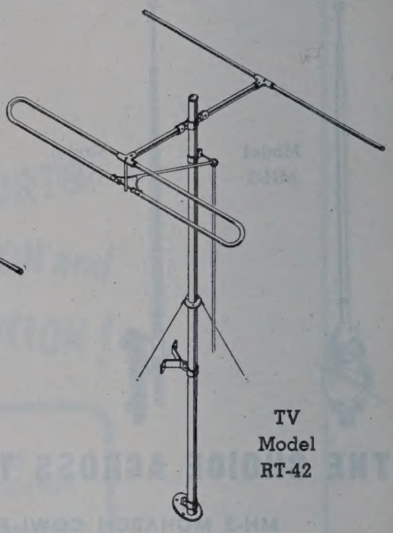
RAD-EL-CO AERIALS



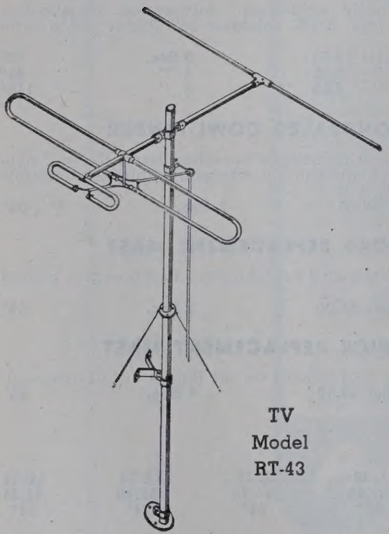
TV Model RT-44



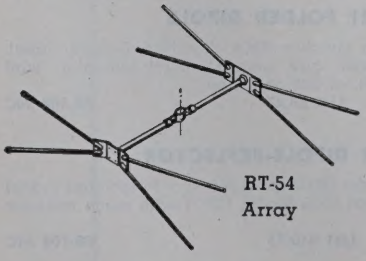
TV Model RT-40



TV Model RT-42



TV Model RT-43



RT-54 Array

TODAY'S GREATEST VALUE IN TV ANTENNAS

RT-44 SIMPLEX DIPOLE AND REFLECTOR

New "X" type aerial. Sturdy and simple to assemble. High gain on all channels. Fine for fringe reception. Complete with 8 ft. steel mast, guy washer, stand-off insulator, wall brackets and base. Model RT-44 includes 50 ft. 300 ohm cable.

RT-44	**List $13.25**	**54-216 MC**
RT-44LL	**" 11.45**	**54-216 MC**

RT-40 HI-LO DIPOLE AND REFLECTOR

Separate high and low frequency bays for efficient reception from stations in different directions. Easy to assemble. Complete with same accessories as RT-44. Model RT-40 includes 50 ft. 300 ohm cable.

RT-40	**List $12.75**	**54-216 MC**
RT-40LL	**" 10.95**	**54-216 MC**

RT-42 LOW BAND DIPOLE AND REFLECTOR

For reception on channels 2 - 6. Same accessories as RT-44. Model RT-42 includes 50 ft. 300 ohm cable.

RT-42	**List $10.75**	**54-88 MC**
RT-42LL	**" 8.95**	**54-88 MC**

RT-43 DUAL BAND DIPOLE AND REFLECTOR

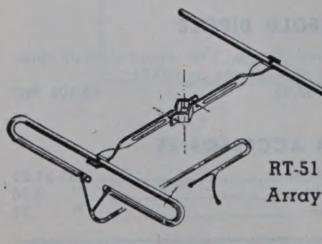
In-line type with special array to provide exceptional gain on all channels. Ideal where all stations are in same direction. Same accessories as RT-44. Model RT-43 includes 50 ft. 300 ohm cable.

RT-43	**List $12.25**	**54-216 MC**
RT-43LL	**" 10.45**	**54-216 MC**

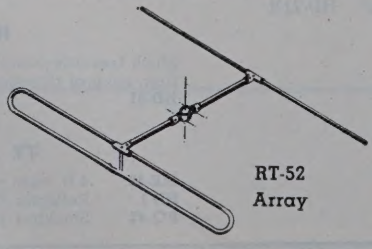
TELEVISION ARRAYS FOR STACKING PURPOSES

To increase gain and reduce interference, the following arrays are designed for use with above aerials.

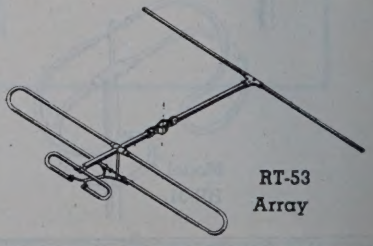
RT-51	High Band Array	**List $2.50**	**174-216 MC**
RT-52	Low Band Array	**" 5.95**	**54-88 MC**
RT-53	Dual Band Array	**" 7.45**	**54-216 MC**
RT-54	Simplex X type Array	**" 7.95**	**54-216 MC**



RT-51 Array



RT-52 Array



RT-53 Array

AMPHENOL AMERICAN PHENOLIC CORPORATION

Retainer Ring "S" Type Sockets

Extremely compact sockets, furnished complete with retainer rings. Mount in 1-11/64″ keyed hole. Use Amphenol No. 25-LD-1 Punch and Die.

Black Bakelite

Steatite

Black Bakelite	List	Contacts	Steatite	List
78-S4	$ .13	4 Contacts	49-SS4	$ .47
78-S5	.13	5 Contacts	49-SS5	.47
78-S6	.13	6 Contacts	49-SS6	.47
78-S7C*	.17	7 Comb. for 7L, 7S	....	....
78-S7L*	.13	7 Large	49-SS7L*	.59
78-S7S	.13	7 Small	49-SS7S	.47
78-S8	.17	8 Octal	49-SS8	.47
78-S8L	.21	8 Loktal	....	....
78-S9	.21	9 Octal Style	....	....
78-S11	.29	11 Octal Style	....	....
78-A7P†	.30	7 for Miniatures	.....	....
78-A9P†	.45	9 for Miniatures	.....	....
78-B	.07	Blank	....	....

* Mounts in 1-21/64″ keyed hole. Use 25-LD-2 Punch and Die.

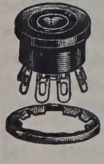
† Mounts in standard socket hole. Has miniature socket in center.

Magnal Socket Has 1-1/16″ pin circle for cathode ray and television tubes. Mounts in 1-5/8″ hole. Steatite.

No. 49-SS11L 11 Contact, Magnal ....**List $1.21**

Miniature Retainer Ring Type Sockets

Mount in 5/8″ round or "D" shaped hole with No. 2-9 retainer rings.



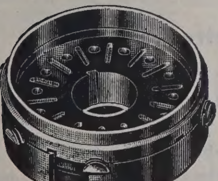
Black Bakelite

Number	Description	List
78-S3S	For 3 prong min. photo cells...........	$ .17
78-S4S	4 Contact...........................	.17
78-S5S	5 Contact...........................	.21
78-S6S	6 Contact...........................	.21
78-7P	7 Contact. Miniature................	.21

Mica-Filled Bakelite

78-7PT 7 Contact. Miniature............................. .28

Duodecal and Diheptal Tube Sockets



Designed for television viewing tubes, oscilloscopes and other cathode-ray tubes. Provides means of grouping leads within the socket housing and bringing them out radially in a neat, unit-cable form, reducing the space required to a minimum. Grouping of the wires in the enclosed raceway eliminates flexing at solder terminals, minimizing breakage.

Removable socket cap provides complete enclosure for all connections, eliminating shock hazard, yet the cap is easily removed for wiring or servicing. Opening for the lead wire harness can be positioned in any of 6 locations. Contacts are seated in individual wells, the walls of which form efficient creepage barriers. Socket cap and body molded from high quality electrical bakelite. Contacts are Amphenol exclusive "clover-leaf" design featuring four full lines of contact on each tube pin.

The socket is designed for easy assembly and disassembly . . . requires no special tools.

Duodecal Socket for a maximum of 12 equally spaced pins on a circle diameter of 1.063″.

No. 59-402.......................................**List $1.56**

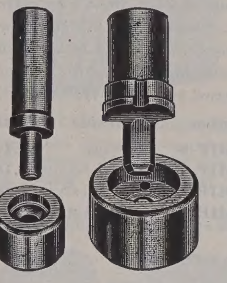
Diheptal Sockets for a maximum of 14 equally spaced pins on a circle diameter of 1.750″.

No. 59-415 Small—for 2.050″ D. Tube base.............**List $1.67**

No. 59-417 Medium—for 2.250″ D. Tube base.......... **1.67**

Laboratory Punch and Dies

For punching mounting holes for Amphenol connectors, plugs and receptacles. Made of tool steel, properly hardened.



For Amphenol Retainer Ring Mounting Tube Sockets, Radio Plugs, etc.

Drill 1/2″ hole for pilot punch.

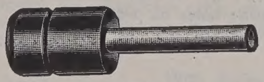
No.	Size of Hole	List
25-LD-1	1-11/64″ keyed......	$12.00
25-LD-2	1-21/64″ keyed......	12.00

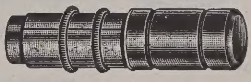
For Miniature Sockets and Microphone Connectors

Drill 3/8″ pilot hole for 25-LD-3, 5 and 6 and 1/4″ hole for 25-LD-4.

25-LD-3	13/16″ round.........	$3.60
25-LD-4	5/8″ round...........	3.60
25-LD-5	5/8″ "D" hole........	6.00
25-LD-6	1/2″ "D" hole........	6.00

Retainer Ring Hand Tools


51-5


51-1

Convenient for assembling miniature sockets, plugs and tip jacks to panels or chassis. Designed for hand operation.

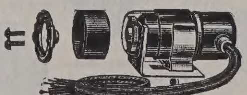
Number	Description	List
51-5	For No. 2-9 Rings..................................	$1.20
51-6	For No. 2-11 Rings.................................	1.20
51-7	For No. 2-10 Rings.................................	1.20
51-1	For "S" type sockets and "CP" type plugs except 7C and 7L sizes. Required where socket spacing is very close.	6.66
51-2	For "S" type sockets 7-large and 7-combination	6.66
51-3	For "SS" steatite sockets and "60" and "61" receptacles. Of two-piece construction . . . somewhat easier but slower to use than 51-1 (above) for "S" sockets and "CP" plugs	6.66

Magic Eye Assembly

For easily adapting or replacing a 6 prong magic eye tube in any radio having automatic volume control. Also for FM receivers, test instruments, signal tracers, and as volume level and modulation indicators. Includes 1 megohm target plate resistor wired into socket and 5 wire, color coded cable 22″ long. Mounting bracket is slotted for tube adjustment. Complete as illustrated, with escutcheon and hardware for assembly. Tube not included.

No. 58-MEA6 Complete Magic Eye Assembly...........**List $1.51**

Octal Magic Eye Assembly



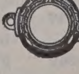
Similar to No. 58-MEA6 shown above, but for octal type magic eye tubes. New universal short bracket for the smaller tube sizes permits use of any of the octal magic eye tubes including the dual pattern and the new multi-pattern types. Complete with 8 wire, color coded cable, 22″ long, full vision escutcheon and hardware for assembly. Tube not included.

No. 58-MEA8 Complete Octal Magic Eye Assembly......**List $1.51**

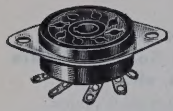
Magic Eye Escutcheons

Hood type is of sturdy plastic with beautiful antique bronze finish. Full vision type for octal dual-pattern and new octal multi-pattern types is brass with antique bronze finish.

Number	Description	List
10-102	Hood Type. For 6 prong tubes.	$ .15
10-2	Full Vision Type. For octal tubes....................	.36



COAXIAL CABLES AND CONNECTORS • INDUSTRIAL CONNECTORS, FITTINGS AND CONDUIT • ANTENNAS • RADIO COMPONENTS • PLASTICS FOR ELECTRONICS AMPHENOL

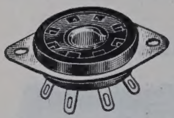


MIP Molded-In-Plate Sockets

Molded of high dielectric black Bakelite, sturdy, steel mounting plate molded directly into the solid body, cannot come loose or vibrate. Contacts grip tube prongs firmly and retain their resiliency indefinitely. Mount in 1-5/32″ round hole. Two 5/32″ screw holes on 1-1/2″ centers.

Number	Contacts	List	Number	Contacts	List
77-MIP-4	4 Contacts	$ .12	77-MIP-8	8, Octal	$ .14
77-MIP-5	5 Contacts	.12	77-MIP-9	9, Octal style	.18
77-MIP-6	6 Contacts	.12	77-MIP-11	11,Octal style	.24
77-MIP-7L*	7 Large	.14	77-MIP-12	12,Octal style	.30
77-MIP-7S	7 Small	.12			

* 77-MIP-7L mounts in 1-9/32″ D. round hole.

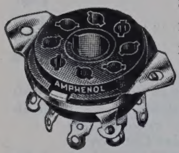


Compact MIP Sockets

Same as MIP series above but smaller in diameter. Mount in 1-1/8″ round hole. Two 5/32″ diameter mounting holes on 1-5/16″ centers. Black Bakelite dielectric.

Number	Contacts	List
88-8	8 Contacts	$ .14
88-8X	8, Loktal	.21

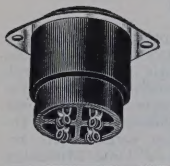
Saddle Type Sockets



Sharp nibs on mounting plate score chassis during riveting, breaking thru any oxidation for a perfect ground. Designed for bottom mounting in 1-1/8″ round hole. Two 5/32″ diameter mounting holes on 1-1/2″ centers.

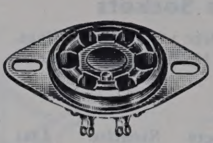
		List
74-8	8 Octal. Black Bakelite	$ .14

High Voltage Safety Sockets



For rectifier and other tubes with base diameter of 1.156″. Socket is set at the bottom of a deep molded Bakelite shell. Heavy steel mounting plate molded into shell has 5/32″ diam. mounting holes on 1-7/8″ centers. Socket mounts from above or below in 1-1/2″ round hole.

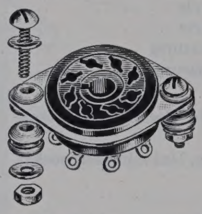
		List
77A-4T	4 Contacts. Mica-filled	$1.51



Replacement Sockets

Regular "S" sockets, assembled with No. 4 retainer ring to steel mounting plate with slotted holes to fit mounting centers from 1-1/2″ to 1-7/8″.

Black Bakelite	List	Contacts	Steatite	List
78-RS4	$ .14	4 Contacts	49-RSS4	$ .48
78-RS5	.14	5 Contacts	49-RSS5	.48
78-RS6	.14	6 Contacts	49-RSS6	.48
78-RS7C	.18	7 Comb.	....	....
78-RS7L	.14	7 Large	49-RSS7L	.61
78-RS7S	.14	7 Small	49-RSS7S	.48
78-RS8	.18	8 Octal	49-RSS8	.48
78-RS8L	.22	8 Loktal	....	....
78-RS9	.22	9 Octal style	....	....
78-RS11	.30	11 Octal style	....	....



Floating Octal Sockets

Live rubber grommets fit into mounting holes to cushion this socket for vibration-free operation. Black bakelite dielectric. Mounts in 1-3/16″ round hole above or below chassis. Two 1/4″ screw holes on 1-1/2″ centers.

Number	Description	List
77-MIP-8FK	Octal. Complete with 4 rubber grommets, 2 mounting screws, nuts and washers	$ .39
11-3K	Kit for making floating connections using Amphenol MIP Sockets. 4 grommets, 2 mounting screws, nuts and washers only	.24

Tube Shield and Spring Assemblies

Number	Height	Description	List
5-401	1-3/8"	For 7 Pin Miniature Sockets	$ .14
5-402	1-3/4"	For 7 Pin Miniature Sockets	.14

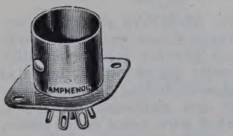
Tube Shields No. 5-401 and 5-402 are used with Sockets No. 59-367, 147-905, 147-913, 147-925, 147-955 and 147-963.

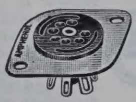
Number	Height	Description	List
5-405	1-1/2"	For Noval Sockets	.20
5-408	1-15/16"	For Noval Sockets	.24
5-409	2-3/8"	For Noval Sockets	.24

Tube Shields No. 5-405, 5-408 and 5-409 are used with Sockets No. 59-369, 59-406 and 59-407.

MINIATURE 7 AND 9 PIN SOCKETS

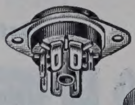
ZIP-IN, Ethylon-A

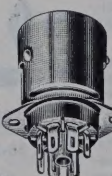




Molded of Ethylon-A with high "Q" factor. Mounting plate has .136″ diameter holes on 1-5/16″ centers. Round chassis holes are 27/32″ for 7 pin and 15/16″ for 9 pin.

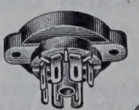
Number	Description	List
59-357	7 Pin. Without tube shield base	$ .21
59-367	7 Pin. With tube shield base	.27
59-359	9 Pin. Without tube shield base	.51
59-369	9 Pin. With tube shield base	.61

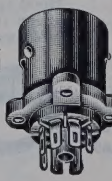




Above—Bottom Mounted

Right—Top Mounted with Tube Shield Base





Above—Rubber Mounted

Right—Rubber Mounted with Tube Shield Base

Bakelite and Steatite Sockets

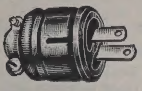
Used for television, FM, auto radios, portables, etc. 147 Series mount in 5/8″ chassis hole; mounting centers 7/8″; screw holes 1/8″. 59 Series mount in 3/4″ chassis hole; mounting centers 1-1/8″; rivet holes .095″.

Bottom Mounting—No Tube Shield Base

Number	Contacts	Dielectric	List
147-500	7	Black Bakelite	$ .24
147-501	7	Steatite	.51
59-409	9	Black Bakelite	.39
59-410	9	Mica-Filled Bakelite	.40
Top Mounting—With Tube Shield Base			
147-905	7	Black Bakelite	.39
147-913	7	Mica-Filled Bakelite	.40
147-925	7	Steatite	.63
59-406	9	Black Bakelite	.56
59-407	9	Mica-Filled Bakelite	.57
Rubber Mounted—No Tube Shield Base			
147-502	7	Black Bakelite	.25
Rubber Mounted—With Tube Shield Base			
147-955	7	Black Bakelite	.50
147-963	7	Mica-Filled Bakelite	.51

Shielded Cable Connectors, 110—250 Volt

End Cable Outlet—For cables up to ½" diameter



Fully shielded cable terminals with black Bakelite connector units encased in a tight cap that fits securely and is easily removed. Available with cable clamp that relieves soldered connections of strain, or with rubber grommets for protection against abrasion.

With Cable Clamp	List	Description	With Grommet	List
60-F11	$ .66	3 Pole Receptacle	60-F4	$ .60
60-M11	.66	3 Pole Polarized Plug	60-M4	.60
61-F11	.54	2 Pole Universal Receptacle	61-F4	.48
61-M11	.54	2 Pole Standard Plug	61-M4	.48
61-MP11	.54	2 Pole Polarized Plug	61-MP4	.48

Flush Motor Plug, 110–250 Volt

Neat, compact plug or receptacle set in type 61-61 steel shell for below surface mounting. Room for insertion of Amphenol End Cable Outlet Plugs.

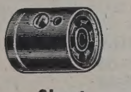
Number	Description	List
61-F10	2 Pole Universal Receptacle	$ .48
61-M10	2 Pole Standard Plug	.48
61-MP10	2 Pole Polarized Plug	.48

Molded-In-Plate Receptacle

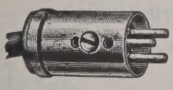
Same as 61-F Receptacle with standard steel mounting plate molded into the Bakelite body. Mounts in 1-3/16" chassis hole; two 5/32" screw holes on 1-1/2" centers.

No. 61-MIP-61F 2 Pole Universal Receptacle......**List**..... **$ .30**

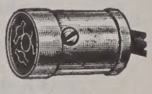
Miniature Cable Connectors



Short



Long



Flared

For shielded or unshielded cables having up to 6 conductors. Black Bakelite elements are housed in cadmium plated brass shells and are held in place by side set screws. Polarized contact spacing makes incorrect insertions impossible. Accommodates cable up to 1/4" diameter.

Short Shell—13/16" Long

Male	List	Description	Female	List
91-MPM3S	$ .36	3 Contact	91-MPF3S	$ .36
91-MPM4S	.40	4 Contact	91-MPF4S	.40

Long Shell—1-3/16" Long

Also use with shielded chassis units shown below.

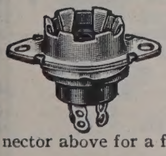
Male	List	Description	Female	List
91-MPM3L	$ .36	3 Contact	91-MPF3L	$ .36
91-MPM4L	.40	4 Contact	91-MPF4L	.40
91-MPM5L	.45			
91-MPM6L	.45			

Note:
Use long shell type with shielded chassis units; use either long or short shells with unshielded types such as 78-S3S and 86-CP-3S.

Flared Shell—1-3/16" Long

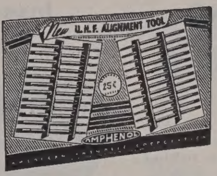
Description	Number	List
3 Contact	91-MPF3	$ .36
4 Contact	91-MPF4	.40

Shielded Chassis Units

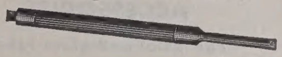


Economical chassis receptacles for connecting shielded or unshielded cables having from 2 to 6 conductors (for 2 wire cable use 3 contact unit and leave 1 contact unwired). Black Bakelite element; steel mounting plate. Can be mounted on surface or behind chassis or panel in 7/8" D. hole; 5/32" screw holes on 1-1/4" centers. Use with long shell cable connector above for a fully shielded connection.

Female	Description	List
78-PCG3F	3 Contact	$ .36
78-PCG4F	4 Contact	.36
78-PCG5F	5 Contact	.41
78-PCG6F	6 Contact	.41



Alignment Tool



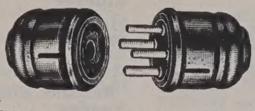
Made of Amphenol 912-A polystyrene. Has no capacity effect when aligning critical circuits. A necessary tool for anyone who must make adjustments on high frequency circuits.

No. 55 U.H.F. Alignment Tool (minimum order 24).....**List $ .25**

Illustrated above is the colorful sales card on which are mounted 24 Amphenol Alignment Tools.

No. 55-024 Sales Card with 24 Alignment Tools.........**List $6.00**

Shielded Multi-Wire Cable Connectors



Multi-wire cable connectors consist of Amphenol "S" type tube sockets and "CP" plugs. Metal cap shields connections and provides an unbreakable cover for cable termination. Cap may be removed with an ordinary screwdriver. Accommodates cable up to 7/16" diameter. Female chassis receptacles or sockets 78-S, 78-RS and 77-MIP; male receptacles are listed below.

With Rubber Grommets

With Rubber Grommet Type Plug Cap 3-13.

Female	List	Contacts	Male	List
78-PF4	$ .31	4 Contact	86-PM4	$ .31
78-PF5	.31	5 Contact	86-PM5	.31
78-PF6	.31	6 Contact	86-PM6	.31
78-PF7L	.31	7 Large	86-PM7L	.31
78-PF7S	.31	7 Small	86-PM7S	.31
78-PF8	.35	8 Octal	86-PM8	.35
78-PF9	.39	9 Octal Style	86-PM9	.39
78-PF11	.47	11 Octal Style	86-PM11	.47

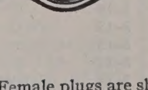
With Cable Clamps

With positive grip Cable Clamp Type Plug Cap 3-24.

				List
78-PF4-11	$ .37	4 Contact	86-PM4-11	$ .37
78-PF5-11	.37	5 Contact	86-PM5-11	.37
78-PF6-11	.37	6 Contact	86-PM6-11	.37
78-PF7L-11	.37	7 Large	86-PM7L-11	.37
78-PF7S-11	.37	7 Small	86-PM7S-11	.37
78-PF8-11	.41	8 Octal	86-PM8-11	.41
78-PF9-11	.45	9 Octal Style	86-PM9-11	.45
78-PF11-11	.53	11 Octal Style	86-PM11-11	.53

Male Receptacles

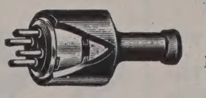
Extremely compact. Held firmly in place by Amphenol patented retainer ring. Can be rotated to line up contacts for shortest possible leads. Nickel-plated steel mounting plate has slotted screw holes centers from 1-1/2 to 1-7/8".



Number	Contacts	List
86-RCP4	4 Contact	$ .14
86-RCP5	5 Contact	.14
86-RCP6	6 Contact	.14
86-RCP-7L	7 Large	.14
86-RCP-7S	7 Small	.14
86-RCP8	8 Octal	.18
86-RCP9	9 Octal Style	.22
86-RCP11	11 Octal Style	.30

Female plugs are shown above, other styles can be made by assembling "S" type sockets with plug caps.

Rubber Plug Handle



End cable outlet receptacles or plugs (PF and PM or 61-F4 types) snap into this rubber handle and are held securely in place by a live rubber inner molded shoulder. Illustration is cut away to show how connector is gripped by plug handle.

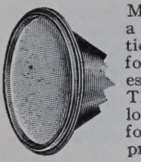
3-RPH Plug Handle Only...........................**List $ .19**

16" TV TUBE MOUNTING ACCESSORIES

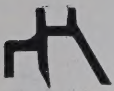
For metal and glass tubes

Tube mounting bracket for tube protection in shipping and vibration-free reception — live rubber cushions. Base is molded of polystyrene and holding straps are of fibre laminated phenolic. Easily attached to chassis or cabinet.

155-360 16″ Tube Mtg. Bracket List **$7.30 ea.**



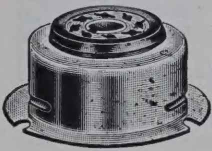
Molded Polyethylene Rim provides a superior mounting using conventional methods. Better protection for tubes and adequate insulation especially where the rim is joined. The unique overlapping provides long creepage paths. Heavy, uniform wall thickness. Outer groove provides for safety or masking glass.



Cross-section

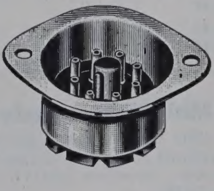
Number	Description	List
187-072	Rim for 16″ TV Tube	**$3.65**
187-079	Same less safety glass groove	**3.35**

Receptacle Shells



ACS Shell extends "CP" or "S" type sockets or plugs 13/16″ above or below surface. 4 knockouts in sides. Mounts in 1-3/4″ hole; has 3 notched holes for No. 6 screws.

Number	Description	List
23-1S	For small "S" Sockets	**$ .12**
23-1L	For large "S" Sockets	**.12**



61-61 Shell. Nickel plated steel shell, lowers bottom of "CP" and "S" type plugs and sockets and 60 and 61 connectors 1-3/16″ below surface. Mounts in 1-7/16″ hole; two 5/32″ screw holes on 1-3/4″ centers.

No. 61-61 Shell only . . . . **List $ .18**

Tip Jacks

Molded of Bakelite in black or red. Mount in 3/8″ hole with retainer ring included. Use standard phone tips for 78-1P1, and 78-1 Contacts recessed 1/8″. The body may be used as a feed-thru.

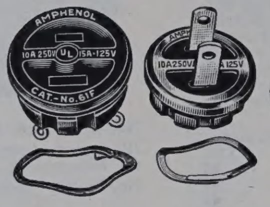
Number	Description	List
78-1S	For 3/32″ Plug	**$ .09**
78-1L	For 5/32″ Plug	**.09**
78-1M	For 1/8″ Plug	**.09**
78-1P	For .080 Phone Tip	**.09**
78-1P1	High Voltage for .080 Phone Tip. Mounts in 1/2″ hole	**.12**

Single Prong Plugs

Bakelite Plugs, black or red, for use with Tip Jacks above.

Number	Description	List
71-1S	For 3/32″ Socket	**$ .06**
71-1M	For 1/8″ Socket	**.06**
71-1L	For 5/32″ Socket	**.06**

Inserts and Shells for Cable Plugs, Connectors and Receptacles. For Assembly into Type Required



For 110-250 Volt Plugs and Receptacles

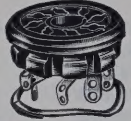
Compact in design, molded from high dielectric black Bakelite. Rated at 15 amp., 110 v. or 10 amp., 250 v. Two-pole type accepts any standard electric plug. Retainer ring type mounts in 1-11/64″ keyed hole as punched by Tools 25-LD-1 Mounting plate type requires 1-9/32″ D. chassis hole; has slotted screw holes on 1-1/2 to 1-7/8″ centers—Mounting plate type is similar to Type "RS" Replacement Sockets.

Receptacles

Retainer Ring Type Number	List	Description	With Mounting Plate Number	List
61-F	**$ .30**	2 Pole, Universal	**61-F1**	**$ .34**
60-F	**.42**	3 Pole, Polarized	**60-F1**	**.46**

Plugs

Retainer Ring Type Number	List	Description	With Mounting Plate Number	List
61-M	**$ .30**	2 Pole, Standard	**61-M1**	**$ .34**
61-MP	**.30**	2 Pole, Polarized	**61-MP1**	**.34**
60-M	**.42**	3 Pole, Polarized	**60-M1**	**.46**



"S" Socket (Listings on page 4).

"CP" Plug

For Multi-Wire Plugs and Receptacles

For quick, easy assembly to chassis or panels from 19 to 16 gage (.044 to .062″) using Amphenol retainer ring. Black Bakelite or steatite. Cadmium plated socket contacts for easy soldering; plug prongs are nickel plated brass; rotation feature for lining up contacts. Complete with retainer ring.

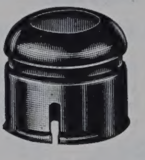
Can be assembled in any of the plug caps or receptacle shells below. For chassis mounting in 1-11/64″ keyed hole as punched by Tools 25-LD-1.

"CP" Plugs

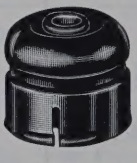
Black Bakelite	List	Contacts	Steatite	List
86-CP4	**$ .13**	4 Prong	**49-245-00**	**$ .49**
86-CP5	**.13**	5 Prong	**49-255-00**	**.49**
86-CP6	**.13**	6 Prong	**49-265-00**	**.49**
86-CP7L*	**.13**	7 Large	. . . .	. . . .
86-CP7S	**.13**	7 Small	. . . .	. . . .
86-CP8	**.17**	8 Prong, Octal	**49-285-00**	**.49**
86-CP9	**.21**	9 Prong, Octal Style	. . . .	. . . .
86-CP11	**.29**	11 Prong, Octal Style	. . . .	. . . .

* Mounts in 1-21/64″ keyed hole. Use 25-LD-2.

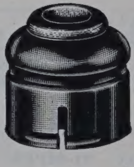
Plug Caps for Every Purpose



3-10



3-12



3-13

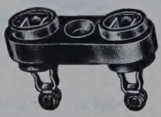
3-17

3-24

Cable terminals can be assembled with these plug caps, using retainer ring type plugs, sockets and 60 and 61 series shown above. Plug caps are designed to fit all but the 7-large and 7-combination sizes. For 7-large and 7-comb. use Plug Cap 3-13L shown below.

Number	Length	End Hole	Side Hole	Grommet	List
3-10	1″	None	None	None	**$ .18**
3-12	1″	5/16″	None	Metal	**.18**
3-13	1″	7/16″	None	Rubber	**.18**
3-17	1″	None	7/16″	Rubber	**.18**
3-24	Cap with Cable Clamp attached. Accommodates cables to 1/2″ diameter				**.24**
79-CC4	Cable Clamp only. Same as used on Cap 3-24				**.12**
3-13L	Cap for large 7 Socket and Plugs, end rubber grommet 7/16″ ID				**.24**

Crystal Holder Socket



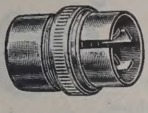
Molded of mica-filled Bakelite . . . for crystal holders having 2 prongs on 3/4″ centers. Easily mounted. May be used as dual tip jacks on test panels.

Number	Description	List
33-2T	For 1/8″ Prongs	**$ .17**
33-3T	For 5/32″ Prongs	**.17**

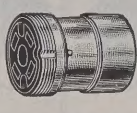
Heavy Duty Power Plugs

Male unit has four heavy brass blades; female has heavy phosphor bronze contacts. For use with current loads up to 15 amperes at 125 volts or 10 amperes at 250 volts. Molded black Bakelite unit is enclosed in tight, heavy brass shell . . . bright cadmium plated. Polarized with shell keys and keyways. Strain is taken up by concealed cable clamp. Grounding screw in body for safe wiring. Threaded locking ring keeps shells tight.

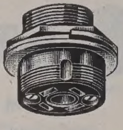
Chassis or panel receptacle mounts in 1¼" hole in any material up to ½" thick. Complete with lock washer, spacer washer and nut.



Plug



Jack



Receptacle

Mating parts are arranged in same horizontal line below.

Number	Contacts	List	Number	Contacts	List	Number	Contacts	List
92-M	Male	$3.01	92-F	Female	$3.01	92-C	Female	$3.01
92-F1	Female	3.01	92-M1	Male	3.01	92-C1	Male	3.01

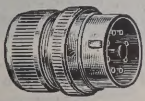
Flush Receptacles

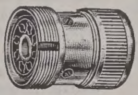
Flush receptacles may be made up of above receptacles and steel yoke for mounting in regular wall switch boxes. Full open end will come thru wall plate 1/8" to grip locking ring.

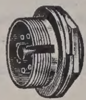
Number	Description	List
92-12	Cadmium plated steel yoke only. With mtg. screws	.18
79-CCC8	Cap and Chain. Seals receptacles above and below	.61

Heavy Duty Radio Connectors

The plugs shown in bold face type mate with jacks and receptacles listed in bold type **in the same horizontal line.** For numbers in light faced type follow the same procedure . . . plugs mate with jacks and receptacles in the same horizontal line. Bold type also designates the most popular units.

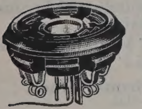






Contacts	Plug		Jack		Receptacle		List
	Male	Female	Female	Male	Female	Male	
4	**79-04M**	79-04F1	**79-04F**	79-04M1	**79-P04F**	79-P04M	**$1.51**
5	**79-05M**	79-05F1	**79-05F**	79-05M1	**79-P05F**	79-P05M	**1.51**
6	**79-06M**	79-06F1	**79-06F**	79-06M1	**79-P06F**	79-P06M	**1.51**
8	**79-08M**	79-08F1	**79-08F**	79-08M1	**79-P08F**	79-P08M	**1.51**
12	**79-012M**	79-012F1	**79-012F**	79-012M1	**79-P012F**	79-P012M	**2.41**

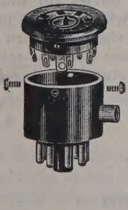
Bulb Tester and Tube Socket



Standard 7 contact combination socket for large and small 7 prong tubes. For testing miniature bulbs, either screw or bayonet types.

Number	Description	List
78-7CD	With retainer ring	$ .53

Adapters



A simple way to make adapter units which may be used for modernizing tube checkers and analyzers, adapting new tubes to old circuits and for connections to output meter, phonograph pickup, etc.

Socket Tops Only

Number	Contacts	List
44-8	8 Octal	.24

For testing new 9 pin miniature tubes.

Number	Contacts	List
44-9	9 Noval	.45

Bases Only

With side stud accommodating a metal tube grid cap clip. Both tops (left) and bases are drilled for self-tapping screws which are supplied with bases.

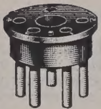
Number	Prongs	List
50-8SG	8 Octal	.36

Shell Only

Of metal tubing for snap-in connection on either end of Amphenol "S" type sockets or "CP" plugs. Combinations possible from 4 to 11 prongs or contacts.

No. 3-14D With side hole, rubber grommet . . . . . . **List $ .24**

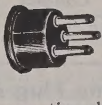
Molded Speaker Plugs



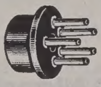
Prongs are securely molded into one-piece black bakelite body. Each prong is deeply set into individually molded pocket, eliminating the possibility of shorts in case of pull-back of wire insulation.

With Finger Grip	Prongs	List	With Straight Sides	Prongs	List
71-4	4	$ .13	70-8	8	$ .17
71-5	5	.13	70-9	9	.21
71-6	6	.13	70-12	12	.30
71-7	7	.13	70-20	20	.61

Miniature Plugs



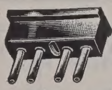
Cable Type used extensively for speaker connections in compact midgets. Ideal for all plug-in connections where space is limited. Brass prongs are deeply recessed in molded pockets preventing shorts due to insulation pulling back. With molded finger grip. Use with miniature sockets.



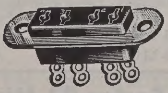
Chassis Type mounts in plain round 5/8" hole. No screws or rivets required. Held firmly by retainer ring included. Use with female miniature connectors (MPF type).

Cable Type	List Price	Description	Chassis Type	List
71-3S	$ .15	3 Prong	86-CP-3S	$ .15
71-4S	.15	4 Prong	86-CP-4S	.15
71-5S	.21	5 Prong		
71-6S	.21	6 Prong		

Rectangular Plugs and Sockets



Style B



Style C

For compact apparatus. Plugs are often used as a supported type self-sustaining coil form.

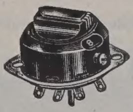
Plugs

Number	Style	Prongs or Contacts	List
70-25	B	3	.15
70-26	B	4	.18

Sockets

Number	Style	Prongs or Contacts	List
77-26	C	4	.30

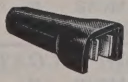
Tap Change Switch



An 8-position single pole continuous switch with white markings clearly visible in window cap. Side set screw locks switch arm in position preventing accidental tap changes.

Number	Description	List
36-1	With numerals 1 to 8	$ .90
36-2	With impedance markings 0—2—4—8—16—250—500	.90

Universal Grid Cap



A grid cap of improved design for universal use with tube grid caps from ¼ to ⅜" diameter including standard glass and metal tubes. Spring brass contacts in phenolic body.

63-1 Unwired Grid Cap . . . . . . **List Price $ .18**

AMPHENOL

AMERICAN PHENOLIC CORPORATION

1830 SOUTH 54TH AVENUE, CHICAGO 50, ILLINOIS

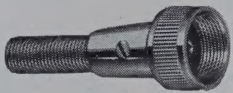
Series 75 Microphone Connectors—Single Contact

Fit almost every microphone. Standard with leading manufacturers for many years. Compact, rugged, neat. Chassis receptacles are integral parts of microphones using single conductor cable. Widely used in amplifiers, transmitters, phonoelectric devices, home recorders and similar equipment. They are also suitable for connecting various units such as PM speakers, headphones, and for theft alarms or wall type coin operated devices, etc.

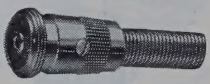
In the 75 Series, plugs mate with all cable jacks and receptacles. Circuit closing contacts are the same except that they close the circuit when plug is disengaged, eliminating open circuit grid howls.

Locknut Receptacles mount in .385″ holes when grounding to chassis and ½″ holes for ungrounded 2 circuit applications.

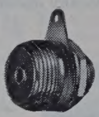
75-MC1FA



75-MC1F



75-MC1M



75-PC1M

75-CL-PC1M

Angle Plug			**Straight Plug**			**Cable Jack**			**Locknut Receptacles**		
	Contact	**List**		**Contact**	**List**		**Contact**	**List**		**Contact**	**List**
75-MC1F-A	Flush	**$.66**	**75-MC1F**	Flush	**$.55**	**75-MC1M**	Flush	**$.44**	**75-PC1M**	Flush	**$.33**
									75-CL-PC1M	Cl. Cr.	**.44**

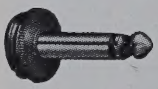
Cap and Chain

Seals open chassis units against dirt and dust. Also used with 80 Series Connectors.

75-CCC1. . List $.55

Cl. Cr. Closed Circuit.

Phone Plug Adapter



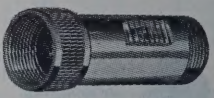
Screws into coupling ring of 75-MC1F and 75-MC1F-A plugs, permitting the cable to be plugged into any standard phone jack. No soldering or wiring.

75-MC1P. . . . . .List $.49

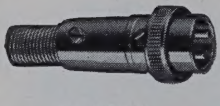
Microphone Switch

Threaded on one end, coupling ring on the other end. For 75 Series Connectors. May be connected directly to any mike equipped with 75-PC1M or simliar receptacle. Push-to-talk or slide button for permanent connection.

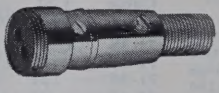
75-MC1S. . . . . .List $1.10



Series 80 Microphone Connectors—Single and Double Contacts



80-MC2M



80-MC2F

80-PC2F

Plugs			**Cable Jacks**			**Locknut Receptacles**		
	Contacts	**List**		**Contacts**	**List**		**Contacts**	**List**
SINGLE CONTACT								
80-M	M	**$.71**	**80-F**	F	**$.71**	**80-C**	F	**$.44**
80-F1	F	.71	80-M1	M	.71	80-C1	M	.44
TWO CONTACTS								
80-MC2M	M	**.88**	**80-MC2F**	F	**.88**	**80-PC2F**	F	**.49**
80-MC2F1	F	.88	80-MC2M1	M	.88	80-PC2M	M	.49

Series 80 Cable Connectors are designed for shielded cables; for single and two conductor coaxial cables, microphone cables; for twisted pairs, concentric lines, photo cell leads, patch cords and similar uses. Suitable for connecting model railroad equipment, pin ball games and other small electrical apparatus. Elements are high dielectric black Bakelite. Receptacles mount in 5/8″ chassis holes. Maximum chassis thickness for locknut type receptacles is 11/32″.

Mating families of connectors are listed in horizontal lines.

The most popular connectors are shown in bold face type.

Cap and Chain required is 75-CCC1.

M Male. F Female.

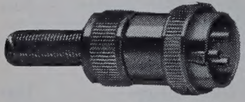
Series 91 Microphone Connectors—3 and 4 Contacts

Extensively used on all types of portable apparatus, these connectors were designed primarily to use with microphones. Some of the advantages of Amphenol Microphone Connectors . . .

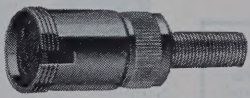
- Accidental disconnections are eliminated by a positive screw-type connection.
- Incorrect insertions are impossible because connectors are polarized.
- Pulling and twisting strain on soldered contacts is eliminated because a squeeze-type clamp grips cable securely after assembly.

Chassis receptacles mount in 27/32″ chassis holes. Maximum chassis thickness for chassis receptacle is 1/8″.

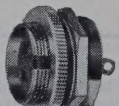
Mating families of connectors are listed in horizontal lines.



91-MC3M



91-MC3F



91-PC3F

Plugs			**Cable Jacks**			**Chassis Receptacles**		
	Contacts	**List**		**Contacts**	**List**		**Contacts**	**List**
THREE CONTACTS								
91-MC3M	M	**$1.10**	**91-MC3F**	F	**$1.10**	**91-PC3F**	F	**$ .55**
91-MC3F1	F	1.10	91-MC3M1	M	1.10	91-PC3M	M	.55
FOUR CONTACTS								
91-MC4M1	M	**1.20**	**91-MC4F**	F	**1.20**	**91-PC4F**	F	**.60**
91-MC4F1	F	1.20	91-MC4M1	M	1.20	91-PC4M	M	.60

M Male. F Female. The most popular connectors are shown in bold face type.

Side Cable Outlet

Provide an outlet for microphone cable where it is not practical to run the cable thru the stand. For use between microphones and stands having 5/8-27 threads.

91-SCO3. . . . . .List $. 82

Cap and Chain

For 91 Series Connectors. Same construction and material as No. 75-CCC1.

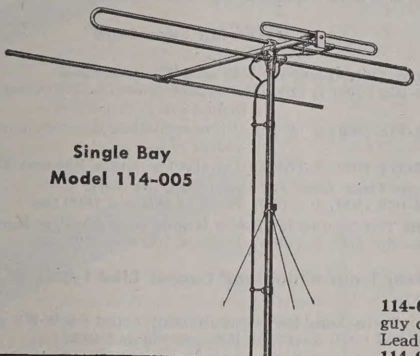
No. 91-CCC3. . . . . .List $ .55

COAXIAL CABLES AND CONNECTORS • INDUSTRIAL CONNECTORS, FITTINGS AND CONDUIT • ANTENNAS • RADIO COMPONENTS • PLASTICS FOR ELECTRONICS

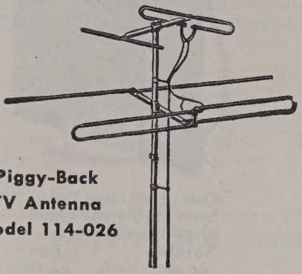
AMPHENOL

Television Antennas

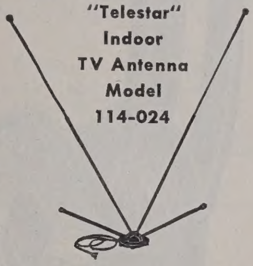
Engineered and perfected in the Amphenol Antenna Development Laboratories, the antennas illustrated and described on this page will provide unsurpassed reception of FM and TV signals. Top-quality materials, rugged construction and the latest in design are incorporated into each Amphenol antenna to provide perfect performance. Each antenna packaged complete with instructions for easy installation.



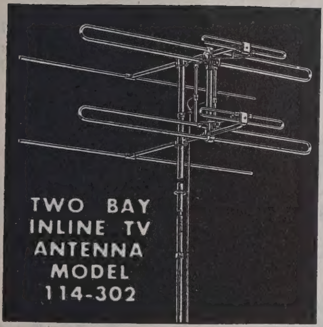
Single Bay Model 114-005



Piggy-Back TV Antenna Model 114-026



"Telestar" Indoor TV Antenna Model 114-024



TWO BAY INLINE TV ANTENNA MODEL 114-302

114-005 TELEVISION ANTENNA ARRAY, complete with mast, swivel mounting plate, guy clamp, necessary hardware, stand-off insulators and 75 ft. Amphenol 300 ohm Twin-Lead........List ea. $19.50

114-009 Same less transmission line........List ea. 17.00

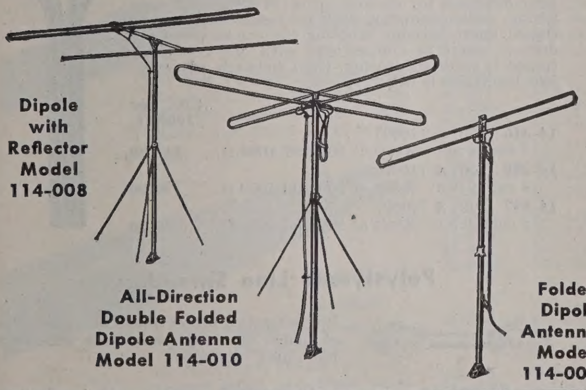
114-301 SINGLE BAY for building 114-005 into a Stacked Array includes connecting rods for symmetrical feed, two box brackets, two 5-foot lengths of 1-1/4" Mast, guy ring and stand-off insulators........List ea. $20.50

114-302 TWO BAY TV STACKED ARRAY consists of a top and bottom bay, connecting rods, two box brackets, two 5-foot lengths of 1-1/4" mast, guy ring and stand-off insulators. Twin-Lead transmission line is not included........List ea. $35.00

114-026 PIGGY-BACK TV ANTENNA consists of one folded dipole and reflector for each band which may be oriented individually, phasing leads, guy clamp, stand-off insulators and 75 ft. Amphenol Twin-Lead........List ea. $19.50

114-029 Same less transmission line........List ea. 17.00

114-024 INDOOR TV ANTENNA "TELESTAR" has low-loss polystyrene base with rubber feet to protect furniture. Light weight aluminum rods are pre-tuned for receiving all channels. Five-foot natural color polyethylene 300 ohm Twin-Lead is included. List ea. $4.95



Dipole with Reflector Model 114-008

All-Direction Double Folded Dipole Antenna Model 114-010

Folded Dipole Antenna Model 114-001

FM Antennas

114-008 DELUXE FM FOLDED DIPOLE WITH REFLECTOR, complete with mast, mounting plate, insulators, guy clamp, hardware and 75 ft. Amphenol 300 ohm Twin-Lead........List ea. $16.25

114-023 Same less transmission line........List ea. 12.65

114-010 DELUXE FM ALL-DIRECTION DOUBLE FOLDED DIPOLE ANTENNA, complete with quarter-wave phasing stub, mast, mounting plate, guy clamp, hardware, insulators, and 75 ft. Amphenol 300 ohm Twin-Lead........List ea. $16.25

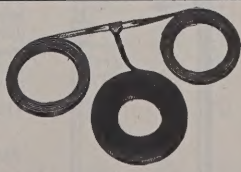
114-015 Same less transmission line........List ea. 12.65

114-001 FM FOLDED DIPOLE ANTENNA, complete with mast, swivel mounting plate, insulators, guy clamp, necessary hardware and 75 ft. Amphenol 300 ohm Twin-Lead........List ea. $12.25

114-012 Same less transmission line........List ea. 8.65

Twin Lead Folded Dipole Amateur Antennas

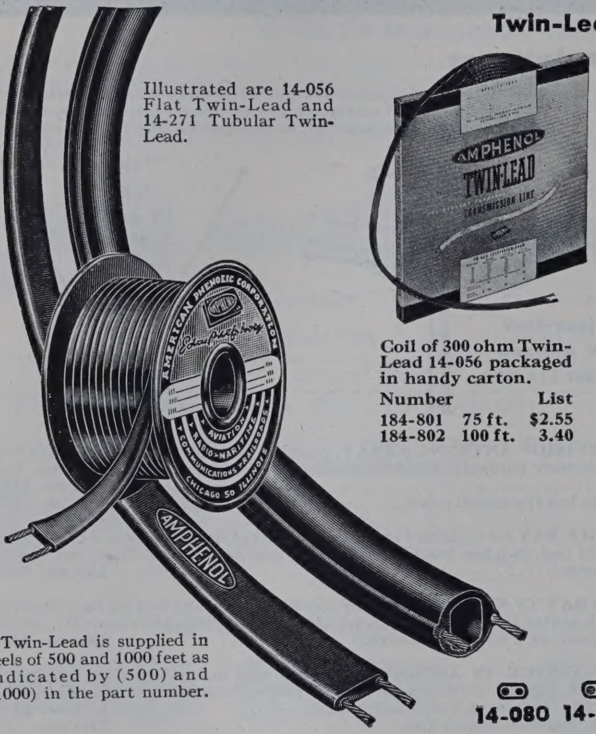
A real DX antenna, cut-to-band, in use by thousands of amateurs.



The finest ready-made amateur transmitting antenna ever developed. Ready-cut to the four most popular bands. Broadband characteristics. Excellent for your regular transmitting antenna, as an auxiliary antenna or for portable or field day use. Flat top portion is Amphenol 14-022 with copper clad steel conductors, 75 foot lead-in is Amphenol 14-056 joined to top with molded "T" junction. Packaged complete with easy installation instructions.

Amphenol Number	Frequency	Band	Antenna Length	Price
139-813	28 mc	10 Meters	18 feet	$ 7.70
139-815	14 mc	20 Meters	35 feet	9.60
139-816	7 mc	40 Meters	70 feet	13.50
139-817	3.5 mc	80 Meters	135 feet	20.75

Twin-Lead Transmission Lines



Illustrated are 14-056 Flat Twin-Lead and 14-271 Tubular Twin-Lead.

Coil of 300 ohm Twin-Lead 14-056 packaged in handy carton.

Number		List
184-801	75 ft.	$2.55
184-802	100 ft.	3.40

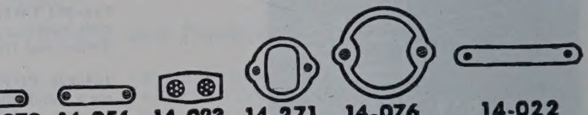
Convenient, efficient Amphenol Twin-Lead is the first choice of amateurs for construction of antennas and transmission lines. It transmits signals with minimum losses . . . it's durable . . . inexpensive . . . simple to install . . . repels water . . . is unaffected by acids, alkalies and oils because the dielectric is Amphenol Polyethylene. Remains flexible at —70°C. and after continuous aging in sunlight.

Receiving Twin-Lead*

		List Per 1000 ft.
300 ohm Twin-Lead for FM and TV Antennas		
14-056 (500) & (1000)	Standard, brown polyethylene insulation	$32.00
14-318 (500) & (1000)	White semi-clear polyethylene for indoor TV	32.00
14-271 (500) & (1000)	Tubular for deluxe FM and TV	83.50
150 ohm Twin-Lead for experimental work		
14-079 (500) & (1000)	Reels of 500 and 1000 feet	36.00
75 ohm Twin-Lead for lower impedance applications		
14-080 (500) & (1000)	Reels of 500 and 1000 feet	33.00

Amateur Transmitting and Copper Clad Types of Twin-Lead*

		List per Foot
75 ohm Twin-Lead for transmitting, rated 1 KW RF power		
14-023 (500) & (1000)	Reels of 500 and 1000 feet	$ .12
300 ohm Tubular Twin-Lead rated 1 KW RF power		
14-076 (500) & (1000)	Reels of 500 and 1000 feet	.12
300 ohm Extra-Strength Twin-Lead with copper clad conductors		
14-022 (500) & (1000)	Reels of 500 and 1000 feet	.12

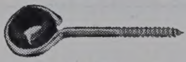


14-080 14-079 14-056 14-023 14-271 14-076 14-022

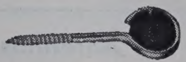
* Twin-Lead is supplied in reels of 500 and 1000 feet as indicated by (500) and (1000) in the part number.

Antenna Accessories

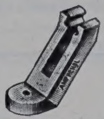
Stand-Off Insulators



66-201



66-202



66-909

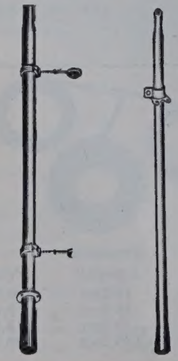
Screw eye insulators have low-loss polyethylene inserts. Twin-Lead types accommodate 14-056, 14-079 and 14-080. Coax types accommodate coax and other cable not exceeding 1/2″ diameter. Wood screws are No. 14 and machine screws have 10-32 thread.

	Twin-Lead Type	List	Coax or Tubular Type	List
Wood Screws	**66-202** 3″ length . **ea.**	**$.06**	**66-201** 3″ length . **ea.**	**$.07**
	66-209 7½″ lgth . **ea.**	**.09**	**66-208** 7½″ lgth . **ea.**	**.10**
Mach. Screws	**66-204** 3″ length . **ea.**	**.08**	**66-203** 3″ length . **ea.**	**.09**
	66-210 7½″ lgth . **ea.**	**.12**		

Polystyrene stand-off insulators space Twin-Lead 1-5/16″ from mounting surface. Perfect insulation.

66-909 for 14-056 300 ohm Twin-Lead . . . . **List ea. $.0835**

Antenna Mast Extensions



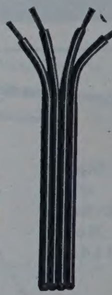
Television Mast Extension for 114-302 two bay television antenna and other 1-1/4″ diameter antenna masts. Consists of 5 foot length of 1-1/4″ diameter alloy steel tubing, guy ring and two clamp type stand-off insulators.

114-291 . . . . List ea. $6.00

FM and Television Mast Extension for all Amphenol FM and Television antennas except the two bay antenna which requires the mast extension listed above. Consists of 5 foot length [illegible] steel conduit and guy wire clamp.

114-300 . . . . List ea. $3.00

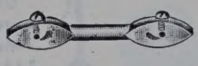
Remote Control Wire



For wiring antenna rotators and other low voltage remote controls such as miniature electric trains. Recommended for circuits up to 28 volts. For easy wiring, each conductor with its insulation may be ripped apart without exposing the conductor. Conductors are 7/28 copper wire with one conductor tinned to facilitate tracing. High dielectric polyethylene insulation is weatherproof.

		List per 1000 ft.
14-316 (500) & (1000)		
3 conductor	Reels of 500 and 1000 ft.	**$45.00**
14-298 (500) & (1000)		
4 conductor	Reels of 500 and 1000 ft.	**50.00**
14-317 (500) & (1000)		
5 conductor	Reels of 500 and 1000 ft.	**57.70**

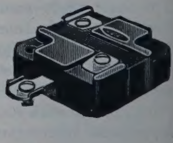
Polystyrene Line Spreaders



For separating feeder lines and construction of folded dipole antenna from wire. Wire holes .085″ diameter.

2″ spacing	4″ spacing	6″ spacing
66-205 . . **List ea. $.15**	**66-206** . **List ea. $.20**	**66-207** . **List ea. $.25**

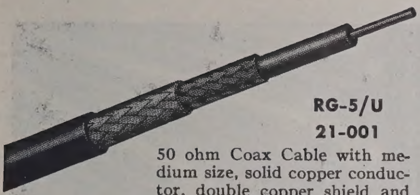
Lightning Arrestor For Antennas



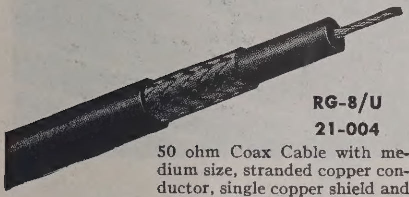
Attaches to 14-056 300 ohm Twin-Lead without cutting the conductors. Designed to meet the requirements of the Underwriters' Laboratories. Molded of high grade electrical phenolic with conducting plate and gap molded in. Precise gap spacing is maintained. Self contained also is a high resistance shunt permanently sealed aginst moisture. Overalldimension 1-7/8″x2″x3/4″.

155-338 . . . . List ea. $1.40

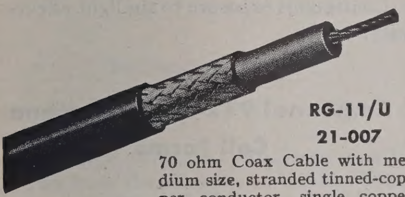
Amphenol Coax and Twinax RG Cables



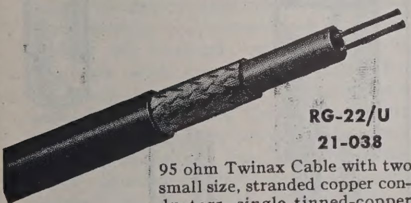
RG-5/U
21-001
50 ohm Coax Cable with medium size, solid copper conductor, double copper shield and black vinyl jacket.



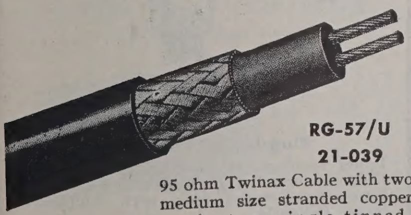
RG-8/U
21-004
50 ohm Coax Cable with medium size, stranded copper conductor, single copper shield and black vinyl jacket.



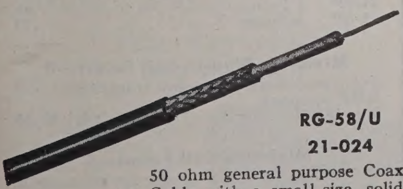
RG-11/U
21-007
70 ohm Coax Cable with medium size, stranded tinned-copper conductor, single copper shield and black vinyl jacket.



RG-22/U
21-038
95 ohm Twinax Cable with two small size, stranded copper conductors, single tinned-copper shield and black vinyl jacket.



RG-57/U
21-039
95 ohm Twinax Cable with two medium size stranded copper conductors, single tinned-copper shield and black vinyl jacket.



RG-58/U
21-024
50 ohm general purpose Coax Cable with a small size, solid copper conductor, single tinned-copper shield and black vinyl jacket.

Fully approved and produced in accordance with Army-Navy specifications (JAN-C-17A). These specifications utilize the very fine dielectric properties of polyethylene, proven most efficient as a low-loss, flexible, mechanically stable dielectric. The outer jacket in most of Amphenol's approved types is tough, resistant vinyl . . . protective, nonhygroscopic, and impervious to exposure to acids, alkalis, oils and gasoline. Polyethylene is also used as outer jacket for some of the types listed.

Polyethylene is processed in strict accordance with Bureau of Ships Specification RE-9172. It should be emphasized that unusally strict standards are applied to every operation in the processing of Amphenol's RG cables. Rigid laboratory tests and process checks, plus Amphenol's "OK" certification and notarized affidavit on every unit shipment is final assurance of extra quality and dependability.

Polyethylene Characteristics

Specific Gravity	92
Water Absorption	.005%
Cold-Brittleness	-70° C.
Dielectric Constant, 60 cycles to 100 mc	2.29
Power Factor, 60 cycles to 100 mc	.0004
Volume Resistivity, ohm-cm	10^{13}
Softening Temperature, transparency point	103-105° C.

RG Cables

Chart shows characteristics and dimensions of RG Cables manufactured by Amphenol. Further specifications and prices on request. Impedance subheads below are approximate . . . for the purpose of grouping. Nominal impedance is shown in the third column.

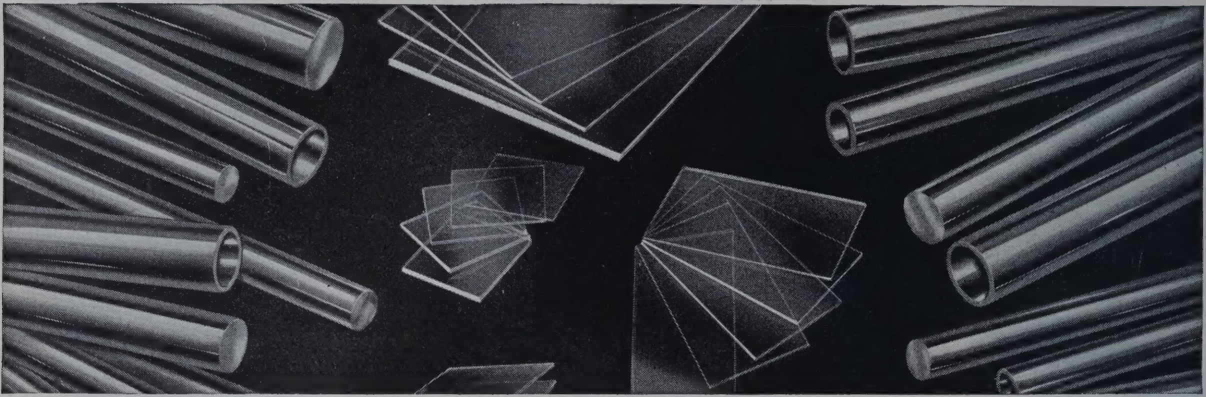
Abbreviations used in chart:
C—Copper
CW—Copperweld
N—Nichrome
Poly.—Polyethylene
S—Silvered Copper
T—Tinned Copper

Amphenol No.	Army-Navy No.	Nominal Impedance	Nominal mmf ft.	Conductor Wire Size	Dielectric O.D.	Inner Shield	Outer Shield	Vinyl Jacket	Jacket O.D.	List per Foot
				50 Ohm Group						
21-018	RG-29/U	53.5	28.5	20	.116	T	..	Poly.	.184	.13
21-024	RG-58/U	53.5	28.5	20	.116	T	..	Black	.195	.11
21-199	RG-58A/U	52	28.5	19-.0073	.116	T	..	Black	.195	.13
21-023	RG-55/U	53.5	28.5	20	.116	T	T	Poly.	.206	.25
21-001	RG-5/U	52.5	28.5	16	.185	C	C	Black	.332	.25
21-017	RG-21/U	53	29	16N	.185	S	S	Grey	.332	.46
21-004	RG-8/U	52	29.5	7-21	.285	C	..	Black	.405	.22
21-006†	RG-10/U	52	29.5	7-21	.285	C	..	Grey	.405	.39
21-005	RG-9/U	51	30	7-21 S.	.280	S	C	Grey	.420	.46
21-231	RG-9A/U	51	30	7-21 S.	.280	S	S	Grey	.420	.46
21-010	RG-14/U	52	29.5	10	.370	C	C	Grey	.545	.46
21-041†	RG-74/U	52	29.5	10	.370	C	C	Grey	.545	.75
21-013	RG-17/U	52	29	.188	.680	C	..	Grey	.870	1.33
21-014†	RG-18/U	52	29	.188	.680	C	..	Grey	.870	1.66
21-015	RG-19/U	52	29.5	.250	.910	C	..	Grey	1.120	2.24
21-016†	RG-20/U	52	29.5	.250	.910	C	..	Grey	1.120	2.62
				60 Ohm Group						
21-022	RG-54A/U	58	26.5	7-.0152	.178	T	..	Poly.	.250	.16
				70 Ohm Group						
21-025	RG-59/U	73	21	22 CW	.146	C	..	Black	.242	.13
21-002	RG-6/U	76	20	21 CW	.185	S	C	Grey	.332	.37
21-007	RG-11/U	75	20.5	7-26 T	.285	C	..	Black	.405	.22
21-008†	RG-12/U	75	20.5	7-26 T	.285	..	..	Grey	.405	.39
21-009	RG-13/U	74	20.5	7-26 T	.280	C	C	Black	.420	.39
21-011	RG-15/U	76	20	15 CW	.370	C	C	Black	.545	.48
21-019	RG-34/U	71	21.5	7-21	.455	C	..	Black	.625	.48
21-020†	RG-35/U	71	21.5	9	.680	C	..	Grey	.870	1.66
21-125**	....	72	21.5	9	.680	C	..	Grey	.870	1.33
				90 Ohm Group						
21-029*	RG-71/U	93	13.5	22 CW	.146*	T	T	Poly.	.250	.28
21-026*	RG-62/U	93	13.5	22 CW	.146*	C	..	Black	.242	.14
21-003*	RG-7/U	97.5	12.5	19	.250*	C	..	Black	.370	.28
21-038	RG-22/U	95	16	Two 7-.0152	.285	T	..	Black	.405	.24
21-039	RG-57/U	95	17	Two 7-21	.472	T	..	Black	.625	.54

* Semi-solid Dielectric ** RG-35/U less armor † Armored Cable

AMPHENOL AMERICAN PHENOLIC CORPORATION

Polystyrene, Polyweld and Coil Forms



BECAUSE of its low-loss factor, Amphenol POLYSTYRENE is used extensively for sockets, insulators and dielectrics in the very-high, ultra high and super high frequency fields. Further, it is colorless and transparent and does not deteriorate with age. Continuous exposure to sunlight affects its clarity only slightly.

"912-A" Polystyrene Rods

Supplied in 12″ and 48″ lengths as shown below. Also available in diameters from 1 1/8″ to 4 1/2″ in 12″ lengths or in lengths up to 48″.

Number	List 12″ Lgth.	Diameter	Number	List 48″ Lgth.
19R125	$ .04	1/8″	19R125-48	$ .15
19R187	.08	3/16″	19R187-48	.31
19R250	.13	1/4″	19R250-48	.51
19R312	.20	5/16″	19R312-48	.77
19R375	.29	3/8″	19R375-48	1.11
19R500	.52	1/2″	19R500-48	2.00
19R625	.81	5/8″	19R625-48	3.12
19R750	1.15	3/4″	19R750-48	4.49
19R875	1.59	7/8″	19R875-48	6.16
19R1000	2.15	1″	19R1000-48	8.29

"912-A" Polystyrene Tubes

Tolerances maintained suitable for radio coil form and electronic applications . . . supplied in 12″ and 48″ lengths in various diameters as shown. Wall thickness is 1/16″.

Number	List 12″ Lgth.	Overall Diameter	Number	List 48″ Lgth.
19T1-062	$ .10	3/16″	19T1-062-48	$ .40
19T2-062	.15	1/4″	19T2-062-48	.55
19T3-062	.20	5/16″	19T3-062-48	.75
19T4-062	.25	3/8″	19T4-062-48	.95
19T5-062	.35	1/2″	19T5-062-48	1.35
19T6-062	.45	5/8″	19T6-062-48	1.75
19T7-062	.55	3/4″	19T7-062-48	2.15
19T8-062	.75	1″	19T8-062-48	2.95

"912-A" Polystyrene Sheet Stock

Optical clarity suitable for dial window and gage glass applications.

Number	Size	List per Sheet
19-0628	4″x8″x1/16″	$ .28
19-0938	4″x8″x3/32″	.34
19-1258	4″x8″x1/8″	.40
19-1878	4″x8″x3/16″	.50
19-2508	4″x8″x1/4″	.67

Amphenol POLYWELD "912"

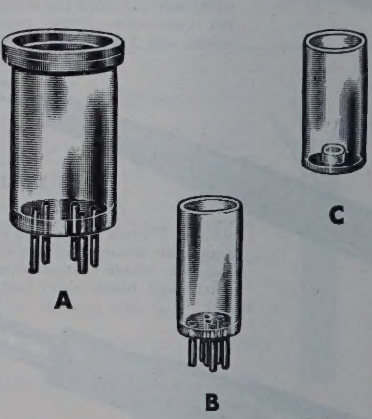
AMPHENOL
Liquid
"912"
COIL DOPE
POLYWELD "912"
COIL DOPE

Amphenol POLYWELD "912", colorless, transparent and ready-to-use, is pure polystyrene in solution. Matchless for "doping", coating, impregnating or sealing for radio frequency, ultrahigh frequency, very-high frequency or general electronics applications. Used as an adherent, POLYWELD joins two sections of polystyrene. It contains solvents which will actually "weld" the surfaces of polystyrene into a single unit of uniform tensile strength.

Description	Polyweld "912"	List
2 oz. Bottle	53-912-2	$ .50
4 oz. Bottle	53-912-4	.65
Pint Container	53-912-P	2.25
Quart Container	53-912-Q	4.00
1 gallon Can	53-912-G	13.35

Description	Thinner	List
2 oz. Bottle	53-916-2T	$ .25
4 oz. Bottle	53-916-4T	.35
Pint Container	53-916-PT	.50
Quart Container	53-916-QT	.80
1 gallon Can	53-916-GT	2.00

Amphenol 912-A Polystyrene Coil Forms



Plug-In Coil Forms—A

Prong spacing fits standard tube sockets. Diameter of coil 1¼″; length of body 2¼″; Impregnate wound coils with Amphenol "912" Polyweld.

Number	Description	List
24-4P	4 Prong	$ .61
24-5P	5 Prong	.66
24-6P	6 Prong	.73

Miniature Plug-In Coil Forms—B

For transceivers, low power transmitters and UHF receivers.

No. 24-6H 6 Prong. . . . . .List $ .48

Miniature Coil Forms—C

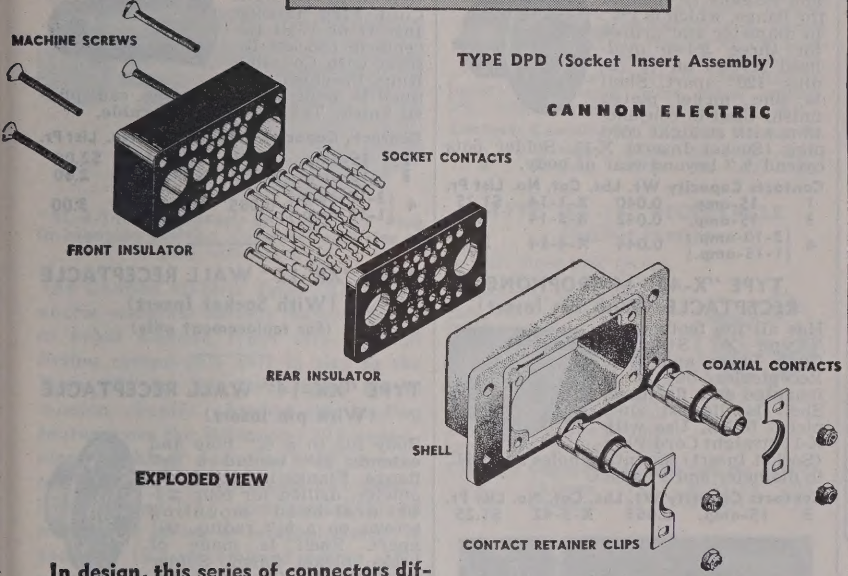
Raised hole in center of base for self-tapping screw.

No. 24 3/4″ OD, 1-9/16″ long. .List $ .18

CANNON CONNECTORS

CANNON ELECTRIC DEVELOPMENT COMPANY • 3209 HUMBOLDT STREET, LOS ANGELES 31, CALIFORNIA

TYPE DP FITTINGS



TYPE DPD (Socket Insert Assembly)

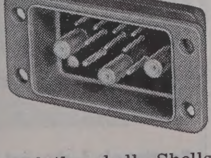
EXPLODED VIEW

In design, this series of connectors differs from the majority of Cannon Connectors. Type DP Fittings are rectangular in shape, and polarization is affected by the arrangement of the contacts within the connectors. A wide variety of contact arrangements is available with contacts ranging from 10-amp. to 40-amp. capacity and with low impedence Coaxial contacts of 10-amp. capacity providing for continuous shielding available in some types. Standard shells are aluminum finished in sand blast and clear lacquer; some types are available in zinc, sand blast and clear lacquer finished. Contacts are brass, silver-plated. Insulation is phenolic, with specially treated low moisture absorbtion ceramic insulation used in coaxal contacts. Leading uses of the Type DP connectors are in rack and panel instrument and radio equipment where weight and space saving are important factors. A BULLETIN ON DP CONNECTORS IS AVAILABLE ON REQUEST.

TYPE "DPD" RECEPTACLES
(With Socket Insert)

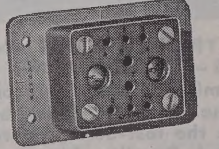
Mounting flange is 3⅜" x $1\frac{11}{16}$" and shell extends $\frac{29}{32}$" from the mounting surface forward Coaxial contacts extend $\frac{43}{64}$" to the rear from the mounting surface. Shells provide for mounting with four No. 6 oval head machine screws. Material is aluminum.

TYPE "DPD" PLUGS
(With Pin Insert)



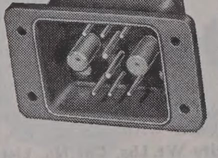
Mounting flange is 3⅜" x $1\frac{11}{16}$" and shell extends $\frac{1}{16}$" from the mounting surface forward and $1\frac{3}{64}$" from the mounting surface to the rear. The coaxial contacts extend $\frac{37}{64}$" from the rear of the shell. Shells provide for mounting with four No. 6 ovalhead machine screws. Material is aluminum.

TYPE "DPB" RECEPTACLES
(With Socket Insert)



The DPB Receptacles are similar to the Type DPD differing only in the mounting flange which is reduced to $2\frac{11}{16}$" x $1\frac{11}{16}$" shell material, zinc or aluminum. Standard coaxials with ceramic insulation. Six insert arrangements available, one having twinax contacts and two having coaxial contacts.

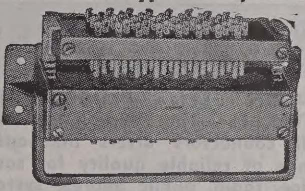
TYPE "DPB" PLUGS
(With Pin Insert)



The DPB Plugs are similar to the Type DPD, differing in the same respect as the DPB Receptacle differs from the DPD. They are mounted with four No. 6 Oval Head Machine Screws.

Standard finish on all DPB shells is tinplate and clear lacquer. Other finishes by special order.

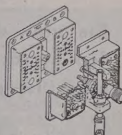
"DPR" Rack Type—Complete Unit



Four Insert Arrangements

Rack type fittings are used where large numbers of contacts must be repeatedly coupled and uncoupled, the coupling and uncoupling being performed by means of a geared movement operated by a bail type handle. The dimensions over all measure $5\frac{25}{32}$" x 3" x $2\frac{21}{32}$" (including swing of bail). Has four holes for No. 8 Mounting Screws.

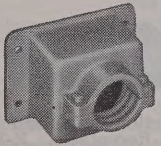
TYPE DPD-2
Special Instrument Panel Disconnect



CUT-AWAY VIEW

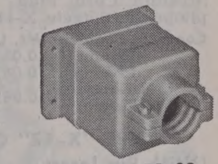
The DPD2 has a two-gang shell holding 2 standard DPD inserts. Screw jack extraction means is available in straight or angle take-off. The purpose of the fitting is the standardization of such equipment so that it may be interchangeable between assemblies of various aircraft.

"DPB" and "DPD" JUNCTION SHELLS



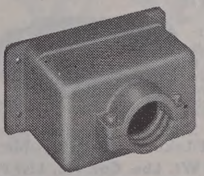
Type DPB-33

Used with DPB-33S shells, having socket insert assemblies. Made of diecast aluminum alloy with tin plate and clear lacquer finish.



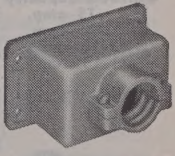
Type DPB-34

Used with DPB-34P shells, having pin insert assemblies. Same material and finish as above.



Type DPD-33

Used with DPD-33S shells, having socket insert assemblies. Made of diecast aluminum alloy with tin plate and clear lacquer finish.



Type DPD-34

Used with DPD-34P shells, having pin insert assemblies. Same material and finish as above.

DPB with twinax contact on program monitor for radio.

LANGEVIN CO. PHOTO

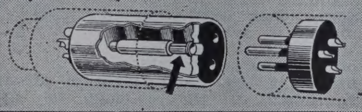
CANNON CONNECTORS

CANNON ELECTRIC DEVELOPMENT COMPANY • 3209 HUMBOLDT STREET, LOS ANGELES 31, CALIFORNIA

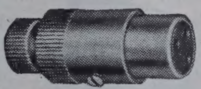
TYPE X FITTINGS

CANNON "TYPE X" PLUGS AND RECEPTACLES—The "Type X" Series of small connectors offers inexpensive fittings of reliable quality for sound service, radio, public address systems and geophysical research. In addition to compactness, many exclusive Cannon features are embodied in this series, such as full floating contacts in all socket inserts. Solder pot cable connections are easily accessible. Cable glands are removable. Contacts are so positive that no latching device is needed for ordinary uses.

The arrow shows spring clip on full-floating socket contact which gives a positive pressure fit connection.



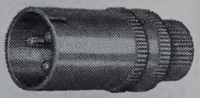
TYPE "X-11" CORD PLUG
(With Socket Insert)



Sturdily built for dependable service. Light in weight. Shell is diecast zinc, nickel finish. Will take 3/16″ to 9/32″ cable. Used in conjunction with the following: X-14 Wall Receptacle, X-12 Straight Cord Plug, and X-42 Microphone Receptacle X-44L Receptacle.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081	X-1-11	$1.75
3	15-amp.	0.083	X-3-11	1.75
4	3-10-amp. 1-15-amp.	0.085	X-4-11	3.25

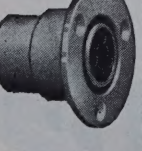
TYPE "X-12" CORD PLUG
(With Pin Insert)



For use in conjunction with X-11 Straight Cord Plug (Socket Insert) or X-13 Wall Receptacle (Socket Insert). Shell is die-cast zinc, nickel finish. Will take 3/16″ to 9/32″ cable.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.061	X-1-12	$1.25
3	15-amp.	0.063	X-3-12	1.25
4	3-10-amp. 1-15-amp.	0.065	X-4-12	2.25

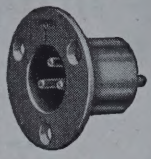
TYPE "X-13" WALL RECEPTACLE
(With Socket Insert)



Body fits in ⅞″ hole and extends 1 3/16″ behind flange. Flange is 1⅜″ in diameter and drilled for three #4-40 oval-head screws on 17/32″ radius 120° apart. Shell is die-cast zinc, nickel finish. To be used in conjunction with the following X-12.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081	X-1-13	$1.75
3	15-amp.	0.083	X-3-13	1.75
4	3-10-amp. 1-15-amp.	0.085	X-4-13	3.25

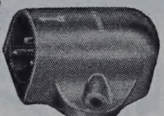
TYPE "X-14" WALL RECEPTACLE
(With Pin Insert)



Body fits in ¾″ hole and extends 23/32″ behind the flange, which is 1⅜″ in diameter and drilled for three #4-40 oval-head screws on 17/32 radius, 120° apart. Shell is zinc, nickel plated finish. Used in conjunction with straight cord plug (Socket Insert) X-11. Solder pots extend ¼″ beyond rear of body.

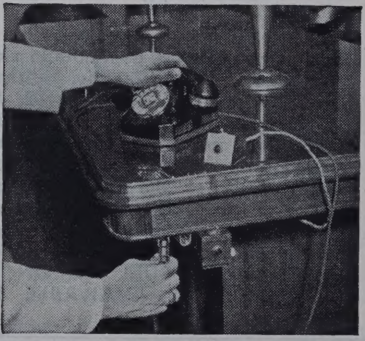
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.040	X-1-14	$1.25
3	15-amp.	0.042	X-3-14	1.25
4	3-10-amp. 1-15-amp.	0.044	X-4-14	2.25

TYPE "X-42" MICROPHONE RECEPTACLE (With Pin Insert)



Has all the features of "Type X" Straight Cord Plugs and Wall Receptacles but it is mounted on a flat base. Shell is die-cast zinc, nickel finish. Use with X-11 straight Cord Plug (Socket Insert) Mounting holes are .144″ in diameter and 1″ apart.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	0.063	X-3-42	$1.25

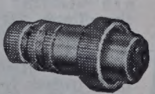


(Type X-3-11 Plug and X-3-42 Receptacle)

TYPE XK FITTINGS

CANNON "TYPE XK" PLUGS AND RECEPTACLES — A quality line of Connectors, similar in design and construction to the "Type X" Series, but equipped with the fast-acting, sturdy Acme Threaded Coupling Ring and, therefore, ideal for use on equipment which is subjected to considerable vibration and tension on cables, such as on sound trucks and other portable units.

TYPE "XK-11" STRAIGHT CORD PLUG (With Socket Insert)



Shell is of die-cast zinc, cad. plated finish. Equipped with quick-acting coupling ring. Solder pot connections are easily accessible. Takes 3/16″ to 9/32″ cable. Built for long, dependable service. Used with XK-12, XK-14.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081	XK-1-11	$3.50
3	15-amp.	0.083	XK-3-11	3.50
4	3-10-amp. 1-15-amp.	0.085	XK-4-11	5.00

TYPE "XK-12" STRAIGHT CORD PLUG (With Pin Insert)

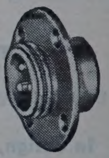
For use in conjunction with Straight Cord Plug (Socket Insert) or Wall Receptacle (Socket Insert) with Coupling Ring. Provided with Shell is made of die-cast zinc, cad. plated finish. Takes 3/16″ to 9/32″ cable.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.081	XK-1-12	$2.00
3	15-amp.	0.083	XK-3-12	2.00
4	3-10-amp. 1-15-amp.	0.085	XK-4-12	3.00

TYPE "XK-13" WALL RECEPTACLE
(With Socket Insert)

(For replacement only)

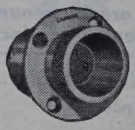
TYPE "XK-14" WALL RECEPTACLE
(With pin insert)



Body fits in a ¾″ hole and extends 13/32″ behind a 1/16″ flange. Flange is 1½″ in diameter, drilled for four #4-40 oval-head mounting screws on a ⅝″ radius, 90° apart. Shell is made of brass, nickel finish. Solder pots extend 9/32″ beyond body. Has external acme thread on shell and is used in conjunction with straight cord plug XK-11.

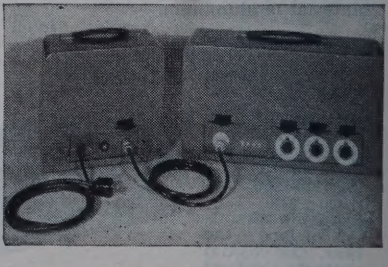
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.045	XK-1-14	$2.00
3	15-amp.	0.047	XK-3-14	2.00
4	3-10-amp. 1-15-amp.	0.049	XK-4-14	3.00

TYPE "XK-13L" WALL RECEPTACLE
(With Socket Insert)



Body fits in 1 1/64″ hole and extends 1 1/16″ behind flange. Flange is 1½″ in diameter and drilled for four #4-40 oval-head mounting screws on a ⅝″ radius, 90° apart. Shell is made of brass, nickel finish. Solder pots on contacts extend ⅛″ beyond body. Use in conjunction with a straight cord plug (Pin Insert) XK-12.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	15-amp.	0.144	XK-1-13L	$3.75
3	15-amp.	0.146	XK-3-13L	3.85
4	3-10-amp. 1-15-amp.	0.148	XK-4-13L	4.85

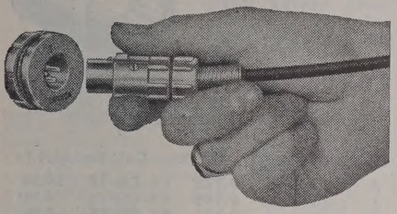


Raytheon's 3-channel Remote Amplifier and power unit use two types of Cannon Plugs: "X" and "P". Three receptacles on amplifier at right are Type P3-13.

CANNON CONNECTORS

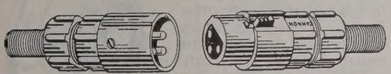
CANNON ELECTRIC DEVELOPMENT COMPANY • 3209 HUMBOLDT STREET, LOS ANGELES 31, CALIFORNIA

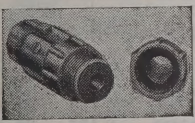
TYPE XL FITTINGS



"XL-3-14N" Receptacle and "XL-3-11" Plug in engaging position. Compare small size of plug with hand.

The Cannon Electric Type "XL" Connector combines various features found in other Cannon types into a small fitting comparable only in size to the Type "X" for low level sound transmission circuits. Among the leading features are the following: (1) convenient latchlock device to hold connector tight. (2) lightweight. (3) polarizing means (4) compression gland with relief spring or integral clamp, if desired. (5) streamlined design. (6) tapped metal for insert retaining screw. (7) provision for special grounding contact and grounding to shell. Contacts are 15-amp. for No. 14 B&S stranded wire in 3 contact insert; 10-amp. in 4 contact insert. Shell is zinc or steel, with various finishes available, bright nickle being standard. Satin-chrome finish available on steel shells. Min. flashover voltage, 1500 (250 working voltage).

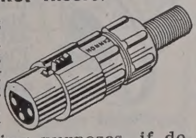




XL-3-11 with compression gland removed, showing rubber reducer bushing.

ZINC SHELL TYPES

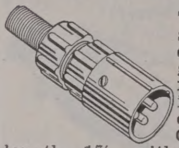
TYPE "XL-11" STRAIGHT CORD PLUG (Socket Insert)



Type XL-3-11 is equipped with latch lock device and has raised polarizing boss. No. 1 contact engages before Nos. 2 and 3, and may be used for grounding purposes, if desired. $\frac{9}{32}$ cable accommodation. Overall dimensions: length, 2 $\frac{3}{32}$, with relief spring, 2 $\frac{27}{32}$ approx.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.0992	XL-3-11	1.25
4	10-amp.	.0992	XL-4-11	1.75

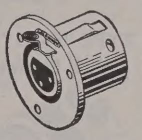
TYPE "XL-12" STRAIGHT CORD PLUG (Pin Insert)



Type XL-12 plug has alignment rib in addition to polarizing groove. Cable accommodation is $\frac{9}{32}$. Insert is removable for soldering or inspection. Overall dimensions: length, 1⅞, with cable relief spring, 2⅝; max. diameter ¾. Insert dia. ⅝".

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.0792	XL-3-12	1.20
4	10-amp.	.0792	XL-4-12	1.60

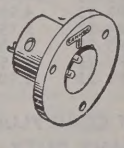
TYPE "XL-13" RECEPTACLE (Socket Insert)



A wall mounting receptacle similar to XL-14 except that it has socket insert assembly and latch locking device. Overall Dimensions: flange diameter, 1$\frac{7}{16}$; flange thickness $\frac{3}{32}$; rear of flange to solder pot extension 1 $\frac{9}{16}$; dia. barrel, $\frac{15}{16}$; three mounting holes drilled .136

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.132	XL-3-13	1.25
4	10-amp.	.132	XL-4-13	1.75

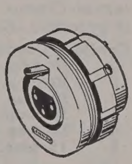
TYPE "XL-14" RECEPTACLE (Pin Insert)



This wall mounting receptacle has three mounting holes having .136 diameter. Overall dimensions: flange diameter, 1 $\frac{7}{16}$; width flange, $\frac{3}{32}$; length behind flange to solder pot extension, 1 $\frac{1}{64}$; barrel diameter, ¾. Material zinc, bright nickel finish.

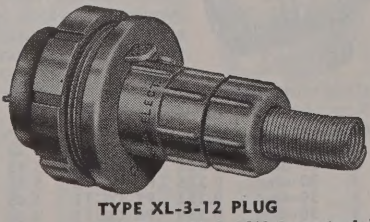
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.0592	XL-3-14	1.00
4	10-amp.	.0592	XL-4-14	1.40

TYPE "XL-13-N" RECEPTACLE (Socket Insert)



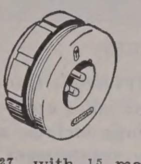
Similar to XL-14N except has socket insert assembly, with latchlock device, and polarizing boss on insert barrel. No. 1 contact engages before Nos. 2 and 3 and may be used for grounding circuit, if desired. Overall dimensions: flange and barrel and nut are identical to XL-14N, length from face of flange including solder pot extension, 1 $\frac{17}{64}$.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.2112	XL-3-13N	1.25
4	10-amp.	.2112	XL-4-13N	1.75



TYPE XL-3-12 PLUG (engaged with Type XL-3-13N Receptacle)

TYPE "XL-14N" RECEPTACLE (Pin Insert)

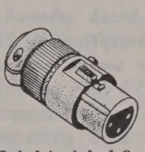


Designed to be mounted in a panel and has lock nut, accommodating up to $\frac{5}{16}$ inch panel. Two fittings may be mounted on a single gang plate. Overall Dimensions: flange diameter, 1 $\frac{7}{16}$; barrel diameter, 1; width flange to barrel, $\frac{27}{32}$, with $\frac{15}{64}$ max. solder pot extension; flange thickness, $\frac{5}{32}$.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.2048	XL-3-14N	1.15
4	10-amp.	.2048	XL-4-14N	1.55

STEEL SHELL PLUGS INTEGRAL CLAMP TYPES

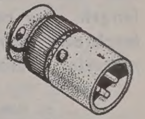
TYPE XL-3-11SC PLUG (Socket Insert)



The steel shell type is built for rugged service and has cable entry of ¼" min., 5/16" max. 6/32" shorter overall shell than zinc type. Otherwise same construction, mating with regular XL receptacle. Bright nickel finish standard.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.1333	XL-3-11SC	2.80
4	10-amp.	.1333	XL-4-11SC	3.30

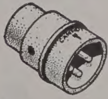
TYPE XL-3-12SC PLUG (Pin Insert)



Corresponds to XL-3-12 except that shell is steel with integral clamp. For 5/16" max. entry. Shell is 7/32" shorter in overall length than corresponding zinc shell.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	15-amp.	.1250	XL-3-12SC	2.75
4	10-amp.	.1250	XL-4-12SC	3.15

TYPE "XL" ADAPTER RECEPTACLES

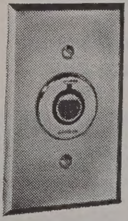


XL-3-50
1.05 List Pr.

XL-3-50T
1.15 List Pr.

XL-3-50N
1.30

SINGLE GANG WALL RECEPTACLES

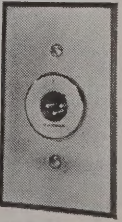


Type XL-3-35
(Socket Insert)

Face plate similar to type used in P-35. Takes an XL-3-13N Receptacle. Wt. 0.3479.

Cat. No.	List Price
XL-3-35	3.60
XL-4-35	4.00

TWO-GANG ALSO AVAILABLE



Type XL-3-36
(Pin Insert)

Takes an XL-3-14N Receptacle. Bright nickel finish.

Cat. No.	List Price
XL-3-36	3.65
XL-4-36	4.05

CANNON CONNECTORS

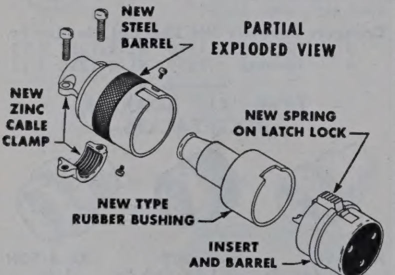
CANNON ELECTRIC DEVELOPMENT COMPANY • 3209 HUMBOLDT STREET, LOS ANGELES 31, CALIFORNIA

TYPE P FITTINGS

REVISED PRICES

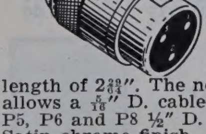
CANNON "TYPE P" FITTINGS. Universally used in sound and allied applications. "Type P" Fittings include a size and type for every requirement, with a high standard of quality. All 90° Plugs have split-shell construction for quick, easy access for wiring or inspection. Splash-proof but not weather-proof. Plug and receptacle dust caps are available. Laboratory tests show an average voltage-drop of not more than 10 millivolts, with current flowing at the rated capacity. Insulating material is black phenolic which has a 0.7% absorption in 24 hours of immersion in water and a dielectric strength of 550 volts per mil at 60 cycles. Two to 6 contact inserts accommodate No. 10 B&S stranded wire; 8 contact insert No. 14 wire.

New shell designs of the P-CG-11S and P-CG-12S, cord plugs, replace both old type shells of zinc and steel, and such improvements as shorter length, new rubber bushing, improved latch and spring, integral clamp. Shell material is steel, integral clamp zinc.



NEW TYPES WILL MATE WITH CORRESPONDING FITTINGS, SAME AS OLD DESIGN

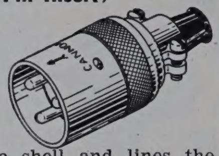
TYPE P-CG-11S CORD PLUG
COMBINATION STEEL & ZINC
(With Socket Insert)



This new type plug with steel shell and integral zinc clamp is 11/64" shorter than the old type and has an overall length of 2 29/64". The new rubber bushing allows a 5/16" D. cable entry, and on P4, P5, P6 and P8 ½" D. max. cable entry. Satin chrome finish.

Poles	Capacity	Wt. Lbs.	Cat. No.	List Price
2	30-amp.	0.202	P2-CG-11S	$4.60
3	30-amp.	0.202	P3-CG-11S	4.75
4	30-amp.	0.202	P4-CG-11S	5.00
5	30-amp.	0.206	P5-CG-11S	5.25
6	30-amp.	0.208	P6-CG-11S	5.40
8	15-amp.	0.208	P8-CG-11S	5.75

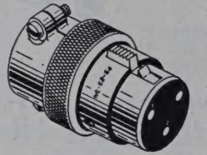
TYPE P-CG-12S CORD PLUG
COMBINATION STEEL & ZINC
(With Pin Insert)



Similar construction and materials to the -11S, except for pin insert. New rubber bushing on P4 to P8 fittings is contained within the shell and lines the solder pot cavity. Same cable entry sizes as -11S. Satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.163	P2-CG-12S	$3.75
3	30-amp.	0.159	P3-CG-12S	3.85
4	30-amp.	0.159	P4-CG-12S	3.95
5	30-amp.	0.163	P5-CG-12S	4.05
6	30-amp.	0.167	P6-CG-12S	4.25
8	15-amp.	0.163	P8-CG-12S	4.50

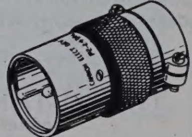
TYPE "P-23" STRAIGHT CORD PLUG
(With Socket Insert), HEAVY DUTY



Shell is die-cast zinc for severe service, but employing all features such as the latch type locking device which is standard on "Type P." It has integral clamp for ¾" cable. Also made for 9/16" & ⅝" cable if specified. Satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.166	P2-23	$4.75
3	30-amp.	0.170	P3-23	4.90
4	30-amp.	0.174	P4-23	5.15
5	30-amp.	0.178	P5-23	5.40
6	30-amp.	0.182	P6-23	5.55
8	15-amp.	0.178	P8-23	5.90

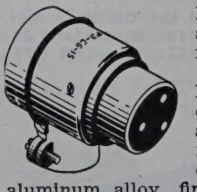
TYPE "P-24" STRAIGHT CORD PLUG
(With Pin Insert), HEAVY DUTY



Corresponds with "Type P-23" Plug (Socket insert). Built for hard service. The skirt is of steel, body die-cast zinc. Has Integral Clamp, for ¾", ⅝" or 9/16" cable, if specified. Satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.170	P2-24	$4.80
3	30-amp.	0.173	P3-24	4.90
4	30-amp.	0.176	P4-24	5.00
5	30-amp.	0.179	P5-24	5.10
6	30-amp.	0.182	P6-24	5.30
8	15-amp.	0.179	P8-24	5.55

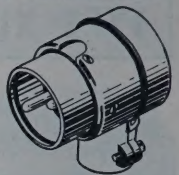
TYPE "P-CG-15" 90° CORD PLUG
(With Socket Insert)



Has Split Shell and all other "Type P" features found in "Type P-15, 90° Plug" except cable connection, which is an Integral Clamp for ½" or smaller cable. Made of cast aluminum alloy, finished in tin plate. New, heavier clamp.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.220	P2-CG-15	$5.20
3	30-amp.	0.224	P3-CG-15	5.35
4	30-amp.	0.228	P4-CG-15	5.60
5	30-amp.	0.232	P5-CG-15	5.85
6	30-amp.	0.236	P6-CG-15	6.00
8	15-amp.	0.232	P8-CG-15	6.35

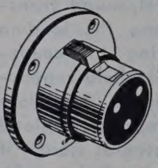
TYPE "P-CG-16" 90° CORD PLUG
(With Pin Insert)



Corresponds with Type P-CG-15 90° Plug. (Socket insert), having Integral Clamp for ½" or smaller cable. Barrel is of steel and shell of cast aluminum alloy, tin plate finish. Removable cap for easy access to contacts for wiring or inspection. New heavier clamp.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.195	P2-CG-16	$4.80
3	30-amp.	0.198	P3-CG-16	4.90
4	30-amp.	0.201	P4-CG-16	5.00
5	30-amp.	0.204	P5-CG-16	5.10
6	30-amp.	0.207	P6-CG-16	5.30
8	15-amp.	0.204	P8-CG-16	5.55

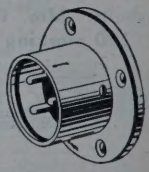
TYPE "P-17" PANEL RECEPTACLE
(With Socket Insert), SURFACE MOUNTING



P-17 has Latch Locking Device and all other "Type P" features. Made of die-cast zinc. Satin chrome finish. Flange is 2" in diameter, drilled and countersunk at four points 90° apart on 13/16 radius for four #4-40 oval head M.S. Body extends 1" in front of ⅛" mounting flange.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.125	P2-17	$4.10
3	30-amp.	0.129	P3-17	4.25
4	30-amp.	0.133	P4-17	4.50
5	30-amp.	0.137	P5-17	4.75
6	30-amp.	0.141	P6-17	4.90
8	15-amp.	0.137	P8-17	5.25

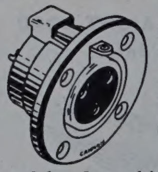
TYPE "P-18" PANEL RECEPTACLE
(with Pin Insert) Surface Mounting



Corresponds to "Type P-17", Panel Receptacle. Shell is made of brass, satin chrome finish. Flange is 2" in diameter, drilled and countersunk at four points on 13/16 radius for four #4-40 oval head machine screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.156	P2-18	$2.20
3	30-amp.	0.159	P3-18	2.30
4	30-amp.	0.162	P4-18	2.40
5	30-amp.	0.165	P5-18	2.50
6	30-amp.	0.168	P6-18	2.70
8	15-amp.	0.165	P8-18	2.95

TYPE "P-13" PANEL RECEPTACLE
(with Socket Insert) Flush Mounting



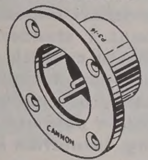
Has Latch Locking Device which operates from front of panel. Made of die-cast zinc, satin chrome finish. Flange is 2" in diameter and drilled and countersunk at four points on 13/16 radius for four #4-40 oval head machine screws.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.202	P2-13	$3.85
3	30-amp.	0.206	P3-13	4.00
4	30-amp.	0.210	P4-13	4.25
5	30-amp.	0.214	P5-13	4.50
6	30-amp.	0.218	P6-13	4.65
8	15-amp.	0.214	P8-13	5.00

TYPE P FITTINGS

CONTINUED

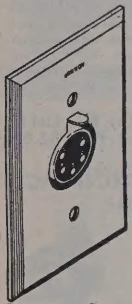
TYPE "P-14" RECEPTACLE (Pin Insert), FLUSH MOUNTING



Flange is 2" in diameter, drilled with four .120" diameter holes to take four #4-40 oval-head mounting screws, arranged 90° apart on a radius of 13/16". Shell is die-cast zinc, satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.104	P2-14	$2.00
3	30-amp.	0.107	P3-14	2.10
4	30-amp.	0.110	P4-14	2.20
5	30-amp.	0.113	P5-14	2.30
6	30-amp.	0.116	P6-14	2.50
8	15-amp.	0.113	P8-14	2.75

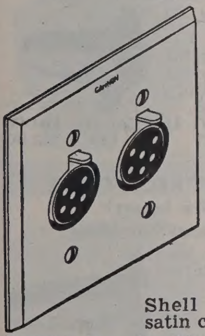
TYPE "P-35" SINGLE GANG WALL RECEPTACLE (With Socket Insert)



Furnished with brackets for standard switch box. Shell is die-cast zinc, satin chrome finish. Plate is 4½" high and 2¾" wide. Latch Locking Device operates from front of panel.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.341	P2-35	$6.70
3	30-amp.	0.345	P3-35	6.85
4	30-amp.	0.349	P4-35	7.10
5	30-amp.	0.353	P5-35	7.35
6	30-amp.	0.357	P6-35	7.50
8	15-amp.	0.353	P8-35	7.85

TYPE "P-35-2G" TWO-GANG WALL RECEPTACLE (With Socket Inserts)



Furnished with brackets for standard switch box. Plate is 4½" high and 4 9/16" wide. Both receptables have Latch Locking Device, operated from front of panel. Shell is die-cast zinc, satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.448	P2-35-2G	$9.60
3	30-amp.	0.456	P3-35-2G	9.90
4	30-amp.	0.464	P4-35-2G	10.40
5	30-amp.	0.472	P5-35-2G	10.90
6	30-amp.	0.480	P6-35-2G	11.20
8	15-amp.	0.472	P8-35-2G	11.90

MINIMUM FLASHOVER VOLTAGES ON P INSERTS

P-8 (socket, #4 to shell) 1050V
P-2 (socket, #1 to shell) 1100V
P-3 (socket, #1 and #3 to shell) 1100V
(All others more than 1100 volts.)

For complete list, see Type "AP" Bulletin or Third Revised Edition "P & O" Bulletin

TYPE "P-36" SINGLE GANG WALL RECEPTACLE (With Pin Insert)

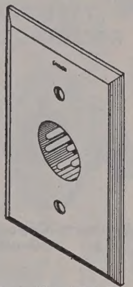


Plate is 4½" high and 2¾" wide. Furnished with brackets for standard switch box. Made of die-cast zinc, satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.277	P2-36	$5.20
3	30-amp.	0.280	P3-36	5.30
4	30-amp.	0.283	P4-36	5.40
5	30-amp.	0.286	P5-36	5.50
6	30-amp.	0.289	P6-36	5.70
8	15-amp.	0.286	P8-36	5.95

TYPE "P-36-2G" TWO-GANG WALL RECEPTACLE (With Pin Insert)

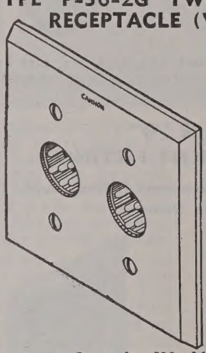
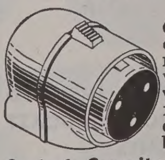


Plate is 4½" high and 4 9/16" wide. Drilled to take four #6-32 oval-head mounting screws. Furnished with brackets for standard switch box. Made of die-cast zinc, satin chrome finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.554	P2-36-2G	$7.60
3	30-amp.	0.563	P3-36-2G	7.80
4	30-amp.	0.572	P4-36-2G	8.00
5	30-amp.	0.579	P5-36-2G	8.20
6	30-amp.	0.588	P6-36-2G	8.60
8	15-amp.	0.579	P8-36-2G	9.10

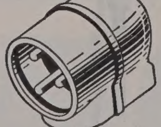
TYPE "P-41" 90° MICROPHONE OR PANEL RECEPTACLE (With Socket Insert)



Can be mounted in equipment or instrument panel. Equipped with Latch Locking Device. Cap is removable for easy wiring. Shell is die-cast zinc, finished in black wrinkle enamel.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.249	P2-41	$6.15
3	30-amp.	0.253	P3-41	6.30
4	30-amp.	0.257	P4-41	6.55
5	30-amp.	0.261	P5-41	6.80
6	30-amp.	0.265	P6-41	6.95
8	15-amp.	0.261	P8-41	7.30

TYPE "P-42" 90° MICROPHONE OR PANEL RECEPTACLE (With Pin Insert)



For mounting on equipment or instrument panel. Cap is removable for easy wiring. Shell is made of die-cast zinc with black wrinkle enamel finish.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
2	30-amp.	0.176	P2-42	$4.50
3	30-amp.	0.179	P3-42	4.60
4	30-amp.	0.182	P4-42	4.70
5	30-amp.	0.185	P5-42	4.80
6	30-amp.	0.188	P6-42	5.00
8	15-amp.	0.185	P8-42	5.25

ACCESSORY ITEMS

DUST CAPS

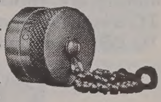
ONE-THIRD ACTUAL SIZE

Fits all "Type P" fittings with pin inserts. Made of brass, cadmium plated, with nickel silver bead chain.

Lbs.	Cat. No	List
0.081	PPC	$1.50
0.082	PCI*	1.75

*Type PCI is insulated inside for application where contacts are "hot."

TYPE PRC DUST CAP



ONE-THIRD ACTUAL SIZE

Fits all "Type P" fittings with socket inserts. Made of brass, cadmium plated with nickel silver bead chain.

Lbs.	Cat. No	List
0.095	PRC	$1.25

REPLACEMENT ITEMS

A number of Type P and Type O Connectors formerly catalogued have been omitted from the list. These include various Special Items. It is the policy of the company at the present time to list such items as obsolete or replacement fittings, which are available only upon special request. If, however, they are required for replacement purposes, write for Type P & O Replacement Page for listing and catalog number.

Quantity Discounts Apply

TYPE "PCG" CLAMP GLAND NUT

ONE-THIRD ACTUAL SIZE

Made of die-cast zinc, cadmium plated. Complete with gasket.

Wt. Lbs	Cat. No.	List Price
0.037	PCG	$ .75

TYPE "P" GLAND GASKET

ONE-THIRD ACTUAL SIZE

As used in Straight Glands and Clamp Glands. Made of soft white rubber.

Cat. No.	List Price
P Gasket	$ .10

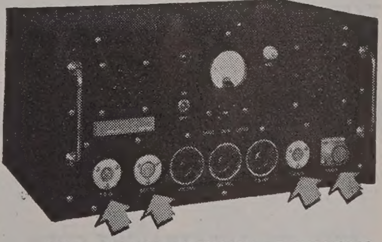
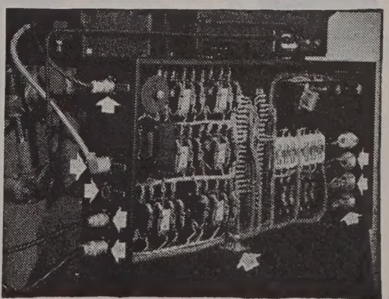


PHOTO SOUTHWESTERN INDUSTRIAL ELECTRONIC CO.
Geophysical Radio with X3-13 Receptacles and One AN3102 (at extreme right)



Type "P" CONNECTORS on Mitchell Camera Background Projector

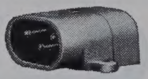
CANNON CONNECTORS

CANNON ELECTRIC DEVELOPMENT COMPANY • 3209 HUMBOLDT STREET, LOS ANGELES 31, CALIFORNIA

TYPE O FITTINGS

CANNON "TYPE O" PLUGS AND RECEPTACLES. This series consists of a line of 3-contact oval-shaped plugs and receptacles, equiped with Latch Locking Device. Contacts are silver-plated, full-floating, non-twisting, carry 30-amp. capacity. Solder terminals are tinned for ease of wiring. 30-amp. contacts accommodate No. 10 B&S stranded wire.

TYPE "03-42" MICROPHONE OR PANEL RECEPTACLE (With Pin Insert)



Has flat base, with two lugs for mounting with #4-40 oval-head screws. Made of die-cast zinc, and cadmium plated.

Contact	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	30-amp.	0.271	03-42	$4.50

TYPE "03-41" 90° MICROPHONE OR PANEL RECEPTACLE (Socket Insert)

Flat base is flanged and is attached to microphone or panel by means of two #4-40 oval-head mounting screws. Made of die-cast zinc, cad. plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	30-amp.	0.274	03-41	$4.50

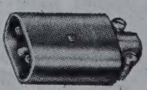
TYPE "03-11" STRAIGHT CORD PLUG (With Socket Insert)

Has Integral Clamp for $\frac{9}{32}$″ or smaller cable. Made of die-cast zinc, cadmium plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	30-amp.	0.113	03-11	$4.50

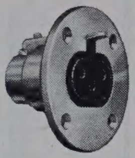
TYPE "03-12" STRAIGHT CORD PLUG (With Pin Insert)

Corresponds with No. 03-11 "Type O" Straight Cord Plug (Socket Insert). Has integral cable clamp, for $\frac{9}{32}$″ or smaller cable. Made of die-cast zinc, cadmium plated.



Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	30-amp.	0.104	03-12	$4.50

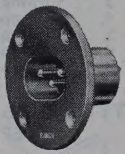
TYPE "03-13" FLUSH WALL RECEPTACLE (With Socket Insert)



Flange is 2″ in diameter, drilled with four holes to take #4-40 oval-head mounting screws, 90° apart on a radius of $\frac{13}{16}$″. Made of die-cast zinc, cadmium plated. Latch Locking Device is operated from panel front.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	30-amp.	0.148	03-13	$4.50

TYPE "03-14" FLUSH WALL RECEPTACLE (With Pin Insert)

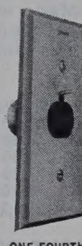


The flange is 2″ in diameter, drilled with four holes to take #4-40 oval-head mounting screws, 90° apart, on a radius of $\frac{13}{16}$″. Made of die-cast zinc, cadmium plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
3	30-amp.	0.107	03-14	$4.50

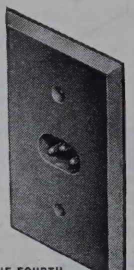
TYPE "O" REPLACEMENT FITTINGS

(Discounts on replacement fittings apply to these items.)



ONE-FOURTH ACTUAL SIZE

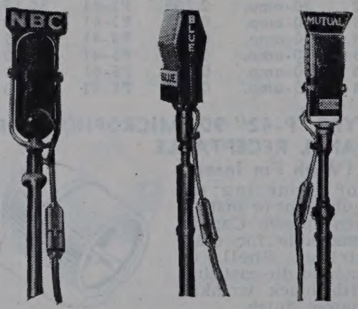
03-35



ONE-FOURTH ACTUAL SIZE

03-36

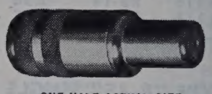
TYPE "O" CONNECTORS ARE USED ON STANDARD RADIO BROADCAST MICROPHONES



TYPE TQ FITTINGS

CANNON TYPE "TQ" COAXIAL FITTINGS. Type "TQ" Coaxial Fittings provide continuous shielding with constant impedence. Each fitting contains 1 standard Cannon style silver-plated contact, rated at 10-amp. and accommodating #16 stranded or #14 solid, or smaller B&S stranded wire. Solder pots are tinned for ease in wiring. Insulation is ceramic.

CANNON TYPE "TQ" COAXIAL CORD PLUG (With Socket Insert) For Continuous Shielding



ONE-HALF ACTUAL SIZE

A tapered skirt is provided on this Plug, to which the shielding is easily soldered. Accommodates ½″ cable, but can be supplied for ⅝″ cable if specified with order. Body is brass, silver plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	10-amp.	0.106	TQ-1-12	$2.00

TYPE "TQ13BC" FLUSH RECEPTACLE (With Pin Insert)

For Mounting Behind Panel

ONE-HALF ACTUAL SIZE

Same construction as No. TQ-1-13C, except that the flange is mounted on back of panel. Body is brass, zinc plated.

Contact	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	10-amp.	0.039	TQ-1-13BC	$2.00

TYPE "TQ-13B" RECEPTACLE

For Continuous Shielding

ONE-HALF ACTUAL SIZE

Designed for mounting behind panel. Accommodates ½″ cable. Body is brass, zinc plated.

Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	10-amp.	0.057	TQ-1-13B	$2.00

TYPE "TQ-13" RECEPTACLE (With Pin Insert)

For Continuous Shielding

ONE-HALF ACTUAL SIZE

Provided with a tapered skirt to which the shielding is easily soldered. Also has a removable solder pot shield, which snaps into place. Ceramic insulation is used in all Type "TQ" Connectors, silver plated. Accommodates ½″ cable, but can be supplied for ⅝″ cable if specified with order. Two holes—.120 in diameter, $\frac{15}{16}$ apart.

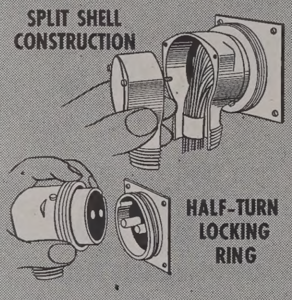
Contacts	Capacity	Wt. Lbs.	Cat. No.	List Pr.
1	10-amp.	.043	TQ-1-13	$2.00

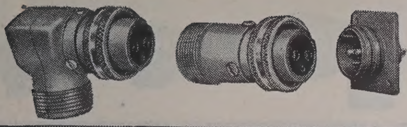
TYPE "TQ-13C" RECEPTACLE (With Pin Insert)

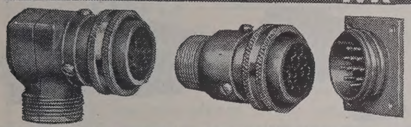
ONE-HALF ACTUAL SIZE

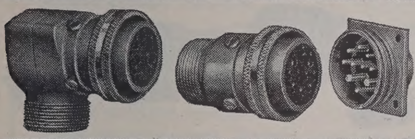
Similar to TQ-1-13, except that it is not provided with solder pot shield and is not designed for continuous shielding Uses Ceramic insulation. For mounting on front of panel. Body is brass, silver plated. Two holes—.120 in diameter, $\frac{15}{16}$ apart for mounting.

CANNON
TYPES K & RK PLUGS FOR AIRCRAFT




WK


GK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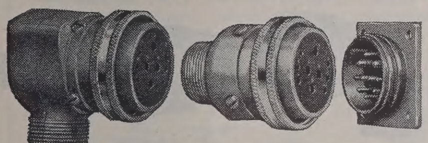
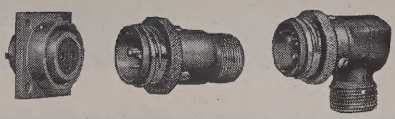
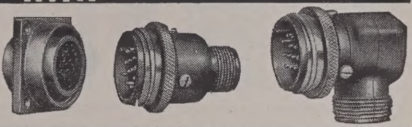
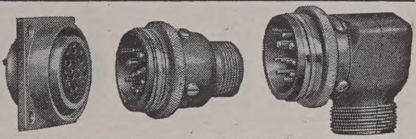
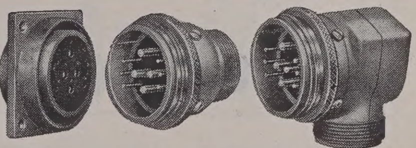

NK


RWK


RGK


RSK


RNK

The Type "K" Series was designed especially for use in the aircraft field and is used almost universally for aircraft radio, instrument and electrical circuits. Although light in weight, units are rugged and durable. The "K" Series is made in 3 basic types: (1) Straight Type. (2) 90° Type. (3) Wall Mounting Unit, for which either straight or right angle junction shells are provided. Inserts of laminated and molded phenolic are removable.

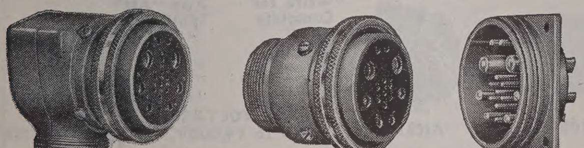
The cable entry is regularly threaded for various sizes of aircraft flexible conduit, but there are fittings also available with cable clamp for special applications. The "K" Series is comprised of 8 diameters, with a great variety of contact arrangements covering a range of from 1 to 82 contacts, depending, of course, upon the diameter. 188 insert arrangements.

A key and groove arrangement makes it possible to connect fittings easily and quickly without the necessity of fumbling to match pins and sockets. This eliminates any possibility of forcing together in improper alignment and thus bending or breaking pins. Large contacts may be removed for soldering, thereby eliminating the possibility of damaging the insert with excessive heat.

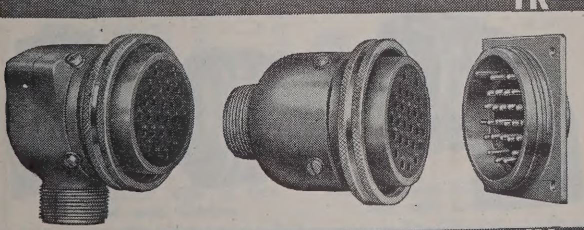
Quick, easy access to solder pots at back of contact is made possible simply by removing either 3 or 4 Shakeproof Sems, depending upon the size of the fitting. Since these screws are equidistant, the barrel and insert may be rotated to accommodate 3 or 4 different positions. This is also true of the flanges on wall mounting units, making it easy to rotate these fittings to facilitate cable installation and avoid sharp bends in conduit.

Plugs and receptacles are locked together by means of a quick-acting threaded nut which holds both members firmly together and prevents shaking or accidentally pulling them apart. 10 to 250-amp. contacts.

NOTE: Detailed Catalog Bulletin and Wall Chart for K Connectors available on request.


FK

RFK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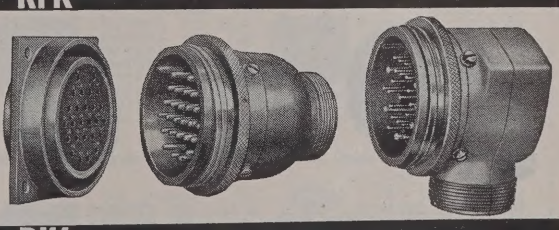
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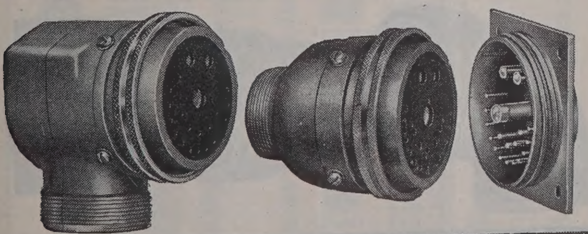
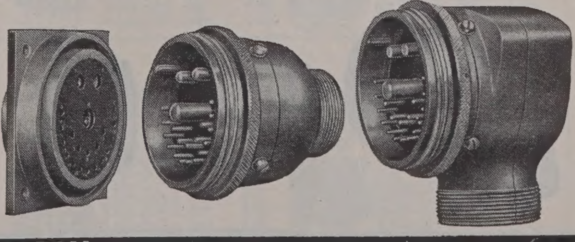
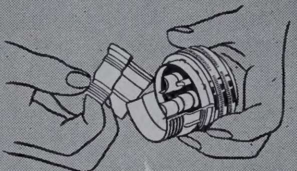

LK


RLK

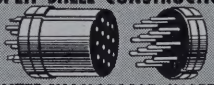
ALL FITTINGS ON THIS PAGE ARE SLIGHTLY MORE THAN ONE-QUARTER ACTUAL SIZE

CANNON

TYPE AN PLUGS FOR AIRCRAFT



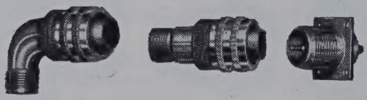
SPLIT SHELL CONSTRUCTION



INTERCHANGEABLE INSERTS

8 S

10 S



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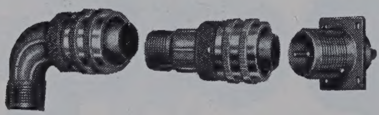

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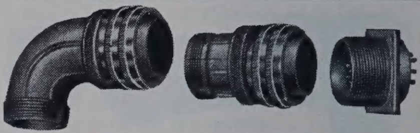

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22

MORE THAN 200 INSERT ARRANGEMENTS AVAILABLE

CANNON "Type AN" Series of plugs and receptacles was designed especially to meet Army-Navy Specifications for aircraft electrical connectors. While the AN Series retains all the basic features of the Type K Series—features which have established conclusive proof of their effectiveness as applied to aircraft—numerous changes in design and construction have been made to conform to latest Army-Navy Specifications.

Type AN Plugs are made in three basic shapes or styles. These are: 1. Straight cord connectors. 2. Right angle or 90° cord connectors. 3. Flanged connectors for wall mounting. An almost unlimited combination of circuits and current capacities can be handled with AN connectors and their interchangeable inserts.

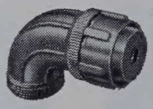
Removable and interchangeable inserts make it possible to change any fitting from a pin to a socket, or vice versa, and also to change the number of circuits handled through any fitting provided the inserts are of the same diameter. The split shell, a feature pioneered by Cannon, makes it easy to install wiring or to solder contacts.

An important feature of the Type AN Series is the means provided for coupling the members together. This consists of a coupling nut which serves to draw the parts together and to release them, while it also prevents plugs and receptacles from being jarred apart by excessive vibration. No special tools are required to lock or unlock plugs and receptacles, to separate split shells or to remove inserts. This feature is invaluable, since it eliminates delay in servicing in the field and also because there are so many combinations possible with Type AN Series.

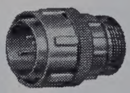
***Write for Complete "AN" Bulletin,**

Also "AN" Wall Charts.

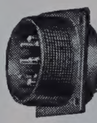
CONTACT CAPACITIES
5 to 200-amp.



AN3108 Plug



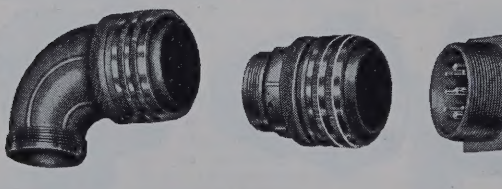
AN3106 Plug



AN3102

PEAK VOLTAGES
70 to 14,000V.

24



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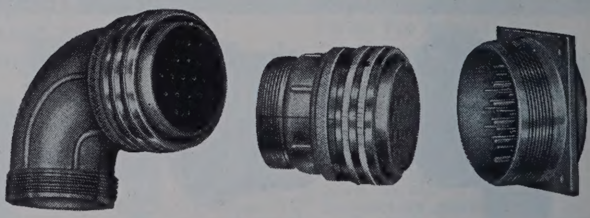

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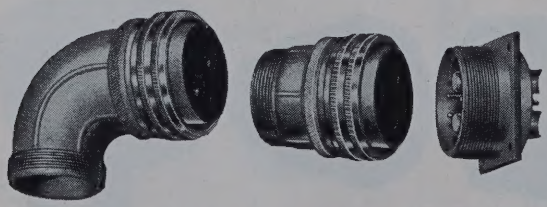

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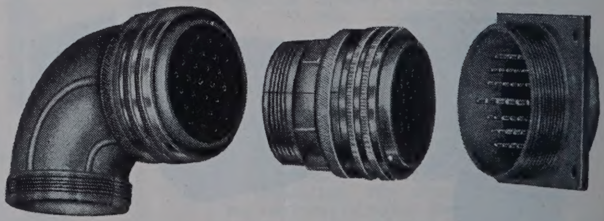

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ALL FITTINGS ON THIS PAGE ARE SLIGHTLY MORE THAN ONE-QUARTER ACTUAL SIZE

"300" SERIES PLUGS AND SOCKETS

General Specifications

2 Contacts to 33 Contacts. All plugs and sockets are polarized.
2 Contact Plugs and Sockets are round, others rectangular.
Plugs of one size cannot fit into sockets of another size.
Phosphor bronze "knife-switch" type socket contacts engage both sides of flat plug contacts—double contact area.
Molded Bakelite insulation.
Formed metal caps. Formed fibre linings in caps.
Small size, with good separation between contacts.
Plug or socket for panel mounting.
Plug or socket with cap.
Simple, fool-proof assembly.
Finish on caps—Black Crystal.
Plug prongs—$\frac{5}{32}$" wide by $\frac{3}{64}$" thick.
We suggest using the 300 series in circuits not exceeding 45 Volts and 5 Amps., although circuit characteristics may permit higher ratings.

Plug with Angle Brackets

P304AB

No.	Contacts	Ea.
P-302-AB	(2)	$ .23
P-303-AB	(3)	.28
P-304-AB	(4)	.32
P-306-AB	(6)	.39
P-308-AB	(8)	.45
P-310-AB	(10)	.52
P-312-AB	(12)	.58

Socket with Angle Brackets

S304AB

No.	Contacts	Ea.
S-302-AB	(2)	$ .25
S-303-AB	(3)	.30
S-304-AB	(4)	.34
S-306-AB	(6)	.42
S-308-AB	(8)	.52
S-310-AB	(10)	.62
S-312-AB	(12)	.72

Plug with Flush Plate

P304FP

No.	Contacts	Ea.
P-302-FP	(2)	$ .40
P-303-FP	(3)	.44
P-304-FP	(4)	.48
P-306-FP	(6)	.54
P-308-FP	(8)	.61
P-310-FP	(10)	.67
P-312-FP	(12)	.74

Socket with Flush Plate

S304FP

No.	Contacts	Ea.
S-302-FP	(2)	$ .41
S-303-FP	(3)	.45
S-304-FP	(4)	.50
S-306-FP	(6)	.57
S-308-FP	(8)	.67
S-310-FP	(10)	.77
S-312-FP	(12)	.87

Plug with Recessed Plate

P304RP

No.	Contacts	Ea.
P-302-RP	(2)	$ .46
P-303-RP	(3)	.51
P-304-RP	(4)	.55
P-306-RP	(6)	.63
P-308-RP	(8)	.73
P-310-RP	(10)	.83
P-312-RP	(12)	.92

Socket with Recessed Plate

S304RP

No.	Contacts	Ea.
S-302-RP	(2)	$ .48
S-303-RP	(3)	.53
S-304-RP	(4)	.57
S-306-RP	(6)	.68
S-308-RP	(8)	.80
S-310-RP	(10)	.92
S-312-RP	(12)	1.05

Plug, Flared Hole in Cap

P304FHT

No.	Contacts	Ea.
P-302-FHT	(2)	$ .39
P-303-FHT	(3)	.43
P-304-FHT	(4)	.47
P-306-FHT	(6)	.54
P-308-FHT	(8)	.61
P-310-FHT	(10)	.69
P-312-FHT	(12)	.78

Socket, Flared Hole in Cap

S304FHT

No.	Contacts	Ea.
S-302-FHT	(2)	$ .40
S-303-FHT	(3)	.44
S-304-FHT	(4)	.48
S-306-FHT	(6)	.57
S-308-FHT	(8)	.68
S-310-FHT	(10)	.79
S-312-FHT	(12)	.90

Plug, Flared Hole in Cap and with Latches

P304FHT-L

No.	Contacts	Ea.
P-302-FHT-L	(2)	$ .53
P-303-FHT-L	(3)	.57
P-304-FHT-L	(4)	.62
P-306-FHT-L	(6)	.68
P-308-FHT-L	(8)	.75
P-310-FHT-L	(10)	.84
P-312-FHT-L	(12)	.92

Socket, Flared Hole in Cap and with Keepers

S304FHT-K

No.	Contacts	Ea.
S-302-FHT-K	(2)	$ .54
S-303-FHT-K	(3)	.58
S-304-FHT-K	(4)	.63
S-306-FHT-K	(6)	.72
S-308-FHT-K	(8)	.83
S-310-FHT-K	(10)	.94
S-312-FHT-K	(12)	1.05

Plug, Cable Clamp in Cap

P304CCT

No.	Contacts	Ea.
P-302-CCT	(2)	$ .53
P-303-CCT	(3)	.57
P-304-CCT	(4)	.62
P-306-CCT	(6)	.68
P-308-CCT	(8)	.75
P-310-CCT	(10)	.84
P-312-CCT	(12)	.92

Socket, Cable Clamp in Cap

S304CCT

No.	Contacts	Ea.
S-302-CCT	(2)	$ .54
S-303-CCT	(3)	.58
S-304-CCT	(4)	.63
S-306-CCT	(6)	.72
S-308-CCT	(8)	.83
S-310-CCT	(10)	.94
S-312-CCT	(12)	1.05

Plug, Cable Clamp in Cap and with Latches

P304CCT-L

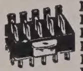
No.	Contacts	Ea.
P-302-CCT-L	(2)	$ .67
P-303-CCT-L	(3)	.71
P-304-CCT-L	(4)	.76
P-306-CCT-L	(6)	.83
P-308-CCT-L	(8)	.89
P-310-CCT-L	(10)	.98
P-312-CCT-L	(12)	1.07

Socket, Cable Clamp in Cap and with Keepers

S304CCT-K

No.	Contacts	Ea.
S-302-CCT-K	(2)	$ .68
S-303-CCT-K	(3)	.73
S-304-CCT-K	(4)	.77
S-306-CCT-K	(6)	.86
S-308-CCT-K	(8)	.97
S-310-CCT-K	(10)	1.08
S-312-CCT-K	(12)	1.19

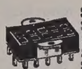
Plug with Angle Brackets



P315AB

No.	Contacts	Ea.
P-315-AB	(15)	$ .76
P-318-AB	(18)	.95
P-321-AB	(21)	1.20
P-324-AB	(24)	1.45
P-327-AB	(27)	1.71
P-330-AB	(30)	1.96
P-333-AB	(33)	2.21

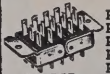
Socket with Angle Brackets



S315AB

No.	Contacts	Ea.
S-315-AB	(15)	$ .89
S-318-AB	(18)	1.07
S-321-AB	(21)	1.33
S-324-AB	(24)	1.58
S-327-AB	(27)	1.84
S-330-AB	(30)	2.09
S-333-AB	(33)	2.34

Plug with End Brackets



P315EB

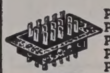
No.	Contacts	Ea.
P-315-EB	(15)	$ .76
P-318-EB	(18)	.95
P-321-EB	(21)	1.20
P-324-EB	(24)	1.45
P-327-EB	(27)	1.71
P-330-EB	(30)	1.96
P-333-EB	(33)	2.21

Sockets with End Brackets

S315EB

No.	Contacts	Ea.
S-315-EB	(15)	$ .89
S-318-EB	(18)	1.07
S-321-EB	(21)	1.33
S-324-EB	(24)	1.58
S-327-EB	(27)	1.84
S-330-EB	(30)	2.09
S-333-EB	(33)	2.34

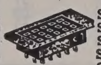
Plug with Shallow Brackets



P315SB

No.	Contacts	Ea.
P-315-SB	(15)	$1.14
P-318-SB	(18)	1.40
P-321-SB	(21)	1.65
P-324-SB	(24)	1.96
P-327-SB	(27)	2.21
P-330-SB	(30)	2.53
P-333-SB	(33)	2.78

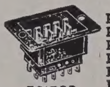
Sockets with Shallow Brackets



S315SB

No.	Contacts	Ea.
S-315-SB	(15)	$1.28
S-318-SB	(18)	1.53
S-321-SB	(21)	1.78
S-324-SB	(24)	2.09
S-327-SB	(27)	2.34
S-330-SB	(30)	2.66
S-333-SB	(33)	2.92

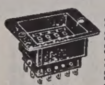
Plug with Deep Bracket



P315DB

No.	Contacts	Ea.
P-315-DB	(15)	$1.14
P-318-DB	(18)	1.40
P-321-DB	(21)	1.65
P-324-DB	(24)	1.96
P-327-DB	(27)	2.21
P-330-DB	(30)	2.53
P-333-DB	(33)	2.78

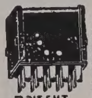
Socket with Deep Bracket



S315DB

No.	Contacts	Ea.
S-315-DB	(15)	$1.28
S-318-DB	(18)	1.53
S-321-DB	(21)	1.78
S-324-DB	(24)	2.09
S-327-DB	(27)	2.34
S-330-DB	(30)	2.66
S-333-DB	(33)	2.92

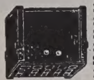
Plug with Flared Hole in Top of Cap



P315FHT

No.	Contacts	Ea.
P-315-FHT	(15)	$1.01
P-318-FHT	(18)	1.27
P-321-FHT	(21)	1.52
P-324-FHT	(24)	1.84
P-327-FHT	(27)	2.09
P-330-FHT	(30)	2.41
P-333-FHT	(33)	2.66

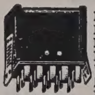
Socket, Flared Hole in Top of Cap



S315FHT

No.	Contacts	Ea.
S-315-FHT	(15)	$1.14
S-318-FHT	(18)	1.40
S-321-FHT	(21)	1.65
S-324-FHT	(24)	1.97
S-327-FHT	(27)	2.22
S-330-FHT	(30)	2.54
S-333-FHT	(33)	2.79

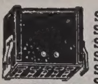
Plug, Flared Hole in Top of Cap and with Latches



P315FHT-L

No.	Contacts	Ea.
P-315-FHT-L	(15)	$1.14
P-318-FHT-L	(18)	1.40
P-321-FHT-L	(21)	1.65
P-324-FHT-L	(24)	1.97
P-327-FHT-L	(27)	2.22
P-330-FHT-L	(30)	2.54
P-333-FHT-L	(33)	2.79

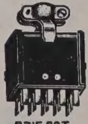
Socket, Flared Hole in Top of Cap and with Keepers



S315FHT-K

No.	Contacts	Ea.
S-315-FHT-K	(15)	$1.28
S-318-FHT-K	(18)	1.53
S-321-FHT-K	(21)	1.78
S-324-FHT-K	(24)	2.10
S-327-FHT-K	(27)	2.35
S-330-FHT-K	(30)	2.67
S-333-FHT-K	(33)	2.93

Plug, Cable Clamp in Top of Cap



P315CCT-

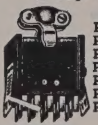
No.	Contacts	Ea.
P-315-CCT	(15)	$1.20
P-318-CCT	(18)	1.45
P-321-CCT	(21)	1.71
P-324-CCT	(24)	2.02
P-327-CCT	(27)	2.28
P-330-CCT	(30)	2.66
P-333-CCT	(33)	2.85

Socket, Cable Clamp in Top of Cap

S315CCT

No.	Contacts	Ea.
S-315-CCT	(15)	$1.33
S-318-CCT	(18)	1.58
S-321-CCT	(21)	1.84
S-324-CCT	(24)	2.16
S-327-CCT	(27)	2.41
S-330-CCT	(30)	2.79
S-333-CCT	(33)	2.98

Plug, Cable Clamp in Top of Cap and with Latches



P315CCT-L

No.	Contacts	Ea.
P-315-CCT-L	(15)	$1.33
P-318-CCT-L	(18)	1.58
P-321-CCT-L	(21)	1.84
P-324-CCT-L	(24)	2.16
P-327-CCT-L	(27)	2.41
P-330-CCT-L	(30)	2.79
P-333-CCT-L	(33)	2.98

Socket, Cable Clamp in Top of Cap and with Keepers

S315CCT-K

No.	Contacts	Ea.
S-315-CCT-K	(15)	$1.46
S-318-CCT-K	(18)	1.72
S-321-CCT-K	(21)	1.97
S-324-CCT-K	(24)	2.29
S-327-CCT-K	(27)	2.54
S-330-CCT-K	(30)	2.93
S-333-CCT-K	(33)	3.11

"400" SERIES PLUGS AND SOCKETS (Formerly "Heavy Duty")

General Specifications

2, 4, 6, 8, 10 and 12 Contacts.
All plugs and sockets are polarized.
Phosphor bronze "knife switch" type socket contacts engage both sides of flat plug contacts—double contact area.
Molded Bakelite insulation.
Fibre linings in caps.
Plug or socket for panel mounting.
Plug or socket with caps.
Finish on caps—Black Crystal.
Plug prong cross section ¼" x 1/16".
Locking fittings available for panel types or extension cables as shown.
We recommend using the 400 series in circuits not exceeding 110 Volts and 10 Amperes, although circuit characteristics may permit higher ratings.

PLUG—Less Angle Brackets not Drilled or Tapped Unless Specified

P-404-LAB

No.	Contacts	Ea.
P-402-LAB	(2)	$ .32
P-404-LAB	(4)	.44
P-406-LAB	(6)	.57
P-408-LAB	(8)	.69
P-410-LAB	(10)	.83
P-412-LAB	(12)	.95

SOCKET—Less Angle Brackets. Not Drilled or Tapped Unless Specified

S-404-LAB

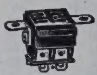
No.	Contacts	Ea.
S-402-LAB	(2)	$ .39
S-404-LAB	(4)	.57
S-406-LAB	(6)	.76
S-408-LAB	(8)	.95
S-410-LAB	(10)	1.14
S-412-LAB	(12)	1.33

PLUG—with Angle Brackets for 1/16" Panel

P-404-AB 1/16"

No.		Contacts	Ea.
P-402-AB	1/16"	(2)	$.57
P-404-AB	1/16"	(4)	.69
P-406-AB	1/16"	(6)	.83
P-408-AB	1/16"	(8)	.95
P-410-AB	1/16"	(10)	1.08
P-412-AB	1/16"	(12)	1.20

SOCKET—with Angle Brackets


S-404-AB

No	Contacts	Ea.
S-402-AB	(2)	$ .64
S-404-AB	(4)	.83
S-406-AB	(6)	1.01
S-408-AB	(8)	1.20
S-410-AB	(10)	1.40
S-412-AB	(12)	1.58

PLUG—with Shallow Brackets

P 404 SB

No.	Contacts	Ea.
P-402-SB	(2)	$ .69
P-404-SB	(4)	.89
P-406-SB	(6)	1.08
P-408-SB	(8)	1.27
P-410-SB	(10)	1.46
P-412-SB	(12)	1.65

SOCKET—with Shallow Brackets

S 404 SB

No.	Contacts	Ea.
S-402-SB	(2)	$ .76
S-404-SB	(4)	1.01
S-406-SB	(6)	1.27
S-408-SB	(8)	1.52
S-410-SB	(10)	1.77
S-412-SB	(12)	2.02

PLUG—with Deep Bracket

P-404-DB

No.	Contacts	Ea.
P-402-DB	(2)	$ .69
P-404-DB	(4)	.89
P-406-DB	(6)	1.08
P-408-DB	(8)	1.27
P-410-DB	(10)	1.46
P-412-DB	(12)	1.65

SOCKET—with Deep Brackets

S 404 DB

No.	Contacts	Ea.
S-402-DB	(2)	$ .76
S-404-DB	(4)	1.01
S-406-DB	(6)	1.27
S-408-DB	(8)	1.52
S-410-DB	(10)	1.77
S-412-DB	(12)	2.02

PLUGS

P-404-FHT

PLUG—Flared Hole in Top

No.	Contacts	Ea.
P-402-FHT	(2)	$ .64
P-404-FHT	(4)	.83
P-406-FHT	(6)	1.01
P-408-FHT	(8)	1.20
P-410-FHT	(10)	1.39
P-412-FHT	(12)	1.57

PLUG—Flared Hole in End

No.	Contacts	Ea.
P-402-FHE	(2)	$ .64
P-404-FHE	(4)	.83
P-406-FHE	(6)	1.01
P-408-FHE	(8)	1.20
P-410-FHE	(10)	1.39
P-412-FHE	(12)	1.57

SOCKETS

SOCKET—Flared Hole in Top

No.	Contacts	Ea.
S-402-FHT	(2)	$ .70
S-404-FHT	(4)	.96
S-406-FHT	(6)	1.21
S-408-FHT	(8)	1.46
S-410-FHT	(10)	1.72
S-412-FHT	(12)	1.97

SOCKET—Flared Hole in End

No.	Contacts	Ea.
S-402-FHE	(2)	$ .70
S-404-FHE	(4)	.96
S-406-FHE	(6)	1.21
S-408-FHE	(8)	1.46
S-410-FHE	(10)	1.72
S-412-FHE	(12)	1.97

PLUGS

P-404-CCT

PLUG—Cable Clamp in Top

No.	Contacts	Ea.
P-402-CCT	(2)	$ .89
P-404-CCT	(4)	1.08
P-406-CCT	(6)	1.27
P-408-CCT	(8)	1.45
P-410-CCT	(10)	1.64
P-412-CCT	(12)	1.83

PLUG—Cable Clamp in End

No.	Contacts	Ea.
P-402-CCE	(2)	$ .89
P-404-CCE	(4)	1.08
P-406-CCE	(6)	1.27
P-408-CCE	(8)	1.45
P-410-CCE	(10)	1.64
P-412-CCE	(12)	1.83

SOCKETS

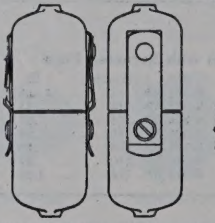
SOCKET—Cable Clamp in Top

No.	Contacts	Ea.
S-402-CCT	(2)	$ .96
S-404-CCT	(4)	1.21
S-406-CCT	(6)	1.46
S-408-CCT	(8)	1.72
S-410-CCT	(10)	1.97
S-412-CCT	(12)	2.22

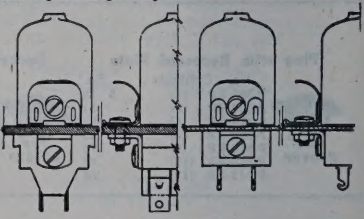
SOCKET—Cable Clamp in End

No.	Contacts	Ea.
S-402-CCE	(2)	$ .96
S-404-CCE	(4)	1.21
S-406-CCE	(6)	1.46
S-408-CCE	(8)	1.72
S-410-CCE	(10)	1.97
S-412-CCE	(12)	2.22

LOCKS FOR 400 SERIES PLUGS AND SOCKETS (Formerly Heavy Duty)

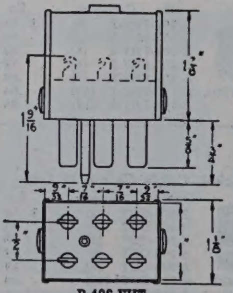

ILLUSTRATING No. 93 LOCK. May be attached to any 400 Series plug for extension cables. If plugs are ordered with this lock, specify "with No. 93 locks."

No. 93 Lock when attached to plug, add to list per pair..................$ .39
No. 93 Locks ONLY per pair .... .39

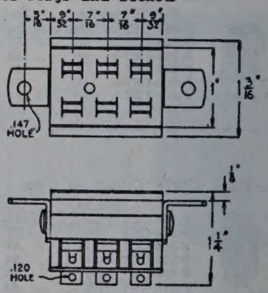

ILLUSTRATING No. 63 LOCK. May be used on all panel mount 400 Series plugs and sockets when surface is flush with top of panel. Cannot be used on type DB plugs.

No. 63 Locks ONLY, per pair..................$ .39

Dimensions of 400 Series Plugs and Sockets



P-406-FHT



S-406-AB

"500" SERIES PLUGS AND SOCKETS

For Complete Listing of 500 SERIES, Write for No. 500 Catalog

Designed for 5,000 volts and 25 amperes per contact. Circuit characteristics, however, may alter this rating one way or the other.

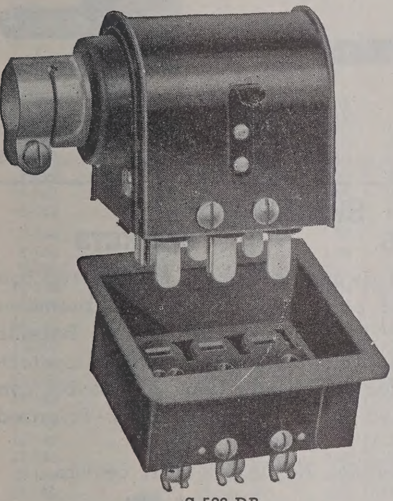
Long leakage path from terminal to terminal, and terminal to ground. Contacts are brass and phosphor bronze, silver plated. Metal parts of caps and brackets are steel, parkerized (rust-proofed). Plug and socket blocks are interchangeable in caps and brackets.

All sizes are polarized in a manner to prevent a smaller plug being inserted in a larger socket. Thus different sizes may be used on one installation without danger of making wrong connections.

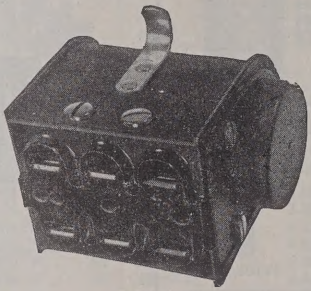
Extreme care has been taken to make terminal connections under cap very accessible both for original wiring and subsequent inspection. The cap is insulated with canvas bakelite. Plug prong cross section $\frac{5}{16}$" x $\frac{3}{32}$".

IMPORTANT: For safety with high voltages DEEP BRACKETS should always be used on one plug or socket, when the other plug or socket has a CAP. SHALLOW BRACKETS are for use only in connecting two units, each unit having plug or socket with SHALLOW BRACKET.

P-506-CE
(Plug with Cap)
(BX Clamp shown but not furnished)

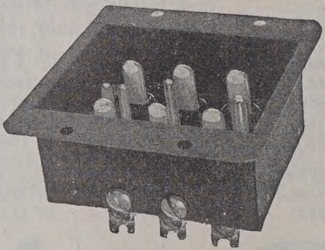


S-506-DB
(Socket with Deep Bracket)

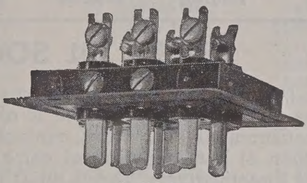


S-506-CE
(Socket with Cap)

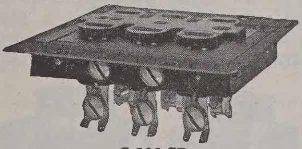
Cable entrance: Because of the great variation in type and size of cables, we have considered it best not to supply cable clamps of any kind. The cap end is made to accommodate standard BX clamps which may be obtained at any electrical jobbing house. The cap end will be furnished with round hole from ½" diameter and 1¼" diameter in steps of ⅛", if the size required is given on order. If no size is given, plain cap end with center punch locating center will be shipped.



P-506-DB
(Plug with Deep Bracket)

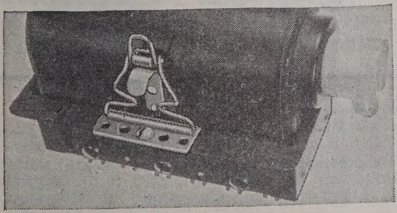


P-506-SB
(Plug with Shallow Bracket)



S-506-SB
(Socket with Shallow Bracket)

LOCKS FOR 500 SERIES PLUGS AND SOCKETS



Locks shown above are used in connection with any DEEP BRACKET and cap combination.

The locks securely hold the units together, but they can be released instantly.

The mounting plates are made to fit all DEEP BRACKETS, and are fastened by the same screws or rivets that hold the deep brackets to the panel. Can not be used on shallow brackets. Sold in pairs only.

No. 500-L Locks............................Per pair $0.99

PLUG
With Cap

Code	Price Ea.
P-502-CE	**$2.75**
P-504-CE	**3.96**
P-506-CE	**5.17**
P-508-CE	**6.38**
P-510-CE	**7.59**
P-512-CE	**8.80**

PLUG
With Deep Bracket

Code	Price Ea.
P-502-DB	**$2.42**
P-504-DB	**3.47**
P-506-DB	**4.51**
P-508-DB	**5.56**
P-510-DB	**6.60**
P-512-DB	**7.65**

PLUG
With Shallow Bracket

Code	Price Ea.
P-502-SB	**$2.42**
P-504-SB	**3.47**
P-506-SB	**4.51**
P-508-SB	**5.56**
P-510-SB	**6.60**
P-512-SB	**7.65**

SOCKET
With Cap

Code	Price Ea.
S-502-CE	**$2.75**
S-504-CE	**3.96**
S-506-CE	**5.17**
S-508-CE	**6.38**
S-510-CE	**7.59**
S-512-CE	**8.80**

SOCKET
With Deep Bracket

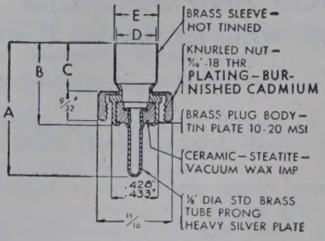
Code	Price Ea.
S-502-DB	**$2.42**
S-504-DB	**3.47**
S-506-DB	**4.51**
S-508-DB	**5.56**
S-510-DB	**6.60**
S-512-DB	**7.65**

SOCKET
With Shallow Bracket

Code	Price Ea.
S-502-SB	**$2.42**
S-504-SB	**3.47**
S-506-SB	**4.51**
S-508-SB	**5.56**
S-510-SB	**6.60**
S-512-SB	**7.65**

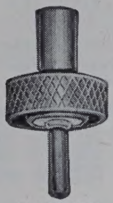
CINCH-JONES SALES ★ ELECTRICAL CONNECTING DEVICES

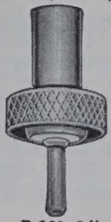
SERIES 101 PLUGS

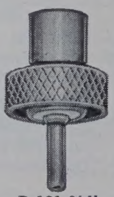

E
D
BRASS SLEEVE—HOT TINNED
KNURLED NUT—9/16"-18 THR. PLATING—BURNISHED CADMIUM
B
C
A
9/32"
BRASS PLUG BODY—TIN PLATE 10-20 MSI
CERAMIC—STEATITE—VACUUM WAX IMP
.428"
.433"
1/8" DIA STD BRASS TUBE PRONG HEAVY SILVER PLATE
11/16

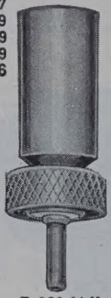
The entire No. 101 Series of Plugs are identical with the exception of the cable ferrule which is furnished in four sizes as listed below. All metal parts are of brass. These Plugs fit all of the No. 101 Series Sockets. Assembly meets Navy Specifications. A low loss Plug and Socket ideal for high frequency connections.

Code No.	A	B	C	D	E	Ea.
P-101-1/4″	1-1/4″	3/4″	7/16″	1/4″	9/32″	$0.57
P-101-.290	1-1/4″	3/4″	7/16″	.290	.319	.69
P-101-5/16″	1-3/8″	7/8″	9/16″	5/16″	11/32″	.69
P-101-3/8″	1-3/16″	11/16″	3/8″	3/8″	13/32″	.69
P-101-1/2″	1-7/8″	1-3/8″	1-1/16″	1/2″	9/16″	.76


P-101-1/4″

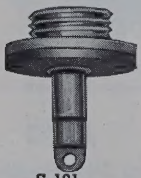

P-101-5/16″


P-101-3/8″

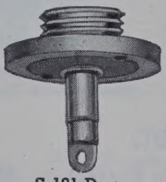

P-101-1/2″

SERIES 101 SOCKETS

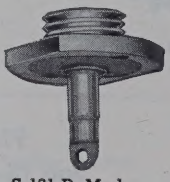
The No. 101 Series Sockets are furnished in three types as shown below. Base is of Brass, Nickel Plated with Chrome Flash. Brass contact is Silver Plated. Insulation of low loss natural color XXX Bakelite. Meets Navy Specifications. The S-101-D is similar to the S-101 except that the Bakelite is recessed in the base. S-101-D Mod. is the same as S-101-D except that two sides of the base are milled as shown. Mounting Holes No. 101—No. 41 drill on 11/16″ centers. Mounting holes No. 101-D and 101-D Mod. No. 30 drill on 13/16″ centers.


S-101

Price Each—$0.51


S-101-D

Price Each—$0.76


S-101-D Mod

Price Each—$0.76

SERIES 201

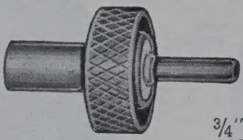
PLUGS

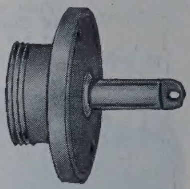
The No. 201 Series Plugs are of the same design as the No. 101 but are of heavier stock and larger. Made in one size only with 3/8″ ferrule. All metal parts are of Brass, same finish as No. 101 Series and Wax Impregnated Ceramic insulation. Overall length 1 9/16″. Prong diameter 5/32″. Fits only the 201 Socket.

SOCKETS

The 201 Socket is similar to the S-101-D except larger. Brass base is nickel plated with Chrome Flash. Brass contact is Silver Plated. Insulation is of low loss natural color XXX Bakelite. Both Plug and Socket meet Navy Specifications.

Mounting holes — No. 30 drill on 1″ centers.





3/4″—27 thread.

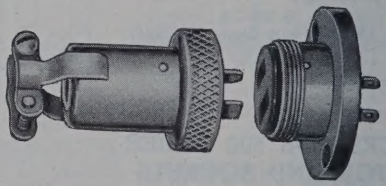
Code	Ea.	Code	Ea.
P-201-3/8	**$0.89**	**S-201**	**$0.95**

SERIES 202

PLUGS SOCKETS

The 202 Series Plugs and Sockets are made in two contacts only. Metal parts are of Brass with burnished Cadmium Plate. Insulation is of Molded Bakelite. Phosphor Bronze "Knife Switch" type Socket Contacts engage both sides of flat Plug Contacts—double contact area. Formed Fibre linings in caps. Polarized. Knurled nut has 3/4″—27 thread.

Socket Mounting Holes. No. 30 drill on 1″ centers.



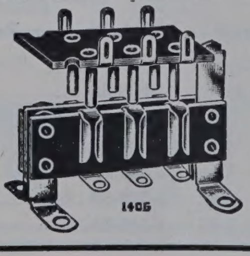
P-202-CCT—$0.70 (as shown above)	**P-202-FHT—$0.57** (without Cable Clamps)	**S-202-B—$0.83**
S-202-CCT—$0.72	**S-202-FHT—$0.58**	**P-202-B—$0.81**

1400 SERIES PLUGS AND SOCKETS

This series of "disconnect" plugs and sockets has the distinct advantage of low cost for a separate unit handling many circuits. Due to exposed metal parts, it is recommended for use when the complete unit is within a housing.

Reduces costs of servicing units. Advantageous in shipping when it is desirable to pack units separately. Polarized—assures correct coupling. Spring temper brass sockets assure perfect contact. Standard units are listed below from 5 to 16 contacts. However we can supply units having as many as 30 or more contacts.

On No. 1420 or larger we recommend the plug be divided into two or more units, as a single long plug is not mechanically strong. The socket will be made in one assembly.



No. 1405	(5 Contacts)	**Ea. $0.35**	**No. 1411**	(11 Contacts)	**Ea. $ .68**
No. 1406	(6 Contacts)	**Ea. .41**	**No. 1412**	(12 Contacts)	**Ea. .74**
No. 1407	(7 Contacts)	**Ea. .46**	**No. 1413**	(13 Contacts)	**Ea. .79**
No. 1408	(8 Contacts)	**Ea. .52**	**No. 1414**	(14 Contacts)	**Ea. .85**
No. 1409	(9 Contacts)	**Ea. .57**	**No. 1415**	(15 Contacts)	**Ea. .90**
No. 1410	(10 Contacts)	**Ea. .63**	**No. 1416**	(16 Contacts)	**Ea. .96**

For units with more than 16 contacts, add 6c to the No. 1416 price for each additional contact.

BARRIER TYPE TERMINAL STRIPS

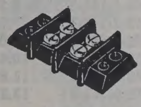
Increased insulation is provided by having Barriers placed between each Terminal. These Barriers follow around the edge of the Strips and terminate at the base. They not only make a long leakage path but prevent direct shorts from frayed wires at the terminals. Mounting holes are at the ends as illustrated. The base is molded Bakelite.

The Terminals and Binder Screws are of brass, nickel plated. **Marker Strips** may be ordered and imprinted to supply terminal designations. These Marker Strips mount beneath Terminal Strips and also afford insulation from metal mounting surface.

No. 140 TERMINAL STRIPS

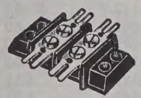
5-40 x $\frac{3}{16}$ Binder Head Screws

Metal to Metal Spacing over Bakelite ¼"



No. 2-140

No. 140



No. 2-140-W

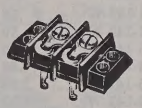
No. 140-W

No. 2-140-¾ W

No. 140-¾ W

MARKER STRIPS for 140, 140-W and 140-¾ W

The standard Marker Strips are of gray fibre $\frac{1}{32}$" thick and character designations are imprinted in white.
Bakelite Marker Strips can be supplied at an increase in price, and are designated by code MSX instead of MS. Prices on application.



No. 2-140-Y

No. 140-Y

MARKER STRIPS for 140-Y

The standard Marker Strips are of gray fibre $\frac{1}{32}$" thick and character designations are imprinted in white.
Bakelite Marker Strips can be supplied at an increase in price, and are designated by code MSX instead of MS. Prices on application.

Code	Ea.	Code	Ea.	Code	Ea.	Code	Per 100	Code	Ea.	Code	Per 100
1-140	$ .15	1-140-W	$ .19	1-140-¾ W	$ .19	MS-1-140	$ 2.48	1-140-Y	$ .19	MS-1-140-Y	$ 5.78
2-140	.24	2-140-W	.32	2-140-¾ W	.32	MS-2-140	3.30	2-140-Y	.32	MS-2-140-Y	6.60
3-140	.33	3-140-W	.44	3-140-¾ W	.44	MS-3-140	4.13	3-140-Y	.44	MS-3-140-Y	7.43
4-140	.42	4-140-W	.57	4-140-¾ W	.57	MS-4-140	4.95	4-140-Y	.57	MS-4-140-Y	8.25
5-140	.51	5-140-W	.69	5-140-¾ W	.69	MS-5-140	5.78	5-140-Y	.69	MS-5-140-Y	9.08
6-140	.59	6-140-W	.83	6-140-¾ W	.83	MS-6-140	6.60	6-140-Y	.83	MS-6-140-Y	9.90
7-140	.68	7-140-W	.95	7-140-¾ W	.95	MS-7-140	7.43	7-140-Y	.95	MS-7-140-Y	10.73
8-140	.77	8-140-W	1.08	8-140-¾ W	1.08	MS-8-140	8.25	8-140-Y	1.08	MS-8-140-Y	11.55
9-140	.86	9-140-W	1.21	9-140-¾ W	1.21	MS-9-140	9.08	9-140-Y	1.21	MS-9-140-Y	12.38
10-140	.95	10-140-W	1.33	10-140-¾ W	1.33	MS-10-140	9.90	10-140-Y	1.33	MS-10-140-Y	13.20
11-140	1.03	11-140-W	1.45	11-140-¾ W	1.45	MS-11-140	10.73	11-140-Y	1.45	MS-11-140-Y	14.03
12-140	1.12	12-140-W	1.58	12-140-¾ W	1.58	MS-12-140	11.55	12-140-Y	1.58	MS-12-140-Y	14.85
13-140	1.21	13-140-W	1.71	13-140-¾ W	1.71	MS-13-140	12.38	13-140-Y	1.71	MS-13-140-Y	15.68
14-140	1.31	14-140-W	1.84	14-140-¾ W	1.84	MS-14-140	13.20	14-140-Y	1.84	MS-14-140-Y	16.50
15-140	1.40	15-140-W	1.96	15-140-¾ W	1.96	MS-15-140	14.03	15-140-Y	1.96	MS-15-140-Y	17.33
16-140	1.49	16-140-W	2.09	16-140-¾ W	2.09	MS-16-140	14.85	16-140-Y	2.09	MS-16-140-Y	18.15
17-140	1.57	17-140-W	2.21	17-140-¾ W	2.21	MS-17-140	15.68	17-140-Y	2.21	MS-17-140-Y	18.98
18-140	1.66	18-140-W	2.34	18-140-¾ W	2.34	MS-18-140	16.50	18-140-Y	2.34	MS-18-140-Y	19.80
19-140	1.75	19-140-W	2.46	19-140-¾ W	2.46	MS-19-140	17.33	19-140-Y	2.46	MS-19-140-Y	20.63
20-140	1.84	20-140-W	2.60	20-140-¾ W	2.60	MS-20-140	18.15	20-140-Y	2.60	MS-20-140-Y	21.45
21-140	1.93	21-140-W	2.72	21-140-¾ W	2.72	MS-21-140	18.98	21-140-Y	2.72	MS-21-140-Y	22.28

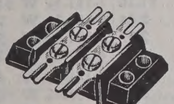
No. 141 TERMINAL STRIPS

6-32 x ¼ Binder Head Screws

Metal to Metal Spacing over Bakelite ⅜"

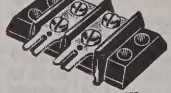
No. 2-141

No. 141



No. 2-141-W

No. 141-W

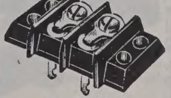


No. 2-141-¾-W

No. 141-¾ W

MARKER STRIPS for 141, 141-W and 141-¾ W

Standard Marker Strips are of gray fibre $\frac{1}{32}$" thick. See column above for designation for Bakelite Marker Strips.



No. 2-141-Y

No. 141-Y

MARKER STRIPS for 141-Y

Standard Marker Strips are of gray fibre $\frac{1}{32}$" thick. See column above for designation for Bakelite Marker Strips.

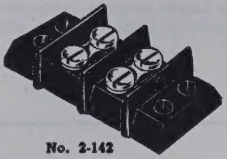
Code	Ea.	Code	Ea.	Code	Ea.	Code	Per 100	Code	Ea.	Code	Per 100
1-141	$ .20	1-141-W	$ .24	1-141-¾ W	$ .24	MS-1-141	$ 2.75	1-141-Y	$ .24	MS-1-141-Y	$ 6.05
2-141	.31	2-141-W	.41	2-141-¾ W	.41	MS-2-141	3.85	2-141-Y	.41	MS-2-141-Y	7.15
3-141	.42	3-141-W	.57	3-141-¾ W	.57	MS-3-141	4.95	3-141-Y	.57	MS-3-141-Y	8.25
4-141	.54	4-141-W	.74	4-141-¾ W	.74	MS-4-141	6.05	4-141-Y	.74	MS-4-141-Y	9.35
5-141	.65	5-141-W	.90	5-141-¾ W	.90	MS-5-141	7.15	5-141-Y	.90	MS-5-141-Y	10.45
6-141	.75	6-141-W	1.07	6-141-¾ W	1.07	MS-6-141	8.25	6-141-Y	1.07	MS-6-141-Y	11.55
7-141	.88	7-141-W	1.23	7-141-¾ W	1.23	MS-7-141	9.35	7-141-Y	1.23	MS-7-141-Y	12.65
8-141	.99	8-141-W	1.40	8-141-¾ W	1.40	MS-8-141	10.45	8-141-Y	1.40	MS-8-141-Y	13.75
9-141	1.10	9-141-W	1.56	9-141-¾ W	1.56	MS-9-141	11.55	9-141-Y	1.56	MS-9-141-Y	14.85
10-141	1.22	10-141-W	1.73	10-141-¾ W	1.73	MS-10-141	12.65	10-141-Y	1.73	MS-10-141-Y	15.95
11-141	1.33	11-141-W	1.89	11-141-¾ W	1.89	MS-11-141	13.75	11-141-Y	1.89	MS-11-141-Y	17.05
12-141	1.44	12-141-W	2.06	12-141-¾ W	2.06	MS-12-141	14.85	12-141-Y	2.06	MS-12-141-Y	18.15
13-141	1.56	13-141-W	2.22	13-141-¾ W	2.22	MS-13-141	15.95	13-141-Y	2.22	MS-13-141-Y	19.25
14-141	1.67	14-141-W	2.39	14-141-¾ W	2.39	MS-14-141	17.05	14-141-Y	2.39	MS-14-141-Y	20.35
15-141	1.78	15-141-W	2.55	15-141-¾ W	2.55	MS-15-141	18.15	15-141-Y	2.55	MS-15-141-Y	21.45
16-141	1.90	16-141-W	2.72	16-141-¾ W	2.72	MS-16-141	19.25	16-141-Y	2.72	MS-16-141-Y	22.55
17-141	2.01	17-141-W	2.88	17-141-¾ W	2.88	MS-17-141	20.35	17-141-Y	2.88	MS-17-141-Y	23.65
18-141	2.12	18-141-W	3.05	18-141-¾ W	3.05	MS-18-141	21.45	18-141-Y	3.05	MS-18-141-Y	24.75
19-141	2.24	19-141-W	3.21	19-141-¾ W	3.21	MS-19-141	22.55	19-141-Y	3.21	MS-19-141-Y	25.85
20-141	2.35	20-141-W	3.38	20-141-¾ W	3.38	MS-20-141	23.65	20-141-Y	3.38	MS-20-141-Y	26.95

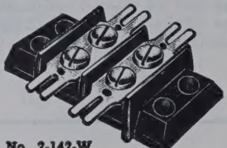
BARRIER TYPE TERMINAL STRIPS

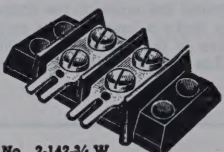
8-32 x 5/16" Binder Head Screws

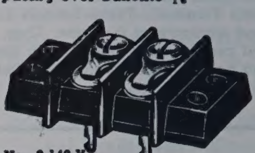
No. 142 TERMINAL STRIPS

Metal to Metal Spacing over Bakelite 9/16"


No. 2-142


No. 2-142-W

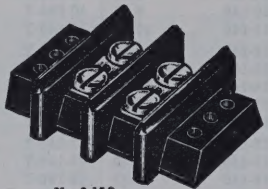

No. 2-142-¾ W


No. 2-142-Y

No. 142		No. 142-W		No. 142-¾ W		MARKER STRIPS for 142, 142-W, 142-¾ W		No. 142-Y		MARKER STRIPS for 142-Y	
Code	Ea.	Code	Ea.	Code	Ea.	Code	Per 100	Code	Ea.	Code	Per 100
1-142	$ .23	1-142-W	$ .30	1-142-¾ W	$ .30	MS-1-142	$ 3.03	1-142-Y	$ .30	MS-1-142-Y	$ 6.33
2-142	.36	2-142-W	.50	2-142-¾ W	.50	MS-2-142	4.40	2-142-Y	.50	MS-2-142-Y	7.70
3-142	.51	3-142-W	.70	3-142-¾ W	.70	MS-3-142	5.78	3-142-Y	.70	MS-3-142-Y	9.08
4-142	.65	4-142-W	.90	4-142-¾ W	.90	MS-4-142	7.15	4-142-Y	.90	MS-4-142-Y	10.45
5-142	.78	5-142-W	1.11	5-142-¾ W	1.11	MS-5-142	8.53	5-142-Y	1.11	MS-5-142-Y	11.83
6-142	.92	6-142-W	1.31	6-142-¾ W	1.31	MS-6-142	9.90	6-142-Y	1.31	MS-6-142-Y	13.20
7-142	1.07	7-142-W	1.52	7-142-¾ W	1.52	MS-7-142	11.28	7-142-Y	1.52	MS-7-142-Y	14.58
8-142	1.20	8-142-W	1.72	8-142-¾ W	1.72	MS-8-142	12.65	8-142-Y	1.72	MS-8-142-Y	15.95
9-142	1.34	9-142-W	1.93	9-142-¾ W	1.93	MS-9-142	14.03	9-142-Y	1.93	MS-9-142-Y	17.33
10-142	1.49	10-142-W	2.12	10-142-¾ W	2.12	MS-10-142	15.40	10-142-Y	2.12	MS-10-142-Y	18.70
11-142	1.62	11-142-W	2.33	11-142-¾ W	2.33	MS-11-142	16.78	11-142-Y	2.33	MS-11-142-Y	20.08
12-142	1.76	12-142-W	2.53	12-142-¾ W	2.53	MS-12-142	18.15	12-142-Y	2.53	MS-12-142-Y	21.45
13-142	1.90	13-142-W	2.74	13-142-¾ W	2.74	MS-13-142	19.53	13-142-Y	2.74	MS-13-142-Y	22.83
14-142	2.04	14-142-W	2.94	14-142-¾ W	2.94	MS-14-142	20.90	14-142-Y	2.94	MS-14-142-Y	24.20
15-142	2.18	15-142-W	3.15	15-142-¾ W	3.15	MS-15-142	22.28	15-142-Y	3.15	MS-15-142-Y	25.58
16-142	2.32	16-142-W	3.34	16-142-¾ W	3.34	MS-16-142	23.65	16-142-Y	3.34	MS-16-142-Y	26.95
17-142	2.45	17-142-W	3.54	17-142-¾ W	3.54	MS-17-142	25.03	17-142-Y	3.54	MS-17-142-Y	28.33

No. 150 TERMINAL STRIPS

1 13/16" wide by 23/32" high. Terminals are mounted on 11/16" centers. Screws: 10-32 x 5/16" brass, burnished nickel plate. Fits standard 50 Amp. solder lug for 6 Ga. stranded wire. Metal to metal spacing over bakelite ⅝".


No. 2-150

No. 150		No. 150-W		No. 150-¾ W		MARKER STRIPS For 150 Series	
Code	Ea.	Code	Ea.	Code	Ea.	Code	Per 100
1-150	$ .55	1-150-W	$ .66	1-150-¾ W	$ .66	MS-1-150	$ 6.60
2-150	.94	2-150-W	1.13	2-150-¾ W	1.13	MS-2-150	8.14
3-150	1.32	3-150-W	1.60	3-150-¾ W	1.60	MS-3-150	9.68
4-150	1.71	4-150-W	2.07	4-150-¾W	2.07	MS-4-150	11.22
5-150	2.09	5-150-W	2.53	5-150-¾ W	2.53	MS-5-150	12.76
6-150	2.48	6-150-W	3.00	6-150-¾ W	3.00	MS-6-150	14.30
7-150	2.86	7-150-W	3.46	7-150-¾ W	3.46	MS-7-150	15.84
8-150	3.25	8-150-W	3.92	8-150-¾W	3.92	MS-8-150	17.38
9-150	3.63	9-150-W	4.40	9-150-¾ W	4.40	MS-9-150	18.92
10-150	4.02	10-150-W	4.87	10-150-¾ W	4.87	MS-10-150	20.46

No. 151 TERMINAL STRIPS

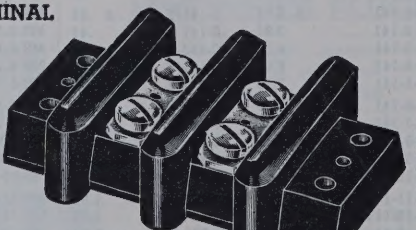
2" wide by 15/16" high. Terminals are mounted on ⅞" centers. Screws: 12-32 x ⅜" brass, burnished nickel plate. Fits standard 70 Amp. solder lug for 4 Ga. stranded wire. Metal to metal spacing over bakelite ¾".

No. 2-151

No. 151		No. 151-W		No. 151-¾ W		MARKER STRIPS for 151 Series	
Code	Ea.	Code	Ea.	Code	Ea.	Code	Per 100
1-151	$ .94	1-151-W	$1.10	1-151-¾ W	$1.10	MS-1-151	$ 6.68
2-151	1.71	2-151-W	2.04	2-151-¾ W	2.04	MS-2-151	10.18
3-151	2.48	3-151-W	2.97	3-151-¾ W	2.97	MS-3-151	13.48
4-151	3.25	4-151-W	3.91	4-151-¾ W	3.91	MS-4-151	16.78
5-151	4.02	5-151-W	4.84	5-151-¾ W	4.84	MS-5-151	20.08
6-151	4.79	6-151-W	5.78	6-151-¾ W	5.78	MS-6-151	23.38
7-151	5.56	7-151-W	6.71	7-151-¾ W	6.71	MS-7-151	26.68
8-151	6.33	8-151-W	7.65	8-151-¾ W	7.65	MS-8-151	29.98

No. 152 TERMINAL STRIPS

2½" wide by 1⅛" high. Terminals are mounted on 1⅛" centers. Screws: ¼"-28 x ½" brass, burnished nickel plate. Fits standard 90 Amp. solder lug for 2 Ga. stranded wire. Metal to metal spacing over bakelite 1".


No. 2-152

No. 152		No. 152-W		No. 152¾ W		MARKER STRIPS for 152 Series	
Code	Ea.	Code	Ea.	Code	Ea.	Code	Per 100
1-152	$1.27	1-152-W	$1.49	1-152-¾ W	$1.49	MS-1-152	$ 7.15
2-152	2.42	2-152-W	2.86	2-152-¾ W	2.86	MS-2-152	12.65
3-152	3.58	3-152-W	4.24	3-152-¾ W	4.24	MS-3-152	18.15
4-152	4.73	4-152-W	5.61	4-152-¾ W	5.61	MS-4-152	23.65
5-152	5.89	5-152-W	6,99	5-152-¾ W	6.99	MS-5-152	29.15
6-152	7.04	6-152-W	8.36	6-152-¾ W	8.36	MS-6-152	34.65

"W" Solder Terminal for Barrier Strips

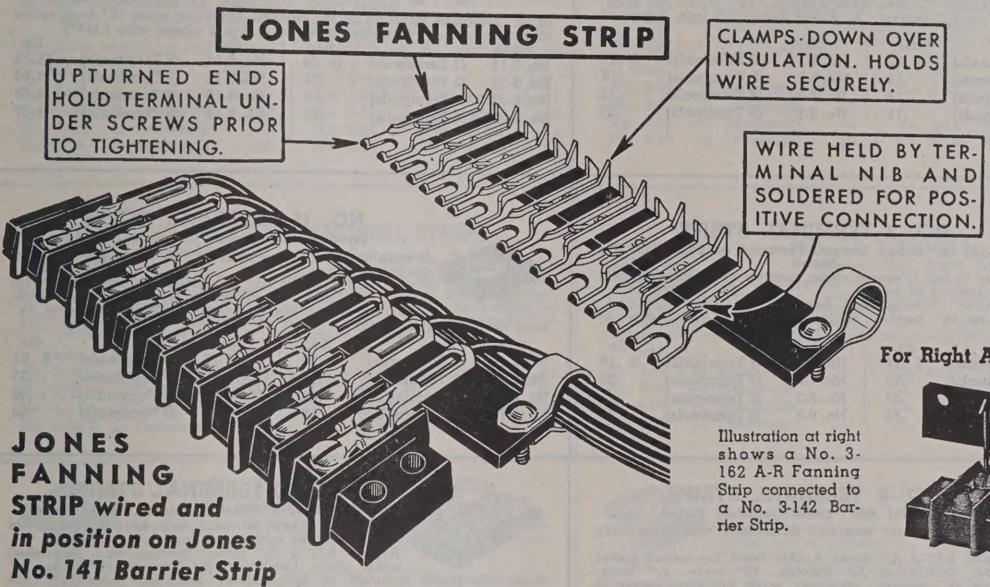
Code	For use with Barrier Strip	Per 100	Code	For use with Barrier Strip	Per 100
No. W-140	No. 140	$3.80	No. W-150	No. 150	$8.86
No. W-141	No. 141	5.06	No. W-151	No. 151	15.18
No. W-142	No. 142	6.33	No. W-152	No 152	22.77

"Y" Solder Terminal

Code	For use with Barrier Strip	Per 100
No. Y-140	No. 140	$3.80
No. Y-141	No. 141	5.06
No. Y-142	No. 142	6.33

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

FANNING STRIPS FOR CONNECTING TO BARRIER TERMINAL STRIPS


JONES FANNING STRIP
UPTURNED ENDS HOLD TERMINAL UNDER SCREWS PRIOR TO TIGHTENING.
CLAMPS-DOWN OVER INSULATION. HOLDS WIRE SECURELY.
WIRE HELD BY TERMINAL NIB AND SOLDERED FOR POSITIVE CONNECTION.

JONES FANNING STRIP wired and *in position on Jones No. 141 Barrier Strip*

Eliminates Color Coding

•

Speeds up Assembly

•

Improves Appearance

•

Insures Correct Connections

•

For Right Angle Mounting

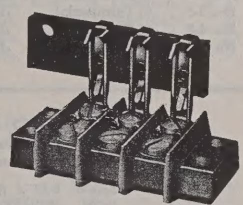
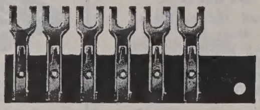


Illustration at right shows a No. 3-162 A-R Fanning Strip connected to a No. 3-142 Barrier Strip.

Jones Fanning Strip Terminals are of .032" Brass, Cadmium Plated. The Bakelite strips are furnished with a hole in either the right or left end for fastening the cable with a cable clamp or lacing twine. Simplifies cable or harness wiring, assuring positive connections. Makes replacement of units an easy matter and assures correct connections after servicing.

In many instances where there is not sufficient room for the standard Fanning Strips we can supply those listed formed for right angle mounting permitting use when Barrier mounts flush with the side of the chassis. Specify Series 160A, 161A and 162A instead of 160, 161 and 162. Prices slightly higher.

6-161-L (Cable Clamp on Left)



6-161-R (Cable Clamp on Right)

THE 160 SERIES

The following Fanning Strips fit the 140 Series Barrier Strips. Terminals are mounted on $\frac{3}{32}$" Bakelite, ½" wide and on ⅜" centers.

Code	Ea.	Code	Ea.
2-160-L	$ .12	2-160-R	$ .12
3-160-L	.18	3-160-R	.18
4-160-L	.23	4-160-R	.23
5-160-L	.29	5-160-R	.29
6-160-L	.35	6-160-R	.35
7-160-L	.41	7-160-R	.41
8-160-L	.46	8-160-R	.46
9-160-L	.52	9-160-R	.52
10-160-L	.58	10-160-R	.58
11-160-L	.64	11-160-R	.64
12-160-L	.69	12-160-R	.69
13-160-L	.75	13-160-R	.75
14-160-L	.81	14-160-R	.81
15-160-L	.87	15-160-R	.87
16-160-L	.92	16-160-R	.92
17-160-L	.98	17-160-R	.98
18-160-L	1.05	18-160-R	1.05
19-160-L	1.10	19-160-R	1.10
20-160-L	1.16	20-160-R	1.16
21-160-L	1.21	21-160-R	1.21

THE 161 SERIES

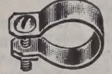
The following Fanning Strips fit the 141 Series Barrier Strips. Terminals are mounted on $\frac{3}{32}$" Bakelite, ⅝" wide and on $\frac{7}{16}$" centers.

Code	Ea.	Code	Ea.
2-161-L	$ .13	2-161-R	$ .13
3-161-L	.19	3-161-R	.19
4-161-L	.24	4-161-R	.24
5-161-L	.30	5-161-R	.30
6-161L-	.36	6-161-R	.36
7-161-L	.42	7-161-R	.42
8-161-L	.47	8-161-R	.47
9-161-L	.53	9-161-R	.53
10-161-L	.59	10-161-R	.59
11-161-L	.65	11-161-R	.65
12-161-L	.70	12-161-R	.70
13-161-L	.76	13-161-R	.76
14-161-L	.83	14-161-R	.83
15-161-L	.88	15-161-R	.88
16-161-L	.94	16-161-R	.94
17-161-L	.99	17-161-R	.99
18-161-L	1.06	18-161-R	1.06
19-161-L	1.11	19-161-R	1.11
20-161-L	1.17	20-161-R	1.17

THE 162 SERIES

The following Fanning Strips fit the 142 Series Barrier Strips. Terminals are mounted on $\frac{3}{32}$" Bakelite, ⅝" wide and on $\frac{7}{16}$" centers.

Code	Ea.	Code	Ea.
2-162-L	$ .15	2-162-R	$ .15
3-162-L	.21	3-162-R	.21
4-162-L	.26	4-162-R	.26
5-162-L	.32	5-162-R	.32
6-162-L	.39	6-162-R	.39
7-162-L	.44	7-162-R	.44
8-162-L	.50	8-162-R	.50
9-162-L	.55	9-162-R	.55
10-162-L	.62	10-162-R	.62
11-162-L	.67	11-162-R	.67
12-162-L	.73	12-162-R	.73
13-162-L	.78	13-162-R	.78
14-162-L	.85	14-162-R	.85
15-162-L	.90	15-162-R	.90
16-162-L	.96	16-162-R	.96
17-162-L	1.01	17-162-R	1.01



CABLE CLAMPS

Cable Clamps are available for the Fanning Strips listed at the left and are furnished in 6 different sizes as listed below. Cable Clamp is of Brass Nickle Plated, with 6-32 round head Nickle Plated Brass Screws. For convenience the Cable Clamps are furnished unassembled.

CABLE CLAMP SIZES AVAILABLE

No.	I. D.
CC-161-4	¼"
CC-161-6	⅜"
CC-161-8	½"
CC-161-10	⅝"
CC-161-12	¾"
CC-161-14	⅞"

List price 11c each.

Be sure to give code number when ordering.

On small sizes Lacing Twine can be used for anchoring cable to the Fanning Strip instead of Cable Clamp.

1

NO. 1 TERMINAL STRIPS

Terminal ⅛" Round Copper, Flattened at Ends, Tin Plated

A convenient and compact strip where solder connections are desired.

Insulation: Canvas Base Bakelite, ½" wide, 3/32" thick. Terminals mounted on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-1	(2 Terminals)	$ .12	No. 6-1	(6 Terminals)	$ .17
No. 3-1	(3 Terminals)	.13	No. 7-1	(7 Terminals)	.18
No. 4-1	(4 Terminals)	.14	No. 8-1	(8 Terminals)	.19
No. 5-1	(5 Terminals)	.15	No. 9-1	(9 Terminals)	.20

3

NO. 3 TERMINAL STRIPS

Terminal ⅛" Round Copper, Flattened at Each End, Tin Plated

Similar to No. 1, except closer spacing and furnished with holes instead of hooks.

Insulation: Canvas base Bakelite, ½" wide, 3/32" thick. Terminals mounted on ⅜" centers. Mounting holes ⅜" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-3	(2 Terminals)	$ .14	No. 6-3	(6 Terminals)	$ .19
No. 3-3	(3 Terminals)	.15	No. 7-3	(7 Terminals)	.20
No. 4-3	(4 Terminals)	.17	No. 8-3	(8 Terminals)	.21
No. 5-3	(5 Terminals)	.18	No. 9-3	(9 Terminals)	.22

6

NO. 6 TERMINAL STRIPS

Terminal .046" Brass, Cadmium Plated

Screw and solder terminal. Substantial and reasonably priced.

Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ¾" wide, 3/32" thick. Terminals spaced on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-6	(2 Terminals)	$ .15	No. 6-6	(6 Terminals)	$ .33
No. 3-6	(3 Terminals)	.20	No. 7-6	(7 Terminals)	.37
No. 4-6	(4 Terminals)	.24	No. 8-6	(8 Terminals)	.42
No. 5-6	(5 Terminals)	.29	No. 9-6	(9 Terminals)	.46

7

NO. 7 TERMINAL STRIPS

Terminal .046" Brass, Burnished Nickel Plate

A two screw insulated terminal strip that can be mounted directly on metal surface.

Screws: 6-32 x 3/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ⅞" wide, 3/16" thick (total). Terminals mounted on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-7	(2 Terminals)	$ .22	No. 6-7	(6 Terminals)	$ .62
No. 3-7	(3 Terminals)	.32	No. 7-7	(7 Terminals)	.72
No. 4-7	(4 Terminals)	.42	No. 8-7	(8 Terminals)	.81
No. 5-7	(5 Terminals)	.52	No. 9-7	(9 Terminals)	.91

10

NO. 10 TERMINAL STRIPS

Terminal 1/16" Brass, Tin Plated

Sturdy screw and solder terminal with both screw and solder connections on top of bakelite panel. Solder terminal turned up.

Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ⅝" wide, 3/32" thick. Terminals spaced on ⅝" centers. Mounting holes ⅝" from center of end terminals. Will take up to No. 15 B & S gauge wire (.057").

Code		Ea.	Code		Ea.
No. 2-10	(2 Terminals)	$ .23	No. 6-10	(6 Terminals)	$ .67
No. 3-10	(3 Terminals)	.34	No. 7-10	(7 Terminals)	.78
No. 4-10	(4 Terminals)	.45	No. 8-10	(8 Terminals)	.89
No. 5-10	(5 Terminals)	.56	No. 9-10	(9 Terminals)	1.00

11

NO. 11 TERMINAL STRIPS

Terminal 1/16" Brass, Tin Plated

Similar to No. 10, except larger in size and the solder tab is flat, but will be bent up, if specified.

Screws: 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ⅞" wide, ⅛" thick. Terminals mounted on ¾" centers. Mounting holes ¾" from center of end terminals. Will take up to No. 12 B & S gauge wire (.080").

Code		Ea.	Code		Ea.
No. 2-11	(2 Terminals)	$ .31	No. 6-11	(6 Terminals)	$ .79
No. 3-11	(3 Terminals)	.43	No. 7-11	(7 Terminals)	.91
No. 4-11	(4 Terminals)	.55	No. 8-11	(8 Terminals)	1.03
No. 5-11	(5 Terminals)	.67	No. 9-11	(9 Terminals)	1.16

12

NO. 12 TERMINAL STRIPS

Terminal 1/16" Brass, Tin Plated

Similar to No. 11, except larger. Solder tab is flat, but will be bent up, if specified.

Screw: 10-32 x ⅜" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, 1/8" thick. Terminals mounted on ⅞" centers. Mounting holes ⅞" from center of end terminals. Will take up to No. 9 B & S gauge wire (.114").

Code		Ea.	Code		Ea.
No. 2-12	(2 Terminals)	$ .44	No. 6-12	(6 Terminals)	$1.14
No. 3-12	(3 Terminals)	.61	No. 7-12	(7 Terminals)	1.32
No. 4-12	(4 Terminals)	.79	No. 8-12	(8 Terminals)	1.50
No. 5-12	(5 Terminals)	.97	No. 9-12	(9 Terminals)	1.67

16

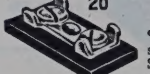
NO. 16 TERMINAL STRIPS

Terminal .028" Brass, Cadmium Plated

A popular priced screw and solder terminal with many desirable features.

Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ¾" wide, 1/16" thick. Terminals spaced on ½" centers. Mounting holes ½" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-16	(2 Terminals)	$ .13	No. 6-16	(6 Terminals)	$ .31
No. 3-16	(3 Terminals)	.18	No. 7-16	(7 Terminals)	.35
No. 4-16	(4 Terminals)	.22	No. 8-16	(8 Terminals)	.40
No. 5-16	(5 Terminals)	.26	No. 9-16	(9 Terminals)	.44



20

NO. 20 TERMINAL STRIPS

Terminal 1/16" Brass, Burnished Nickel Plate

Strong two screw terminal with ears to hold wire securely under screw.

Screws: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, ⅞" wide, 3/32" thick. Terminals mounted on ⅝" centers. Mounting holes ⅝" from center of end terminals. Will take up to No. 13 B & S gauge wire (.071").

Code		Ea.	Code		Ea.
No. 2-20	(2 Terminals)	$ .31	No. 6-20	(6 Terminals	$ .92
No. 3-20	(3 Terminals)	.46	No. 7-20	(7 Terminals)	1.08
No. 4-20	(4 Terminals)	.62	No. 8-20	(8 Terminals)	1.23
No. 5-20	(5 Terminals)	.77	No. 9-20	(9 Terminals)	1.39

21

NO. 21 TERMINAL STRIPS

Terminal 1/16" Brass, Burnished Nickel Plate

Similar to No. 20, except larger.

Screw: 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1⅛" wide, ⅛" thick. Terminals mounted on ¾" centers. Mounting holes ¾" from center of end terminals. Will take up to No. 11 B & S gauge wire (.090").

Code		Ea.	Code		Ea.
No. 2-21	(2 Terminals)	$ .44	No. 6-21	(6 Terminals)	$1.14
No. 3-21	(3 Terminals)	.62	No. 7-21	(7 Terminals)	1.32
No. 4-21	(4 Terminals)	.79	No. 8-21	(8 Terminals)	1.50
No. 5-21	(5 Terminals)	.97	No. 9-21	(9 Terminals)	1.67

22

NO. 22 TERMINAL STRIPS

Terminal 1/16" Brass, Burnished Nickel Plate

Similar to No. 21, except larger.

Screws: 10-32 x ⅜" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1¼" wide, 3/16" thick. Terminals mounted on ⅞" centers. Mounting holes ⅞" from center of end terminals. Will take up to No. 8 B & S gauge wire (.128").

Code		Ea.	Code		Ea.
No. 2-22	(2 Terminals)	$ .58	No. 6-22	(6 Terminals)	$1.46
No. 3-22	(3 Terminals)	.80	No. 7-22	(7 Terminals)	1.68
No. 4-22	(4 Terminals)	1.02	No. 8-22	(8 Terminals)	1.90
No. 5-22	(5 Terminals)	1.24	No. 9-22	(9 Terminals)	2.02

32

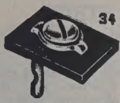
No. 32 TERMINAL STRIPS

Terminal .050" Brass, Tin Plated

An ideal terminal strip (solder type) for medium heavy wiring. One or more wires may be connected to this terminal.

Insulation: XX Bakelite, ⅝" wide, ¼" thick. Terminals mounted on 9/16" centers. Mounting holes 5/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-32	(2 Terminals)	$ .22	No. 6-32	(6 Terminals)	$ .62
No. 3-32	(3 Terminals)	.32	No. 7-32	(7 Terminals)	.72
No. 4-32	(4 Terminals)	.42	No. 8-32	(8 Terminals)	.81
No. 5-32	(5 Terminals)	.52	No. 9-32	(9 Terminals)	.91

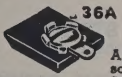


NO. 34 TERMINAL STRIPS

Terminal .062" Brass, Cadmium Plated

Very substantial and neat appearing terminal. Ample length solder terminal below panel, with screw connection above.
Screw: 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/8" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-34	(2 Terminals)	$ .22	No. 6-34	(6 Terminals)	$ .44
No. 3-34	(3 Terminals)	.28	No. 7-34	(7 Terminals)	.50
No. 4-34	(4 Terminals)	.33	No. 8-34	(8 Terminals)	.55
No. 5-34	(5 Terminals)	.39	No. 9-34	(9 Terminals)	.61

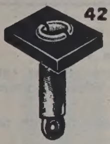


NO. 36A TERMINAL STRIPS

Terminal .031" Brass, Cadmium Plated

A popular priced screw and solder terminal with both screw and solder tab on same side of bakelite panel.
Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 5/8" wide, 1/16" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-36A	(2 Terminals)	$ .13	No. 6-36A	(6 Terminals)	$ .31
No. 3-36A	(3 Terminals)	.18	No. 7-36A	(7 Terminals)	.35
No. 4-36A	(4 Terminals)	.22	No. 8-36A	(8 Terminals)	.40
No. 5-36A	(5 Terminals)	.26	No. 9-36A	(9 Terminals)	.44



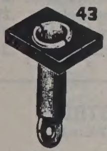
NO. 42 TERMINAL STRIPS

Terminal, Hard Brass, Cadmium Plated

Similar in construction to No. 53. Takes 1/8" prong. May be used with No. 99 terminal strips (same terminal spacing).

Insulation: XP Bakelite, 1/2" wide, 3/32" thick. Terminals mounted on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-42	(2 Terminals	$ .22	No. 6-42	(6 Terminals)	$ .40
No. 3-42	(3 Terminals)	.26	No. 7-42	(7 Terminals)	.44
No. 4-42	(4 Terminals)	.31	No. 8-42	(8 Terminals)	.48
No. 5-42	(5 Terminals)	.35	No. 9-42	(9 Terminals)	.53

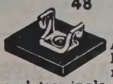


NO. 43 TERMINAL STRIPS

Terminal, Hard Brass, Cadmium Plated

Same as No. 42, except that it takes 5/32" prongs. May be used with No. 100 terminal strips.
Insulation: XP Bakelite, 5/8" wide, 3/32" thick. Terminals mounted on 5/8" centers. Mounting holes 5/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-43	(2 Terminals)	$ .28	No. 6-43	(6 Terminals)	$ .50
No. 3-43	(3 Terminals)	.33	No. 7-43	(7 Terminals)	.55
No. 4-43	(4 Terminals)	.39	No. 8-43	(8 Terminals)	.61
No. 5-43	(5 Terminals)	.44	No. 9-43	(9 Terminals)	.66

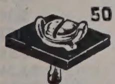


NO. 48 TERMINAL STRIPS

Terminal .028" Brass, Tin Plated

A low priced double solder terminal.
Insulation: XP Bakelite, 1/2" wide, 1/16" thick. Terminals mounted on 7/16" centers. Mounting holes 7/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-48	(2 Terminals)	$ .08	No. 6-48	(6 Terminals)	$ .21
No. 3-48	(3 Terminals)	.11	No. 7-48	(7 Terminals)	.24
No. 4-48	(4 Terminals)	.14	No. 8-48	(8 Terminals)	.28
No. 5-48	(5 Terminals)	.18	No. 9-48	(9 Terminals)	.31

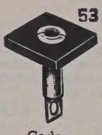


NO. 50 TERMINAL STRIPS

Terminal .062" Brass, Cadmium Plated

One of the most popular screw and solder terminals. Made of heavy stock with ears to firmly hold wires under screw.
Screw: 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite 7/8" wide, 1/8" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-50	(2 Terminals)	$ .21	No. 6-50	(6 Terminals)	$ .43
No 3-50	(3 Terminals)	.26	No. 7-50	(7 Terminals)	.48
No 4-50	(4 Terminals)	.32	No. 8-50	(8 Terminals)	.54
No. 5-50	(5 Terminals)	.37	No. 9-50	(9 Terminals)	.59

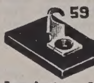


NO. 53 TERMINAL STRIPS

Terminal, Spring Temper Brass, Cadmium Plated

A reliable socket type contact for many uses. Takes 5/32" prongs. May be used with No. 98 terminal strips (same terminal spacing).
Insulation: XP Bakelite, 1/2" wide, 3/32" thick. Terminals mounted on 3/8" centers. Mounting holes 3/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-53	(2 Terminals)	$ .19	No. 6-53	(6 Terminals)	$ .32
No. 3-53	(3 Terminals)	.22	No. 7-53	(7 Terminals)	.35
No. 4-53	(4 Terminals)	.25	No. 8-53	(8 Terminals)	.39
No. 5-53	(5 Terminals)	.29	No. 9-53	(9 Terminals)	.42

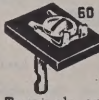


NO. 59 TERMINAL STRIPS

Terminal .028" Brass, Tin Plated

An inexpensive solder terminal. One wire may be brought up through hole and soldered, leaving vertical tab for other connection.
Insulation: XP Bakelite, 3/8" wide, 1/16" thick. Terminals mounted on 7/16" centers. Mounting holes 7/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-59	(2 Terminals)	$ .08	No. 6-59	(6 Terminals)	$ .21
No. 3-59	(3 Terminals)	.11	No. 7-59	(7 Terminals)	.24
No. 4-59	(4 Terminals)	.14	No. 8-59	(8 Terminals)	.28
No. 5-59	(5 Terminals)	.18	No. 9-59	(9 Terminals)	.31

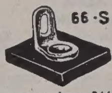


NO. 60 TERMINAL STRIPS

Terminal .050" Brass, Cadmium Plated

Screw terminal above panel—solder terminal below. Solder tab is notched.
Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/8" thick. Terminals spaced on 9/16" centers. Mounting holes 9/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-60	(2 Terminals)	$ .18	No. 6-60	(6 Terminals)	$ .41
No. 3-60	(3 Terminals)	.24	No. 7-60	(7 Terminals)	.46
No. 4-60	(4 Terminals)	.30	No. 8-60	(8 Terminals)	.52
No. 5-60	(5 Terminals)	.35	No. 9-60	(9 Terminals)	.57

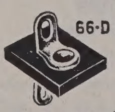


NO. 66-S TERMINAL STRIPS

Terminal .032" Hard Brass, Cadmium Plated

A heavy solder terminal with large oval hole for several wires.
Insulation: XP Bakelite, 3/4" wide, 3/32" thick. Terminals mounted on 5/8" centers. Mounting holes 5/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-66-S	(2 Terminals)	$ .09	No. 6-66-S	(6 Terminals)	$ .22
No. 3-66-S	(3 Terminals)	.12	No. 7-66-S	(7 Terminals)	.25
No. 4-66-S	(4 Terminals)	.15	No. 8-66-S	(8 Terminals)	.29
No. 5-66-S	(5 Terminals)	.19	No. 9-66-S	(9 Terminals)	.32

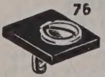


NO. 66-D TERMINAL STRIPS

Terminal .032" Hard Brass, Cadmium Plated

Two No. 66 terminals mounted on opposite sides of panel and riveted together by solid rivet. Ideal strip for heavy work.
Insulation: XP Bakelite, 3/4" wide, 3/32" thick. Terminals mounted on 5/8" centers. Mounting holes 5/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-66-D	(2 Terminals)	$ .11	No. 6-66-D	(6 Terminals)	$ .29
No. 3-66-D	(3 Terminals)	.15	No. 7-66-D	(7 Terminals)	.33
No. 4-66-D	(4 Terminals)	.20	No. 8-66-D	(8 Terminals)	.37
No. 5-66-D	(5 Terminals)	.24	No. 9-66-D	(9 Terminals)	.42

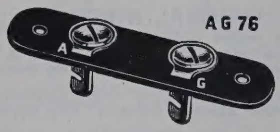


NO. 76 TERMINAL STRIPS

Terminal .028" Brass, Cadmium Plated

Cup shaped top holds wire securely under screw. A compact and good appearing terminal.
Screw: 6-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 3/4" wide, 1/16" thick. Terminals spaced on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-76	(2 Terminals)	$ .15	No. 6-76	(6 Terminals)	$ .33
No. 3-76	(3 Terminals)	.20	No. 7-76	(7 Terminals)	.37
No. 4-76	(4 Terminals)	.24	No. 8-76	(8 Terminals)	.42
No. 5-76	(5 Terminals)	.29	No. 9-76	(9 Terminals)	.46

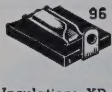


AG 76

AG-76

Standard Antenna-Ground strip using No. 76 terminals. Insulation: 1/16" Bakelite, 11/16" wide. Mounting centers 1 11/16". Ends rounded. Letters A and G are filled in white.

No. AG-76 .... **Ea. $ .13**



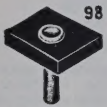
96

NO. 96 TERMINAL STRIPS

Terminal, Spring Temper Brass, Cadmium Plated

Perhaps the most popular socket terminal ever sold. Takes standard tube prongs (No. 99 or No. 100). Furnished for No. 99 prongs (1/8") unless otherwise specified. Insulation: XP Bakelite, 5/8" wide, 1/16" thick. Terminals mounted on 7/16" centers. Mounting holes 7/16" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-96	(2 Terminals)	$ .09	No. 6-96	(6 Terminals)	$ .22
No. 3-96	(3 Terminals)	.12	No. 7-96	(7 Terminals)	.25
No. 4-96	(4 Terminals)	.15	No. 8-96	(8 Terminals)	.29
No. 5-96	(5 Terminals)	.19	No. 9-96	(9 Terminals)	.32



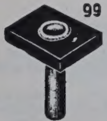
98

NO. 98 TERMINAL STRIPS

Terminal 3/32" Round, Brass, Cadmium Plated

Standard tube base prong of 3/32" diameter. To be used with No. 53 terminal strips.
Insulation: XP Bakelite, 1/2" wide, 3/32" thick. Terminals mounted on 3/8" centers.

Code		Ea.	Code		Ea.
No. 2-98	(2 Terminals)	$ .08	No. 6-98	(6 Terminals)	$ .21
No. 3-98	(3 Terminals)	.11	No. 7-98	(7 Terminals)	.24
No. 4-98	(4 Terminals)	.14	No. 8-98	(8 Terminals)	.28
No. 5-98	(5 Terminals)	.18	No. 9-98	(9 Terminals)	.31



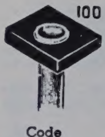
99

NO. 99 TERMINAL STRIPS

Terminal 1/8" Round, Brass, Cadmium Plated

Similar to No. 98, except that it is 1/8" in diameter. To be used with No. 42 terminal strips, and also with No. 96 terminal strips.
Insulation: XP Bakelite, 1/2" wide, 3/32" thick. Terminals mounted on 1/2" centers.

Code		Ea.	Code		Ea.
No. 2-99	(2 Terminals)	$ .11	No. 6-99	(6 Terminals)	$ .29
No. 3-99	(3 Terminals)	.15	No. 7-99	(7 Terminals)	.33
No. 4-99	(4 Terminals)	.20	No. 8-99	(8 Terminals)	.37
No. 5-99	(5 Terminals)	.24	No. 9-99	(9 Terminals)	.42



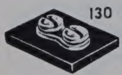
100

NO. 100 TERMINAL STRIPS

Terminal 5/32" Round, Brass, Cadmium Plated

Similar to No. 99, except 5/32" in diameter. To be used with No. 43 terminal strip, and No. 96 terminal strip.
Insulation: XP Bakelite, 5/8" wide, 3/32" thick. Terminals mounted on 5/8" centers.

Code		Ea.	Code		Ea.
No. 2-100	(2 Terminals)	$ .17	No. 6-100	(6 Terminals)	$ .40
No. 3-100	(3 Terminals)	.23	No. 7-100	(7 Terminals)	.45
No. 4-100	(4 Terminals)	.29	No. 8-100	(8 Terminals)	.51
No. 5-100	(5 Terminals)	.34	No. 9-100	(9 Terminals)	.56



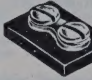
130

NO. 130 TERMINAL STRIPS

Terminals Brass, Burnished Nickel Plate

An inexpensive terminal strip with two screw terminals. Screws: 5-40 x 3/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 7/8" wide, 1/16" thick. Terminals mounted on 1/2" centers. Mounting holes 1/2" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-130	(2 Terminals)	$ .17	No. 6-130	(6 Terminals)	$ .52
No. 3-130	(3 Terminals)	.25	No. 7-130	(7 Terminals)	.61
No. 4-130	(4 Terminals)	.34	No. 8-130	(8 Terminals)	.69
No. 5-130	(5 Terminals)	.43	No. 9-130	(9 Terminals)	.78



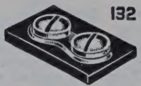
131

NO. 131 TERMINAL STRIPS

Terminals Brass, Burnished Nickel Plate

Similar to No. 130, except larger.
Screws: 6-32 x 1/4" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1" wide, 3/32" thick. Terminals mounted on 5/8" centers. Mounting holes 5/8" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-131	(2 Terminals)	$ .21	No. 6-131	(6 Terminals)	$ .61
No. 3-131	(3 Terminals)	.31	No. 7-131	(7 Terminals)	.70
No. 4-131	(4 Terminals)	.41	No. 8-131	(8 Terminals)	.80
No. 5-131	(5 Terminals)	.51	No. 9-131	(9 Terminals)	.90



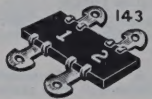
132

NO. 132 TERMINAL STRIPS

Terminals Brass, Burnished Nickel Plate

Similar to No. 131, except larger.
Screws 8-32 x 5/16" brass, binder head, burnished nickel plate. Insulation: XP Bakelite, 1 1/8" wide, 1/8" thick. Terminals mounted on 3/4" centers. Mounting holes 3/4" from center of end terminals.

Code		Ea.	Code		Ea.
No. 2-132	(2 Terminals)	$ .25	No. 6-132	(6 Terminals)	$ .69
No. 3-132	(3 Terminals)	.36	No. 7-132	(7 Terminals)	.80
No. 4-132	(4 Terminals)	.47	No. 8-132	(8 Terminals)	.91
No. 5-132	(5 Terminals)	.58	No. 9-132	(9 Terminals)	1.02



143

No. 143 TERMINAL STRIPS

Terminal .040" Brass, Tin Plated

A strong two-way solder terminal. Solder tabs lie flat. Crimps securely around edges of panel.

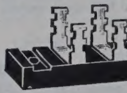
Special Strips

These strips can be made up special, with terminals mounted on any centers, from 3/8" up.

Standard Strips

Insulation: XP Bakelite, 3/8" wide, 3/32" thick. Terminals mounted on 1/2" centers. Mounting holes 1/2" from center of end terminals.
Terminals may be numbered or lettered in white, as illustrated. (See page 18 for imprinting cost.)

Code		Ea.	Code		Ea.
No. 2-143	(2 Terminals)	$ .11	No. 6-143	(6 Terminals)	$ .24
No. 3-143	(3 Terminals)	.14	No. 7-143	(7 Terminals)	.28
No. 4-143	(4 Terminals)	.18	No. 8-143	(8 Terminals)	.31
No. 5-143	(5 Terminals)	.21	No. 9-143	(9 Terminals)	.34



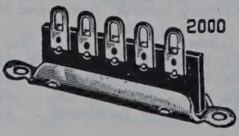
2-170

No. 170 TERMINAL STRIPS

Terminal .032" Brass, Tin Plated

A heavy solder Terminal.
Insulation: Black molded Bakelite, 5/16" wide, 1/4" thick. Terminals mounted on 3/8" centers. Mounting holes are 3/8" from center of end Terminals.

Code		Ea.	Code		Ea.
No. 1-170	(1 Terminal)	$ .18	No. 6-170	(6 Terminals)	$ .40
No. 2-170	(2 Terminals)	.22	No. 7-170	(7 Terminals)	.44
No. 3-170	(3 Terminals)	.26	No. 8-170	(8 Terminals)	.48
No. 4-170	(4 Terminals)	.31	No. 9-170	(9 Terminals)	.53
No. 5-170	(5 Terminals)	.35	No. 10-170	(10 Terminals)	.57



2000

NO. 2000 TERMINAL STRIPS

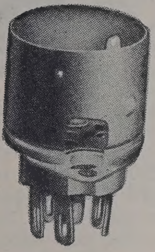
Terminals .019" Brass, Tin Plated

Compact and sturdy junction terminal strip. Useful in assembling radio chassis, wiring, etc.
Insulation: Bakelite. Brackets: Steel, cadmium plated. Terminals spaced on 5/16" centers.

Code		Mounting Hole Centers:	Per 100
No. 2002	(2 Terminals)	1"	$ 7.04
No. 2003	(3 Terminals)	1—5/16"	7.70
No. 2004	(4 Terminals)	1—5/8"	8.36
No. 2005	(5 Terminals)	1—15/16"	9.02
No. 2006	(6 Terminals)	2—1/4"	9.68
No. 2007	(7 Terminals)	2—9/16"	10.34
No. 2008	(8 Terminals)	2—7/8"	11.00
No. 2009	(9 Terminals)	3—3/16"	11.66
No. 2010	(10 Terminals)	3—1/2"	12.32
No. 2011	(11 Terminals)	3—13/16"	12.98
No. 2012	(12 Terminals)	4—1/8"	13.64
No. 2013	(13 Terminals)	4—7/16"	14.30

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

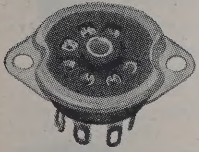
SOCKETS



MINIATURE SHOCK SHIELD TYPE:

7 prongs, ⅞" mounting centers

Cat. No.		List Price each
102M	Ceramic, beryllium copper contacts, JAN-SO-10C	$1.15
103M	Mica-filled bakelite, beryllium copper contacts, JAN-SO-10M	0.70
8322	Black bakelite, phosphor bronze contacts	0.32
8328	Ceramic, phosphor bronze contacts	0.55
8329	Mica-filled bakelite, phosphor bronze contacts	0.35



MINIATURE SADDLE TYPE:

7 prongs, ⅞" mounting centers

Cat. No.		List Price each
8323	Black bakelite, phosphor bronze contacts (with center grounding shield)	$0.17
8539	Black bakelite, phosphor bronze contacts (no center grounding shield)	0.15
8326	Ceramic, phosphor bronze contacts (with center grounding shield)	0.45
8327	Mica-filled bakelite, phosphor bronze contacts (with center grounding shield)	0.20

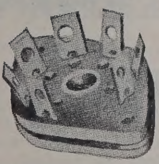
SHIELDS FOR MINIATURE SHOCK SHIELD TYPE SOCKETS:

Steel, cadmium plated with inner spring

Cat. No.		List Price each
7797	Height 1¾"	$0.19
7798	Height 1⅜"	0.19
8694	Height 2-11/64"	0.30

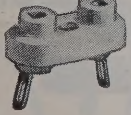
FOR MINIATURE SADDLE TYPE SOCKET:

Cat. No.		List Price each
8757	Height 1¾". Steel, cadmium plated	$0.10
8758	Shield holder	0.05



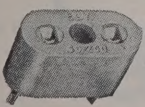
LAMINATED MINIATURE SOCKETS:

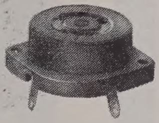
Cat. No.		List Price each
47-1	7 pin, laminated bakelite, spring brass contacts, no center grounding shield	$0.10
47-2	7 pin, laminated bakelite spring brass contacts, with center shield and ground strap	0.11
47-9	9 pin, laminated bakelite, spring brass contacts, with center shield, no ground strap	0.13



CRYSTAL SOCKET

Cat. No.		List Price each
CR-7	For crystals having .050 diameter pins and .486 spacing between pins. Steatite, grade L-5 JAN-1-10. Contacts: Phosphor bronze, cadmium plated, or beryllium copper, silver plated with tabs tinned.	
	Phosphor Bronze Contacts	$0.40
	Beryllium Copper Contacts	0.60
SO-200	For crystals having ¾" centers and .135 diameter. Banana type or .156 solid type pins. Insulator: Low Loss Phenolic. Contacts: Beryllium Copper, Silver Plated	0.65

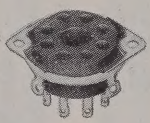




TYPE 12 SOCKETS

Phosphor bronze contacts, 1-11/16" mounting centers

Cat. No.	No. of Contacts	List Price each
12-4	4	$0.40
12-5	5	0.45
12-6	6	0.45
12-7 N-O	7 lg. & sm. comb.	0.50
12-8	8 Octal	0.50



OCTAL SADDLE TYPE:

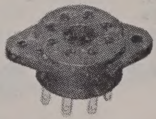
Cat. No.

9067 Black bakelite, steel saddle, cadmium plated with 4 ground lugs. Mounting centers, 1-5/16". Brass contacts, cadmium plated **List Price $0.13 ea.**

LOCTAL SADDLE TYPE:

Cat. No.

8451 Black bakelite, steel saddle, cadmium plated with 4 ground lugs. Mounting centers 1-5/16". Phosphor bronze contacts, cadmium plated. **List Price $0.17 ea.**



OCTAL ALL-MOLDED TYPE:

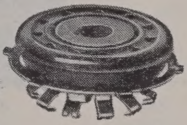
Cat. No.

8490 Black bakelite, mounting centers 1-5/16". Brass contacts, cadmium plated **List Price $0.14 ea.**

LOCTAL ALL-MOLDED TYPE:

Cat. No.

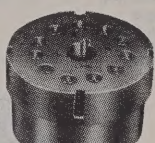
8191 Black bakelite, mounting centers 1-5/16". Phosphor bronze contacts, cadmium plated **List Price $0.16 ea.**



MAGNAL TYPE TELEVISION SOCKET:

Cat. No.

S-20-11 Black bakelite, phosphor bronze contacts, cadmium plated. 11 contacts. Supplied with press-on permanent mounting ring **List Price $0.85 ea.**



DUO DECAL TYPE TELEVISION SOCKET:

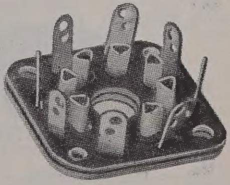
Cat. No.

9700 Accommodates up to 12 pins. Top diameter is 1-23/32"; overall depth is 63/64". Contacts recessed to avoid shorting **List Price $1.10 ea.**

DI HEPTAL TYPE TELEVISION SOCKET:

Cat. No.

9709-6 Heavy-duty type, accommodates up to 14 pins. Top diameter is 2-7/32"; overall depth is 63/64". Contacts recessed to avoid shorting. **List Price $1.20 ea.**



OCTAL TYPE:

Cat. No. 46-5-E 8 prong:

Dimensions:

Mounting Centers	1-5/16"
Overall Width	1-13/32"
Overall Length	1-5/8"

List Price $0.10 ea.

Cat. No. 46-1-E 8 prong:

Dimensions:

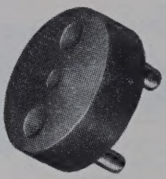
Mounting Centers	1-1/2"
Overall Width	1-13/32"
Overall Length	1-27/32"

List Price $0.10 ea.

GLASS TUBE TYPE:

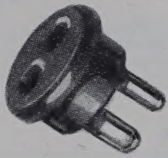
Cat. No.		Mounting Centers	Width	Length	List Price each
34-1AA	4 prong	1½"	1⅜"	1⅞"	$0.10
34-1-B	5 prong	1½"	1½"	1⅞"	0.11
34-1-C	6 prong	1½"	1½"	1⅞"	0.12
34-1-DX	7 prong	1½"	1½"	1⅞"	0.13

PLUGS

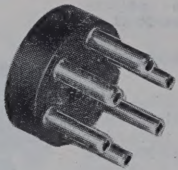


MOLDED BATTERY PLUGS

Cat. No.	Number of Prongs	Volts	Batt.	List Price each
30-2	2	3	A	**$0.09**
30-3B	3	45	B	**0.09**
30-3C	3	4½	C	**0.09**
30-4L	4		A & B	**0.09**
30-5	5	22½	C	**0.11**
30-7½	5	7½	C	**0.11**

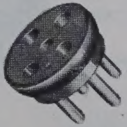


Cat. No.	Number of Prongs	Volts	Batt.	List Price each
30-2M	2	1½	A	**$0.08**
30-2M3	2	6	A	**0.09**
30-3M	3	45	Midget B	**0.08**



MOLDED SPEAKER PLUGS

Cat. No.	No. of Prongs	List Price ea.
29-4	4	**$0.11**
29-5	5	**0.11**
29-6	6	**0.12**
29-7	7 .750 layout	**0.13**



Cat. No.	No. of Prongs	List Price ea
28-6	6	**$0.20**
28-4	4	**0.21**
28-5	5	**0.24**
28-7	7 .750 layout	**0.26**

LAMINATED BATTERY PLUGS

Cat. No.	Number of Prongs	Volts	Batt.	List Price each
66-2	2	3	A	**$0.06**
66-2M	2	1½	A	**0.05**
66-2M3	2	6	A	**0.05**
66-3B	3	45	B	**0.07**
66-3C	3	4½	C	**0.08**
66-3M	3	45	Midget B	**0.06**
66-4MS	4		A & B	**0.07**
66-4	4		A & B	**0.09**
66-4½	2	4½	A	**0.05**
66-8	9		A & B	**0.13**

BINDING POSTS

Cat. No. 37. ENSIGN: Knobs and base are molded Bakelite. Metal inserts are plain brass. Knurled base prevents post turning.

Knob: ½″ diam. x 7/16″ high.
Base: ½″ diam. x ¼″ thick.
Solid Stem: 6/32″ x ⅝″ long.
Drilled Neck Diameter: 3/16″.
Width of contact flanges: ⅜″.
List Price $0.35 ea.

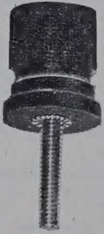
Cat. No. 38. ENSIGN: Same as No. 37 except that it has a molded insulating boss on base. **List Price $0.37 ea.**

Cat. No. 39. ENSIGN: Same as No. 37 except that it has molded dowel pin on base. base. **List Price $0.37 ea.**

Cat. No. 40. COMMANDER: Knobs and base are molded Bakelite. Metal inserts are plain brass. Knurled base prevents post turning.

Knob: 9/16″ diam. x ½″ high.
Base: ⅝″ diam. x ¼″ thick.
Solid Stem: 8/32″ x ⅞″ long.
Drilled Neck Diameter: 13/64″.
Width of contact flanges: 7/16″.
List Price $0.50 ea.

Cat. No. 41. COMMANDER: Same as No. 40 except that it has a molded insulating boss on base. **List Price $0.55 ea.**



Cat. No. 42. COMMANDER: Same as No. 40 except that it has a metal dowel pin on base. **List Price $0.55 ea.**

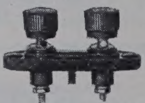
Cat. No. 43. ADMIRAL: Knobs and base are molded Bakelite. Metal inserts are plain brass. Knurled base prevents post turning.

Knob: ⅝″ diam. x 17/32″ high.
Base: 23/32″ diam. x ¼″ thick.
Solid Stem: 8/32″ x ¾″ long.
Plain Neck: 13/64″ diameter.
Width of contact flanges: 7/16″.
List Price $0.60 ea.

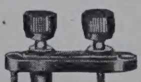
Cat. No. 44. ADMIRAL: Same as No. 43 except that it has molded insulating boss on base. **List Price $0.55 ea.**

Cat. No. 45. ADMIRAL: Same as No. 43 except that it has a molded dowel pin on base. **List Price $0.55 ea.**

Cat. No. 43-S. ADMIRAL: Same as No. 43 except that it has a elongated slot in neck. **List Price $0.65**



Cat. No. 21-R. All-molded Bakelite, non-removable tops. Both posts completely insulated. Center mounting screw 6/32″ x ¼″ long. Base is 2″ long, 11/16″ wide and 3/16″ thick. Center distance between posts is ⅞″. **List Price $0.70 ea.**



Cat. No. 21-S. All-molded Bakelite, non-removable tops. One post is completely insulated. One mounting screw 6/32″ x ¼″ long. Ground post is second mounting screw. Base is 2″ long, 11/16″ wide and 3/16″ thick. **List Price $0.70 ea.**

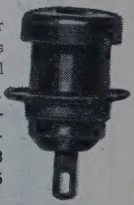
TIP JACKS

Cat. No. 49. Top diameter ½″ x 5/32″ thick. Threaded brass body 5/16″-32 x ¾″ long. One hexagon nut and two insulating washers furnished. Hole for washers is 19/64″. Red or Black Bakelite top.

List Price: Red ......**$0.19 ea.**
Black ... **0.17 ea.**

Cat. No. 52. Top diameter ½″ x ⅛″ thick. Body is 5/16″ x ¾″ long. Special steel assembly washers, cadmium plated, are furnished. Red or black Bakelite.

List Price: Red ......**$0.10 ea.**
Black ... **0.09 ea.**



Cat. No. 76. Top diameter ⅝″ x 5/32″ thick. Body is .495″ x ⅝″ long. Special steel assembly washers, cadmium plated, are furnished. Red or black Bakelite. **List Price:** Red **$0.18**
Black... **0.15**

Cat. No. 17. This twin jack with molded Bakelite base, is provided with two terminals 1⅜″ apart and has a 6/32″ x ¼″ mounting screw at center.
List Price $0.65 ea.

Cat. No. 18. Twin jack, is provided with two terminals ⅞″ apart and has two .140″ diameter holes, 1-11/16″ centers. Bottom plate is 1/16″ thick, top plate 1/32″ thick. ⅝″ wide x 2-1/16″ long.
List Price $0.13 ea.

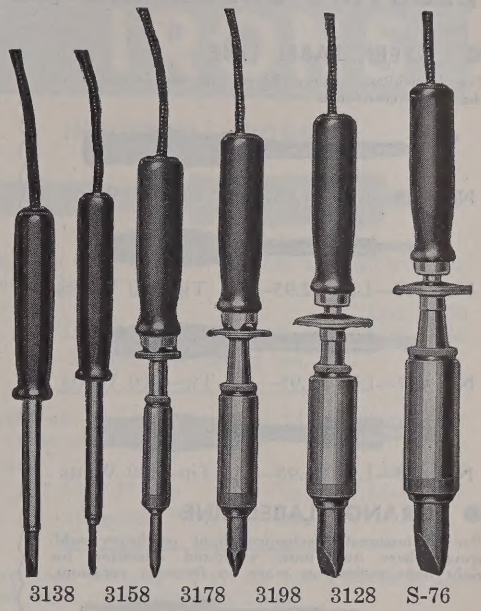
Cat. No. 18-T. Triple jack is provided with three terminals 9/16″ apart and has two .140″ diameter mounting holes, 1-15/16″ centers. Bottom plate is 1/16″ thick, top plate 3/64″ thick. ⅝″ wide x 2⅜″ long.

List Price $0.19 ea.

American Beauty

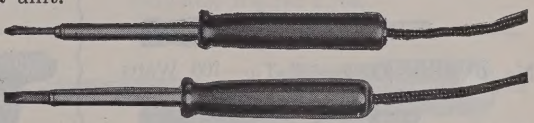
ELECTRIC SOLDERING IRONS

These Irons embody features that specialized experience—since 1894—has demonstrated to be desirable for efficient and lasting service. Hundreds of thousands in use throughout the world in manufacturing plants, service, maintenance and repair shops, Army and Navy Services, telephone, telegraph and radio stations.



No. 3138—Designed primarily for production and maintenance in radio, telephone, telegraph, ignition switchboard and telephone installation work and similar industrial applications.
No. 3158—For the same purposes as the No. 3138 but for work requiring an iron of greater capacity.
No. 3178—For use on still heavier work; for light commutators and service and production work. A very useful iron for general purposes.
No. 3198—For heavy work of all kinds. Supplies a large volume of heat at high temperature. Used by manufacturers in many different lines; for shop, service, production work, etc. Each of the above irons is equipped with a baffle plate, at the shank, to prevent free conduction of heat to the handle.
No. 3128—Designed for lighter work than the No. 3138 in similar applications. Has plug-type ¼"-diameter tip with a heating element of chrome nickel but without compression winding as used in the higher-wattage No. 3138-3198 series. Element and casing with handle springs and terminal assembly built as a unit.
No. S-76—Designed for work of the same kind as the No. 3128 but has a screw-type 7/16" diameter tip which screws on the metal head of the core of the chrome nickel heating element. Element with casing and handle springs and terminal assembly built as a unit.

Made in standard voltages and for 32 volts. No. 3138 also made for 6, 12, 24 and 55 volts. Nos. 3138-3198 can be equipped with three-conductor cord, one wire grounded, at slight additional charge. Separate heat-insulating stand supplied with each iron.



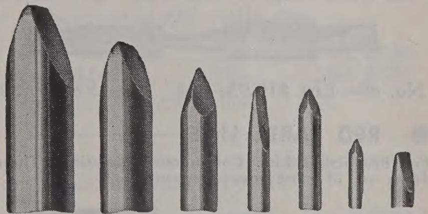
Top No. 3128 — Bottom No. S-76

SPECIFICATIONS

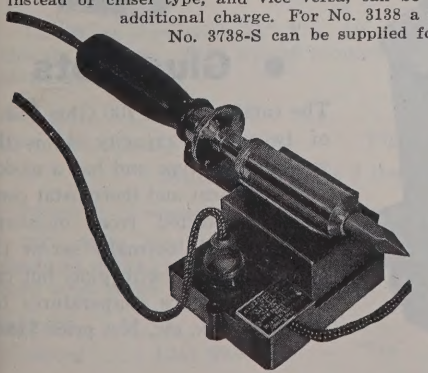
Cat. No.	Diameter of Tip	Watts	Net Weight	Length Over All	Casing Diameter	Approx. Ship. Wt.	List Price Each	Net Price Each (Less than 6)	Net Price Each (6 or more)
3138	⅜"	100	16 oz.	12⅞"	⅞"	2 lbs.	$ 8.00	$ 5.36	$ 5.08
3158	⅝"	200	28 oz.	13⅝"	1¼"	3 lbs.	9.60	6.41	6.07
3178	⅞"	300	42 oz.	14⅜"	1 9/16"	4 lbs.	12.90	8.59	8.11
3198	1⅛"	550	60 oz.	15"	1¾"	5¾ lbs.	16.80	11.18	10.58
3128	¼"	60	7½ oz.	12¼"	9/16"	16 oz.	5.00	3.34	3.18
S-76	7/16"	50	6 oz.	11⅝"	9/16"	14 oz.	5.00	3.34	3.18

American Beauty COPPER TIPS

These copper tips are made from commercially pure, drawn bar, copper rod. Except for the No. 3734 screw-on type tip for the No. S-76 iron, each tip is designed to fit into, and to the full length of, core of heating unit of the particular iron for which it is intended. Maximum area of contact between the tip and heating unit is thus assured. Tips are of uniform diameted throughout their entire length. Each tip is held in place in core of heating unit by a recessed set-screw. Removal for cleaning or replacement is therefore easy. Standard shaped tips with which the various models are equipped are shown in the illustration; but pyramidal, instead of chisel type, and vice versa, can be supplied when so specified without additional charge. For No. 3138 a special, long, semi-chisel shaped tip No. 3738-S can be supplied for telephone and switchboard work.



3798 for 3198 Iron	3778 for 3178 Iron	3758 for 3158 Iron	3738S for 3138 Iron	3738 for 3138 Iron	3728 for 3128 Iron	3734 for S-76 Iron



American Beauty TEMPERATURE REGULATING STANDS

For use on (AC) Alternating Current Only

This is a thermostatically controlled device for the regulation of the temperature of an electric soldering iron while at rest. When placed on this stand, soldering iron is maintained at working temperature, ready for instant use or, if desired, at a lower temperature. Through an adjustment on bottom of the stand, thermostat may be set for the maintenance of any desired temperature—from very low, or warm, to full working temperature. Body of stand is of molded plastic. Soldering iron cradle proper is of metal. Stand is equipped with cord and attachment plug-cap for connection to current and with a receptacle for connection of the electric soldering iron. It is designed for use with electric soldering irons up to 660 watts capacity and on circuits up to 240 volts.

Cat. No.	Net Weight	List Price	Net Price
475	27 oz.	$5.50	$3.88

ESICO

REG. U. S. PAT. OFF.

ELECTRIC SOLDERING IRONS FOR HOME, PROFESSIONAL MECHANIC AND FACTORY

• GREEN LABEL LINE

For intermittent duty. Meets all requirements of the home craftsman.

No. 415—List $1.95—3/8" Tip—55 Watts

No. 416—List $2.95—1/4" Tip—60 Watts

No. 417—List $3.95—3/8" Tip—100 Watts

No. 418—List $4.95—1/2" Tip—130 Watts

• ORANGE LABEL LINE

For Professional Mechanics—light or heavy soldering where iron must withstand operation for eight hour periods or more on frequent occasions.

No. 62—List $4.95—1/4" Tip—60 Watts

No. 63—List $5.95—3/8" Tip—100 Watts

No. 64—List $6.95—1/2" Tip—130 Watts

No. 65—List $7.95—5/8" Tip—200 Watts

No. 67—List $8.95—7/8" Tip—300 Watts

No. 69—List $10.95—1 1/8" Tip—500 Watts

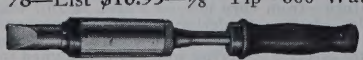
• RED LABEL LINE

For Production Line Continuous Operation. These Irons are of most rugged construction.

No. 38—List $6.95—3/8" Tip—100 Watts

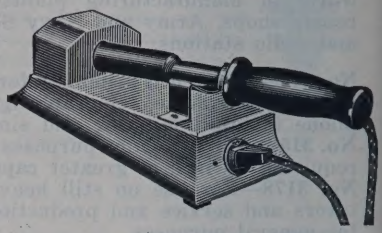
No. 58—List $8.95—5/8" Tip—200 Watts

No. 78—List $10.95—7/8" Tip—300 Watts



No. 98—List $12.95—1 1/8" Tip—550 Watts

• Thermostatic Temperature Control Stand



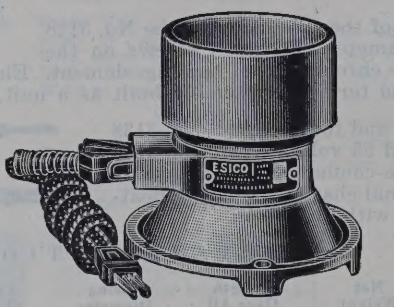
The iron can be maintained at any desired temperature while in the stand. This is the only way to control the tip temperature of an iron. Control of element temperature is not satisfactory. There is too much of a lag between element and tip temperature.

Years ago we developed a thermostatically controlled iron, which regulated the element temperature (just as presently marketed thermostatically controlled irons do) but we discarded the iron as it would permit the tip to cool.

When the stand is properly adjusted, it is impossible for the iron to overheat or to burn off its tin.

	List Price
Cat. No. 5 Irons up to 1" dia. tip	$ 6.50
Cat. No. 6 Irons up to 1 5/8" dia. tip	6.50

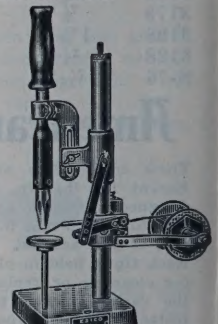
• Soldering Pots



Ruggedly constructed, cast iron pots for production work. Elements are easily replaced even while pots are hot.

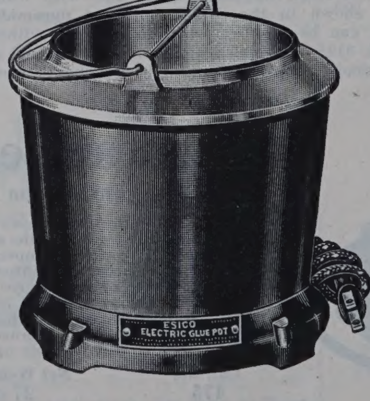
	Net Price
Cat. No. 12—1 1/2" dia. Cap. 3/4 lbs.	$ 4.50
Cat. No. 36—2 1/2" dia. Cap. 2 1/4 lbs.	5.50
Cat. No. 60—3 1/2" dia. Cap. 3 3/4 lbs.	6.50

• Spot Soldering Machine



Model "F" is a treadle operated machine which feeds solder forward as the iron moves away from the work. Suitable for spot soldering where a mechanical connection has first been made. Net price $15.00

Model "N" is a treadle operated machine for the advancement of the iron, but without a solder feed attachment. Net price $7.50



• Glue Pots

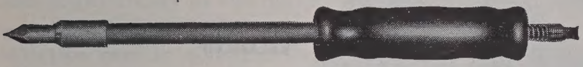
The catalogue No. 700 Glue Pot is of two quart capacity. It is the water jacket type and has a gasket sealed element and thermostat completely protected from moisture. Thermostat is normally set at 150 degrees for use with glue, but can be set at various temperatures for use with wax, etc. Net price $18.50

ELECTRIC SOLDERING IRON CO., INC.

DRAKE RADIO IRONS

LISTED UNDER REEXAMINATION SERVICE UNDERWRITERS' LABORATORIES

Suggested for Maintenance Work and for the Radio Service Man



60 Watt Iron with ⅜″ Tip. An excellent iron for light work. Porcelain element. Six ft. cord and small stand.

No. 315 .... List **$1.90**
Element........ List **$1.00** Tip........ List $0.90
Shipping Weight 1 lb.

100 Watt Iron with ⅜″ Tip. An ideal iron for those who require a hotter iron than our No. 315. Porcelain element. Six ft. cord and small stand.

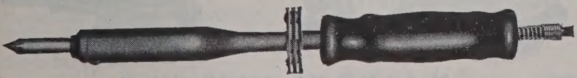
No. 316 .... List **$3.20**
Element........ List **$1.50** Tip........ List **$1.80**
Shipping Weight 1½ lbs.

80 Watt Iron with ⅜″ Tip. Recommended for light radio work. Mica wound element. Six ft. cord and large stand.

No. 225 .... List **$4.40**
Element........ List **$3.40** Tip........ List **$1.25**
Shipping Weight 1½ lbs.

100 Watt Iron with ⅜″ Tip. Recommended for general radio work. Mica wound element. Six ft. cord with large stand.

No. 325 .... List **$5.00**
Element........ List **$4.00** Tip........ List **$1.25**
Shipping Weight 2 lbs.



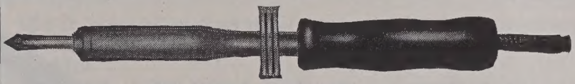
125 Watt Iron with ⅜″ Tip. An extra hot iron for the serviceman. Mica wound element. Six ft. cord and large stand.

No. 326 .... List **$6.00**
Element........ List **$5.00** Tip........ List **$1.25**
Shipping Weight 2 lbs.

200 Watt Iron with ⅝″ Tip. Recommended for medium heavy work. Mica wound element. Six ft. cord and large stand.

No. 425 .... List **$10.00**
Element........ List **$9.00** Tip........ List **$ 2.00**
Shipping Weight 2 lbs.

INDUSTRIAL IRONS



60 Watt Iron with ¼″ Tip. An extra small iron for midget sets. Only 9″ long.

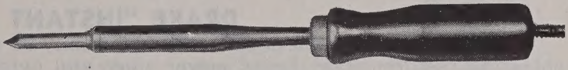
No. 400 .... List **$5.50**
Element........ List **$4.50** Tip........ List **$0.60**
Shipping Weight 2 lbs.

100 Watt Iron with ⅜″ Tip. Only 10 inches over all. Ideal for close work on radio sets.

No. 600-10 .... List **$8.00**
Element........ List **$7.00** Tip........ List **$1.25**
Shipping Weight 2 lbs.

140 Watt Iron with ⅜″ Tip. An extra hot iron for high speed work on production lines.

No. 600 Special .... List **$8.50**
Element........ List **$7.50** Tip........ List **$1.25**
Shipping Weight 2 lbs.



80 Watt Iron with ⅜″ Tip. Recommended for fine instruments, light telephone and other light soldering.

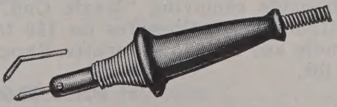
No. 450 .... List **$6.00**
Element........ List **$5.00** Tip........ List **$1.25**
Shipping Weight 2 lbs.

100 Watt Iron with ⅜″ Tip. The standard 100 watt iron. Ideal for switchboards and radio sets.

No. 600 .... List **$7.50**
Element........ List **$6.50** Tip........ List **$1.25**
Shipping Weight 2 lbs.

200 Watt Iron with ⅝″ Tip. For general factory work such as art glass, medium tin work.

No. 800 .... List **$10.00**
Element........ List **$9.00** Tip........ List **$ 2.00**
Shipping Weight 3 lbs.



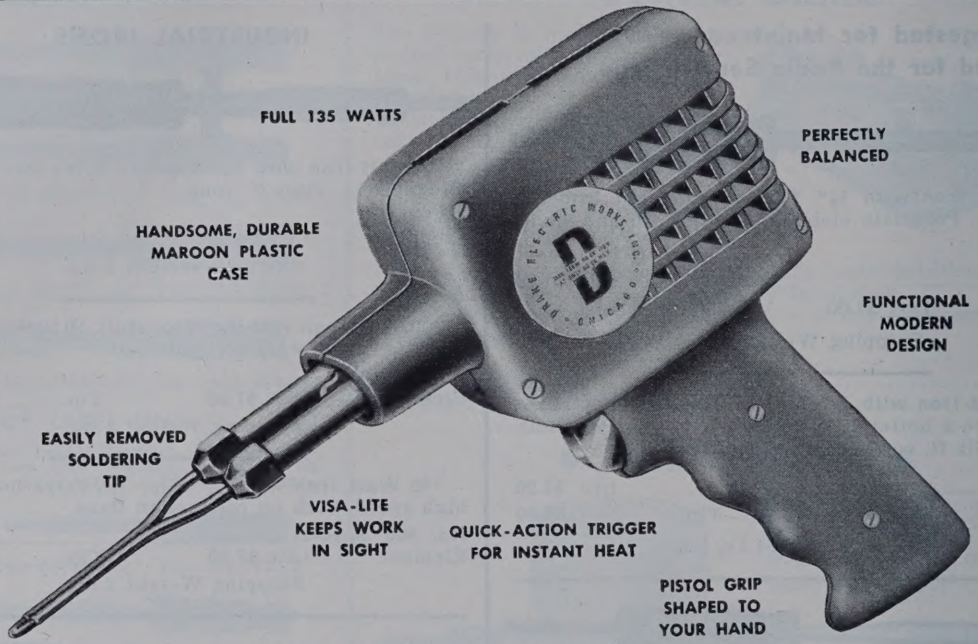
MODEL 350 MIDGET

Recommended for voice coil leads on speaker cones, meter connections, test equipment, hearing aids, crystal pickups, headphone leads, etc. This iron is a continuous duty 35 watt iron with a nickle-chromium element wound over mica insulation on a steel core.

No. 350 .... List **$5.00**
Element........ List **$4.00** Tips, ea........ List **$0.25**
Shipping Weight 1 lb.

DRAKE

SOLDER GUN
HEAT CONTROLS
SOLDER POTS

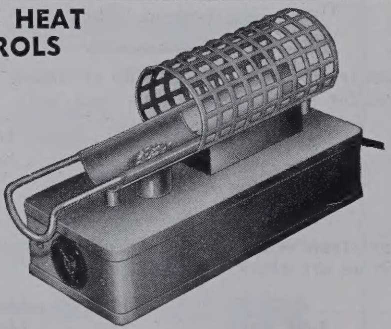

FULL 135 WATTS
PERFECTLY BALANCED
HANDSOME, DURABLE MAROON PLASTIC CASE
FUNCTIONAL MODERN DESIGN
EASILY REMOVED SOLDERING TIP
VISA-LITE KEEPS WORK IN SIGHT
QUICK-ACTION TRIGGER FOR INSTANT HEAT
PISTOL GRIP SHAPED TO YOUR HAND
DRAKE ELECTRIC WORKS, INC. CHICAGO

DRAKE "INSTANT HEAT" SOLDER GUN

A new addition to the famous "Drake" family of complete soldering aids. Instant-heat solder gun for quick soldering requirements. Saves power since gun only operates when trouble-free trigger is squeezed. Equipped with built-in spotlight, properly focused to light soldering spot. Attractive maroon plastic case properly louvered for cool operation. Balance engineered by one of America's most famous industrial designers. Complete with easily removed tips, one 3½" tip for ordinary soldering; one 6½" tip for deep chassis soldering. Operates on 110-120 volt, 60-cycles A.C., 135 watts. Shpg. wt., 3 lbs.

No. 900 Solder Gun, complete with 2 tips; one ½"and one 6½" .... **List Price $20.00**
No. 901 Extra 3½" Tips (4 to pkge.) .. **List Price $0.50** No. 902 Extra 6½" Tips (2 to pkge.) **List Price $0.50**

DRAKE HEAT CONTROLS



New thermostatically controlled, automatic, heat controls. Ideal for production applications where iron must be kept at correct soldering temperatures at all times. Complete with oxide removing "Magic Cup." Choice of with or without hood. Operates on 110 to 240 volts and will handle any iron to 660 watts. Shpg. wt., either model: 3 lbs.

No. 305 Less Hood .... **List Price $7.50**
No. 305H With Hood .... **List Price $8.50**

Standard Models

These standard economy models have stand-by switch instead of thermostats. Keep switch in low position until iron is almost ready for use. A flip of the switch and the iron is ready for use in a few moments. Variable resistor allows individual adjustment to meet the requirements of each soldering operation. Operates on 110 volts. Shpg. wt., either model: 3 lbs.

No. 300 Less Hood .... **List Price $5.50**
No. 300H With Hood .... **List Price $6.00**

Drake Solder Pots For Production Line

No. 200 300 W. 110 V. MFG. BY DRAKE ELECTRIC WORKS CHICAGO ILL.

Model No. 200—300 Watt Unit

An ideal electric solder pot for production use. Used in factory production of tinned wire ends, terminal tinning and countless other volume tinning applications. Holds 2 lbs. of bar solder in 2½" diameter 2" deep cast iron well. Complete with detachable Underwriters' Approved cord and plug, and bale type carrying handle. Genuine nichrome element. Shipping weight 6 lbs.

No. 200 .... **List Price $6.50**

Model No. 100—150 Watt Unit

Designed for light tinning. Ideal for occasional jobs. Suited especially for tinning ends of stranded wires to prevent fraying. Can also be used for soldering cord tips to cables. One piece cast iron construction holds heat longer. Size of pot 1½" diameter 1" deep. Holds 1 lb. of bar solder. Complete with Underwriters' Approved cord and detachable plug. Shipping weight 3 lbs.

No. 100 .... **List Price $5.00**

CALROD* SOLDERING IRONS

FOR EVERY RADIO REQUIREMENT

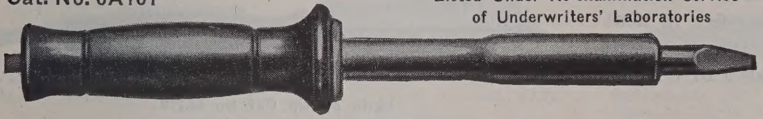
MANUFACTURING — SERVICE

*Reg. U. S. Pat. Off.

- **HIGH-SPEED SOLDERING.** You can solder as fast and continuously as the nature of the work will allow.
- **UNIFORM PERFORMANCE.** Operating characteristics remain constant day after day. No appreciable decrease in efficiency even after months of service.
- **LONG LIFE AND LOW MAINTENANCE.** Long life is assured and over-all costs are kept low because sturdy construction eliminates need of frequent repairs.
- **EASY, LOW-COST REPAIR.** Assembling and disassembling are easy.
- **THEY NEED NOT BE RETURNED TO THE FACTORY FOR REPAIR.** Irons can be repaired on the job without special tools or skill.

Cat. No. 6A161

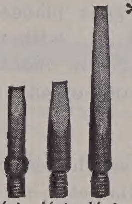
Listed Under Re-examination Service of Underwriters' Laboratories



Watts	Volts			Tip diam.
75	115	Calorized tip	$9.55*†	See note below*
		IRONCLAD tip	10.20*†	

*Cat. No. 6A161 and Cat. No. 6A162 can be supplied with either a ⅜- or ½-inch diameter tip at prices given. The long ½-inch diameter tip projects 3⅜ inches from the shell. Price of iron with long calorized tip—$10.10; with long IRONCLAD tip—$10.90.

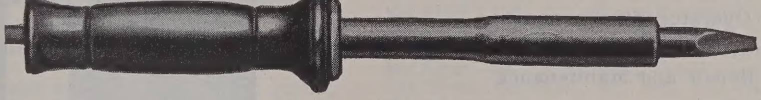
*



For light, intermittent soldering such as radio assembly and repair and installation, switchboard, ignition, wiring devices, meters and instruments, or very light high-speed soldering of similar products.

WEIGHTS: Less cord, 15 oz. With cord, 20 oz. Shipping, 26 oz.
Equal to old-style copper—1¼-lb.

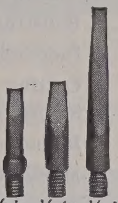
Cat. No. 6A162



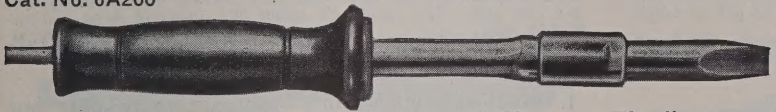
Watts	Volts			Tip diam.
100	115	Calorized tip	$9.55*†	See note above*
		IRONCLAD tip	10.20*†	

For light, high-speed soldering, such as assembly of radios, telephones, switchboards, appliances, meters, and instruments, and installation and repair of wiring and wiring devices, ignition. Excellent for service and repair men.
WEIGHTS: Less cord, 15 oz. With cord, 20 oz. Shipping, 26 oz.
Equal to old-style copper—1¾ lb.

*



Cat. No. 6A200

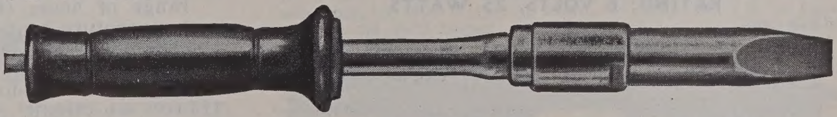


Watts	Volts			Tip. diam.
100	115	Calorized tip	$10.80†	¾ inch
		IRONCLAD tip	12.20†	

For light, high-speed soldering, such as assembly of radios and switchboards, medium intermittent soldering on tinware, wiring, plumbing, and tinsmithing. Excellent general-purpose iron for shop and farm.

WEIGHTS: Less cord, 16 oz. With cord, 21 oz. Shipping, 27 oz. Equal to old-style copper—2-lb.

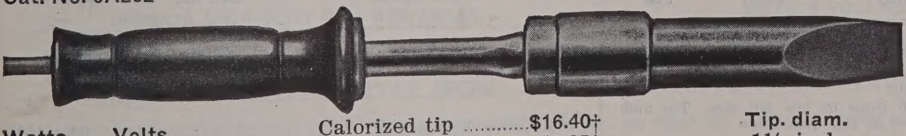
Cat. No. 6A201



Watts	Volts			Tip. diam.
200	115	Calorized tip	$13.55†	1 inch
		IRONCLAD tip	15.10†	

For medium, high-speed soldering of automobile and airplane assembly, electric equipment, light tanks and containers of copper and steel. Excellent general-purpose iron for manufacturing plant.
WEIGHTS: less cord, 24 oz. With cord, 29 oz. Shipping, 34 oz.
Equal to old-style copper—3-lb.

Cat. No. 6A202



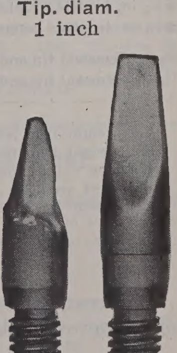
Watts	Volts			Tip. diam.
300	115	Calorized tip	$16.40†	1¼ inch
		IRONCLAD tip	17.95†	

For heavy work such as light commutators, large - diameter pipe, medium-gage copper or steel tank and container material, roofing, heavy tinware.
WEIGHTS: Less cord, 37 oz. With cord, 42 oz. Shipping, 48 oz.
Equal to old-style copper—4-lb.

ASK ABOUT IRONCLAD TIPS

IRONCLAD TIPS MEAN

- No Filing
- Less Maintenance
- Lower Upkeep Cost
- Longer Life



Effect of solder (250 C for 363.5 hours) on plain copper (left) and Ironclad copper (right) soldering tips.

Note—230-volt irons available on request. Same prices apply. Above prices include supporting stand.

† Mfgr's suggested retail price.

ASK YOUR DISTRIBUTOR FOR A COPY OF BULLETIN GEA-4519.

MIDGET SOLDERING IRONS

FOR MANUFACTURING AND SERVICE OF RADIO AND ELECTRONIC EQUIPMENT

APPLICATION

This 8-inch, 1¾-ounce featherweight iron for close-quarter soldering with pin-point precision is used where conventional irons might cause damage . . . be clumsy to handle . . . be more expensive to operate. The Midget literally goes places with greater efficiency and less power . . . with no sacrifice in heat or speed. With its fingertip operation, this iron will help make an expert out of any solderer in a short time.

The Midget has chisel-shaped Ironclad copper tips either ⅛- or ¼-inch diameter, as desired.

THIS MIDGET DOES A BIG JOB IN

- Boosting Production Rates
- Increasing Operator Efficiency
- Cutting Down Employee Fatigue
- Saving on Repair and Maintenance
- Reducing Rejects
- Manufacturing and Repairing:
    - Radios and other electronic equipment
    - Meters
    - Instruments
    - Jewelry
    - Appliances

. . . and many other products requiring precision soldering

RATING: 6 VOLTS, 25 WATTS

Description	Cat. No.	Price†
★⅛-in. Ironclad copper tip (pyramid-shaped)	6A212	$5.40
★¼-in. Ironclad copper tip (chisel-shaped)	6A210	5.40
⅛-in. Renewal tip and heater assembly	6A213	3.00
¼-in. Renewal tip and heater assembly	6A211	3.00

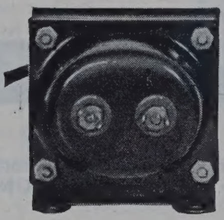
Net weight iron less cord 1¾ oz.
Net weight iron including cord 5 oz.
Shipping weight complete iron 8 oz.

Standard package consists of 6 irons of one tip size. Tip and heater assemblies can be purchased in any quantities.

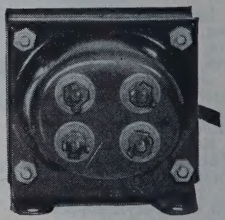
⅛-in. dia tip, Cat. No. 6A212

¼-in. dia tip, Cat. No. 6A210

SPECIAL TRANSFORMERS (OPTIONAL) FOR G-E MIDGET SOLDERING IRONS



Single-tap, Cat. No. 84G392



Four-tap, Cat. No. 84G370

Specially designed 115-volt transformers are available as optional equipment in two types:

1. Single-tap 115/6 volts—for use where only one soldering heat is required
2. Four-tap 115/6.3/6/5.7/5.4 volts — gives wide range of heats (from 20 to 30 watts) for close temperature control of tips

Transformers are small, lightweight, but sturdy. Their 6-foot extension cords can be plugged in any 115-volt a-c circuit.

Description	Cat. No.	Price†
Single-tap	84G392	$5.20
Four-tap	84G370	7.80

Publication Reference GEA-4519

THE MIDGET OFFERS MAJOR ADVANTAGES

Low-cost soldering—Solders more efficiently, using only approximately one-fourth wattage normally used.

Fingertip operation—Only 8 inches long, weighs but 1¾ ounces. Styled for fingertip grip.

Quick, continuous heat—Famous G-E Calrod* heater built into Ironclad copper tip for rapid heat transfer.

Easy renewal—Ironclad tip and heater can be replaced as a unit merely by unscrewing from handle.

Long life, low maintenance—Low voltage permits use of heavy, long-lasting resistant wire. Reduced servicing with long-lasting Ironclad copper tip.

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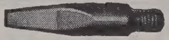
* Registered U.S. Patent Office.
† Manufacturers' suggested retail price.

HEXACON ELECTRIC SOLDERING IRONS

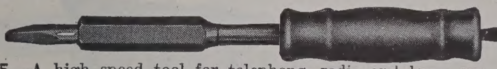
GENERAL INFORMATION—Equipped with 6 ft. (10,000 cycle) approved heater cord (covered with twine braid for extra long wear) and rubber plug. Continental or English type plugs 25c extra list. Metal stand furnished with each iron. Heating elements made of best grade nickel-chromium resistance wire, insulated with finest mica obtainable. Elements in the plug tip irons are replaceable by the user and in the screw tip irons replaceable at the factory. Tips in all irons are replaceable; made of hard drawn pure copper. Case is made from solid Hexacon steel (except No. 50 and P-30), affording it great mechanical strength, preventing denting. Terminal easily accessible and constructed to relieve cord strain. Smooth, cool, comfortable handle—readily replaceable. Voltage range: 32 to 250. Standard voltages 110/120, 121/130, 220/250. All other voltages $1.00 extra list.

SCREW TIP IRONS



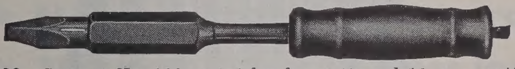
No. 50—For light soldering on radio, telephone and electrical apparatus. 50 Watts. Tip diam., 7/16". Ship. wt., 1 lb. Equal to ½-lb. old style copper............each **$4.50**

No. 60—Medium light soldering on telephone, radio, apparatus and linemen's kits. 60 Watts. Tip diam., ½". Ship. wt., 1⅛ lb. Equal to 1-lb. old style copper............each **$6.25**



No. 85—A high speed tool for telephone, radio and home use. 90 Watts. Tip diam., ½". Ship, wt., 1¼ lb. Equal to 1½-lb. old style copper............each **$7.00**

No. 120—Light tinware, toys, typewriter, light auto, etc. A high speed iron. 120 Watts. Tip diam., ⅝". Ship. wt., 1⅜ lb. Equal to 2-lb. old style copper............each **$8.00**



No. 130—Same as No. 120 except has larger tip and 10 more watts capacity. 130 Watts. Tip diam., ⅞". Ship. wt., 1⅝ lb. Equal to 2-lb. old style copper............each **$8.75**

No. 170—Medium tinware, small cans, auto repairs, pipes, gutters, toys, small motors. 175 Watts. Tip diam., 1". Ship. wt., 2¼ lb. Equal to 2½-lb. old style copper............each **$10.00**

No. 225—Medium tinware, cans, auto repairs, metal patterns, light roofing, small branders. 250 Watts. Tip diam., 1⅛". Ship wt., 2⅝ lb. Equal to 3-lb. old style copper............each **$11.00**

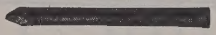
No. 350—Heavy tinware, large cans, autos, roofing, refrigerators, ship and airplane. 350 Watts. Tip diam., 1⅜". Ship wt., 3⅜ lb. Equal to 4-lb. old style copper............each **$13.00**

No. 500—Auto repairs, sinks, roofs, cans, armatures, large branders, tinsmiths, etc. 500 Watts. Tip diam., 1⅝". Ship. wt., 4 lb. Equal to 5-lb. old style copper............each **$15.00**

No. 700—For extra heavy soldering and large branders. 700 Watts. Tip diam., 1¾". Ship. wt., 5 lbs. Equal to 7-lb. old style copper. each **$27.50**

OPERATE ON A.C. OR D.C., ANY CYCLE

PLUG TIP IRONS



No. P-30—For extremely light soldering on finest wire and delicate instruments. 40 Watts. Tip diam., ¼". Ship. wt., ⅝ lb. Equal to ¼-lb. old style copper............each **$4.50**

No. P-70—For light soldering on radio and telephone apparatus and electrical instruments. 80 Watts. Tip diam., ⅜". Ship. wt., 1⅛ lb. Equal to 1-lb. old style copper............each **$6.00**

No. P-100—A high speed tool for telephone switchboards, electrical instruments, etc. 100 Watts. Tip diam., ⅜". Ship. wt., 1¼ lb. Equal to 1½-lb. old style copper............each **$7.00**

No. P-125—For light tinware, toys, typewriter type bars, small cans, auto, etc. 130 Watts. Tip diam., ⅝". Ship. wt., 1½ lb. Equal to 2-lb. old style copper............each **$8.50**

No. P-150—Extra high speed iron for radios, electrical apparatus and where a light iron with small diameter is required. 150 Watts. Tip diam., ⅜". Ship. wt., 1¾ lb. Equal to 2-lb. old style copper each **$7.75**

No. P-151—Same as No. P-150, except where a larger tip is desired. 175 Watts. Tip diam., ½". Ship. wt., 1¾ lb. Equal to 2½-lb. old style copper............each **$8.25**

No. P-200—For medium tinware, cans, auto repairs, light roofing, sheet metal, etc. 200 Watts. Tip diam., ⅝". Ship wt., 2⅛ lb. Equal to 2¾-lb. old style copper............each **$9.50**

No. P-250—Same as No. P-200, except where greater speed is required for manufacturing. 250 Watts. Tip diam., ⅝". Ship. wt., 2¼ lb. Equal to 3-lb. old style copper............each **$10.75**

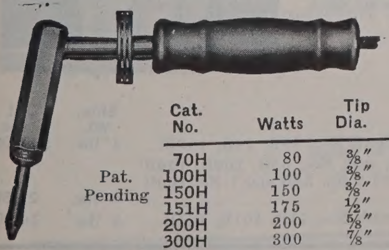
No. P-300—For heavy tinware, large cans, auto, roofing, refrigerator work, etc. 300 Watts. Tip diam., ⅞". Ship. wt., 2⅞ lb. Equal to 4-lb. old style copper............each **$12.50**

No. P-550—For auto radiators, copper sinks, roofs, heavy armatures, large branders, etc. 550 Watts. Tip diam., 1⅛". Ship. wt., 4⅛ lb. Equal to 5-lb. old style copper............each **$15.00**

SPECIFY VOLTAGE WHEN ORDERING

HEXACON HATCHET TYPE IRON

For same use as Plug Tip irons of equal wattage, shown above. Replaceable elements and all other features of Plug Tip Irons.



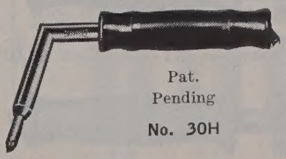
Perfect Balance
Less Fatigue
Better Soldered Joints

Pat. Pending

Cat. No.	Watts	Tip Dia.	Ship. Wt.	Price
70H	80	⅜"	1⅜ lbs.	$ 8.00
100H	100	⅜"	1½ lbs.	9.00
150H	150	⅜"	2 lbs.	9.75
151H	175	½"	2 lbs.	10.25
200H	200	⅝"	2⅜ lbs.	11.50
300H	300	⅞"	2⅞ lbs.	14.50

HEXACON FEATHERWEIGHT HATCHET IRON

So light its weight is hardly noticeable, but more powerful than most larger irons. Hatchet design makes iron effortless to use. No transformer or other cumbersome and expensive equipment required.



Pat.
Pending

No. 30H

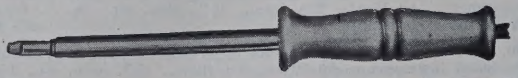
List Price........$5.00
Weight: 5½ ozs. (less cord).
*Watts: 40, 50 or 60.
Both ⅛" and ¼" dia. tips furnished with each iron.
Shipping weight: 1 lb.
*Specify watts when ordering.

SOLDERMASTER Royal Blue Line
ELECTRIC SOLDERING IRONS

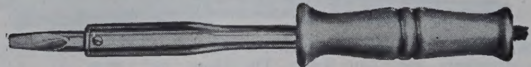
GENERAL INFORMATION—Replaceable elements. Best grade of Madagascar mica for insulation. No. 55 has brass-sheathed cartridge element. Best grade nickel-chrome resistance wire. Replaceable hard drawn copper tips. All one piece swaged cases CHROME PLATED. Equipped with 6 ft. Underwriters' Approved heater cord, rubber plug. Continental or English type plug 25c extra list. Stand for resting iron furnished.

VOLTAGES 110/120 220/250 A.C. or D.C., ANY CYCLE
SPECIFY VOLTAGE WHEN ORDERING

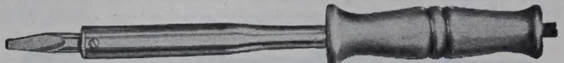
SCREW TIP IRONS



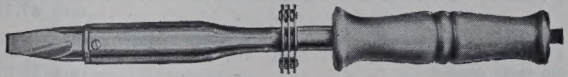
No. 55B—For light soldering, radio apparatus, etc. 55 Watts. Tip diam., 7/16". Ship. wt., 13 oz........each **$2.50**



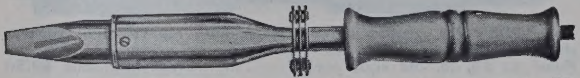
No. 76B—For light work, electrical instruments, etc. 75 Watts. Tip diam., ½". Ship. wt., 15 oz........each **$4.00**



No. 100B—Same as No. 76B except used where more speed is required and heavier work is done. For home use. 90 Watts. Tip diam., ½". Ship. wt., 16 oz........each **$4.50**

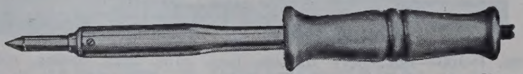


No. 150B—Ideal size for garage and repair work. For home use. 170 Watts. Tip diam., ⅞". Ship. wt., 24 oz........each **$7.00**

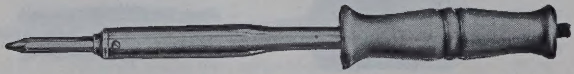


No. 300B—For heavy steel metal, auto radiators, etc. 275 Watts. Tip diam., 1⅛". Ship. wt., 38 oz........each **$10.00**

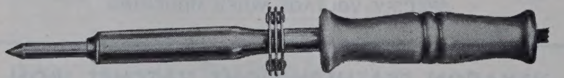
PLUG TIP IRONS



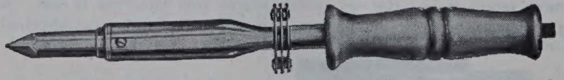
No. 71B—For light work, radio repairs, etc. 75 Watts. Tip diam., ⅜". Ship. wt., 16 oz........each **$4.00**



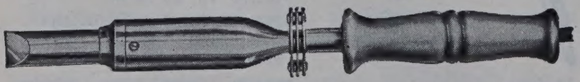
No. 101B—For same work as No. 71B, but where more speed is required or heavier work is done. For home use. 100 Watts. Tip diam., ⅜". Ship. wt., 18 oz........each **$4.50**



No. 121B—High speed iron for radio and electrical repairs. 125 Watts. Tip diam., ⅜". Ship. wt., 1¾ lbs........each **$5.50**



No. 201B—For same work as No 150B, except where plug tip is desired. 200 Watts. Tip diam., ⅝". Ship. wt., 34 oz........each **$8.00**



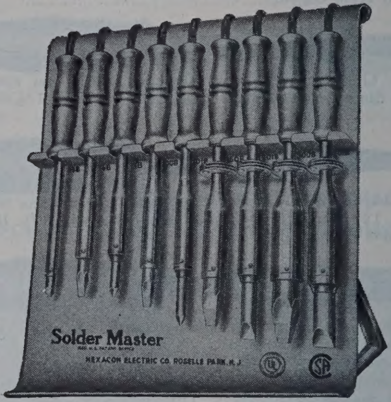
No. 301B—For same work as No. 300B, except where plug tip is desired. 300 Watts. Tip diam., ⅞". Ship. wt., 46 oz........each **$10.00**

DISPLAYS

Increase your sales with these silent salesmen. Irons securely mounted, but readily removable for sale. Individually packed in cartons ready for shipment. Catalog number and wattage shown on front of display. Complete catalog information and price list on back.

SCROLL TYPE DISPLAY

Striking, Modernistic, All Metal Panel



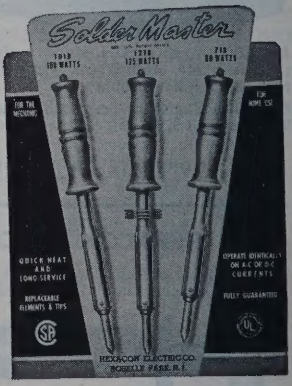
No. 1 DISPLAY Illustrated
Size 15" x 17½" (Nos. 1B, 2B, and 3B also same size)
This Display Panel Also Furnished With
Five or Seven Irons (See Below)

	Ship. Wt.	List Price
No. 1B—Nine Iron with Nos. 55B, 76B, 100B, 150B, 300B, 71B, 101B, 201B, 301B....	20 lbs.	**$54.50**
No. 2B—Seven Iron with Nos. 55B, 76B, 100B, 150B, 300B, 71B, 101B........	17 lbs.	**36.50**
No. 3B—Five Iron with Nos. 55B, 76B, 100B, 150B, 300B........	15 lbs.	**28.00**
No. 4B—Five Iron with Nos. 71B, 101B, 121B, 201B, 301B........	16 lbs.	**32.00**

ATTRACTIVE THREE COLOR CARDBOARD DISPLAY

This same display card also furnished with No. 5B and No. 5DB, but mounted with irons listed below.

No. 6B DISPLAY Illustrated
Size 12" x 16½"
(Nos. 5B, 5DB also same size)



	Ship. Wt.	List Price
No. 5B—Three Iron with Nos. 55B, 76B, 100B....	4 lbs.	**$11.00**
No. 5DB—Three Iron with Nos. 55B, 100B, 150B on display and 2 No. 55B and 1 No. 100B for stock........	8 lbs.	**23.50**
No. 6B—Three Iron with Nos. 71B, 101B, 121B....	5 lbs.	**14.00**

KWIKHEAT

SOLDERING IRONS

THERMOSTATICALLY CONTROLLED

HOT IN 90 SECONDS — 225 WATTS 110/120 V. A.C.

VANATTA Kwikheat
© THERMOSTATIC SOLDERING IRON
TYPE 300-115V.A.C. 225 WATT

- **New Bevelled Tips give 30% more heat**
- **Three times faster heating**
- **Maintains constant temperature**
- **Tips stay tinned 10 times longer**
- **Cannot overheat**
- **Temperatures are pre-set**

$11.00
LIST

Self-Contained Thermostat Patented Feature

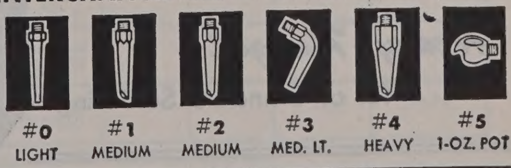
KWIKHEAT Thermostatically Controlled Soldering Iron is the only iron containing a built-in thermostat. This enables it to heat up ready for use in 90 seconds! Fully guaranteed! KWIKHEAT's patented thermostat maintains perfect temperature for best soldering . . . prevents overheating . . . prolongs life of iron . . . reduces cost of tip maintenance. Cool plastic handle . . . light weight . . . 6 interchangeable tip styles make one KWIKHEAT equivalent to several soldering irons of different voltage.

LIST PRICE $11.00

SPECIFICATIONS

Type #300:
225 Watts - 100/125 V. A.C.
Weight of iron with # tip: 13½ ozs.
Length of iron with tip: 13¼ inches
Length of cord: 6 feet
Core made of tellurium copper alloy
Tips: $1.25 each Set of 5: $5.50

SIX INTERCHANGEABLE TIP STYLES Each $1.25


#0
LIGHT
#1
MEDIUM
#2
MEDIUM
#3
MED. LT.
#4
HEAVY
#5
1-OZ. POT

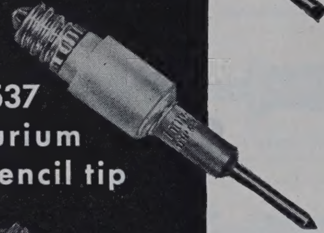
★ UNGAR *Electric Tool Co.*, Inc. ★

LOS ANGELES 54

Manufacturers of

Ungar Electric Soldering Pencils

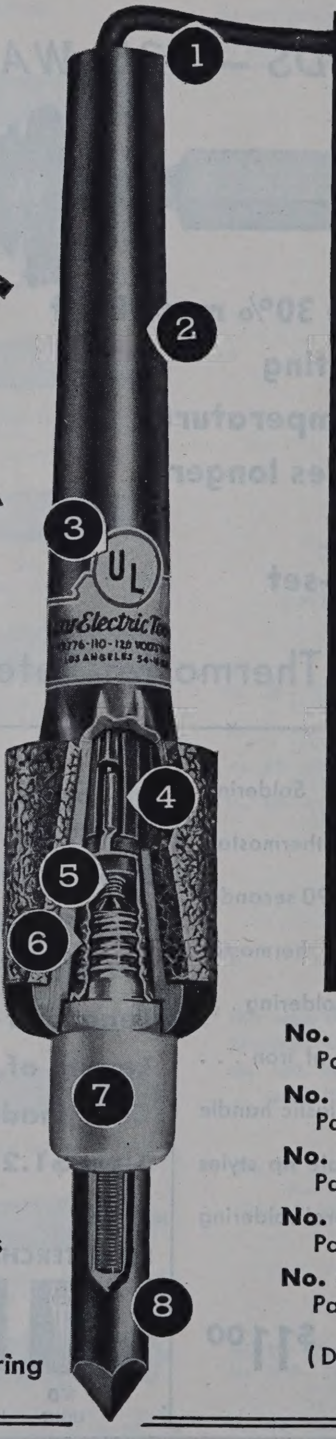
No. 538
Tellurium
⅛" Chisel tip



No. 537
Tellurium
⅛" Pencil tip

No. 539
Tellurium
⅜" Chisel tip

No. 536
Tellurium
⅜" Pyramid



8 New Features

1. ***Full Length CORD*** 65 strand Extra Flexible
2. ***New, Cooler HANDLE*** of Durable Molded Plastic (Patent applied for)
3. ***UNDERWRITERS' Listed*** Seal on Complete Pencil Set
4. ***Ceramic SEPARATORS*** for DOUBLE Safety
5. ***Spring Action Rivet*** Assures positive contact at all times
6. ***Extra Length Brass Shell*** Firmly engages all threads Keeps Heating Unit Tight
7. ***20 watt ELEMENT*** 1,000 hours operation 56¢ 110-120 volt A.C.—D.C.
8. ***4 INTERCHANGEABLE TIPS*** • ample copper heats to 600° in 90 sec.

New

Feather-Light
for hard-to-reach Jobs

Heavy-Rugged
for all Standard Soldering

No. 776—HANDLE & CORD SET
Packed 25 per case—Price **$1.00 ea.**

No. 536—PYRAMID TIP
Packed 10 per box—Price **$1.00 ea.**

No. 537—PENCIL TIP
Packed 10 per box—Price **$1.00 ea.**

No. 538—CHISEL TIP
Packed 10 per box—Price **$1.00 ea.**

No. 539—CHISEL TIP
Packed 10 per box—Price **$1.00 ea.**

(Discounts: 1 to 9—20%
10 or more—35%)

WELLER SOLDERING GUNS

FOR ALL YOUR SOLDERING

UNIVERSAL MODEL FOR ALL TYPES OF LIGHT SOLDERING

READY, AIM...SOLDER

Fast 5 second heat comes on the instant trigger is pulled. No wasted time or current. No need to unplug gun between jobs.

TRIGGER ACTION

Just pull the trigger switch . . . model S-107 has single heat 100 watts; model D-207 offers dual heat with two switch positions 100 and 135 watts.

FLEXIBLE TIPS

Flexible tips can be easily formed to slip through chassis wiring; handles difficult, deep corner jobs with ease.

PREFOCUSED SPOTLIGHT

Built-in Solderlite eliminates blind soldering—locates the work quickly and shows you exactly what you are doing.

TWO TYPE WELLER TIPS

Duratip is standard for models S-107 and D-207—chisel shape provides more soldering area, maximum soldering efficiency. Pkg. of 2 for 25c.

Long Life Tip—loop tip, highly efficient at less cost. Package of 4 for 25c.

HEAVY-DUTY MODEL HANDLES ALL SOLDERING UP TO 250 WATTS

DUAL HEAT

Model WD-250 has 200 watts normal heat on first switch position, and 250 watts instant heat on second trigger position. Model WS-200 provides 200 watts single heat.

5 SECOND HEAT

Pull the trigger switch, and solder. Fast 5 second heating eliminates waiting. Heat goes off automatically when trigger is released . . . no wasted time or current, no need to unplug gun between jobs.

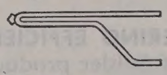
NEW DESIGN

Streamlined design gives perfect balance and soldering ease. Improved transformer engineering provides light weight, compact unit with increased capacity and efficiency. 'Over and under' terminal positions assure maximum visibility with built-in spotlight.

LONGER REACH

Greater 5¼" length reaches into remote spots with ease.

RIGID-TIP



New, improved tip is standard with models WS-200 and WD-250. Chisel-shape tip has more copper and greater surface for faster heat transfer, and design provides bracing action for heavier soldering. Package of 2 for 35c.

WELLER
SOLDERING TIPS
10

UNDERWRITERS' LABORATORIES APPROVED

Weller Guns S-107 and D-207 are U.L. approved.
Also approved in Canada under CSA App. No. 7508.

SOLDERING TIPS

new Weller handy guide to faster, easier soldering—20 pages fully illustrated. Price 10c.

WELLER
MANUFACTURING COMPANY
808 Packer Street • Easton, Pa.

MODEL	WATTS	CYCLES	VOLTS	LENGTH*	NET PRICE
S-107	single heat 100	60	115	4"	$11.95
WS-200	single heat 200	60	115	5¼"	12.95
D-207	dual heat 100/135	60	115	4"	13.95
WD-250	dual heat 200/250	60	115	5¼"	14.95

*Length—dimension from front of housing to tip.

U.S. Pat. No. 2405866, Other Pat. Pending.

Printed in U.S.A.

KESTER FLUX-CORE SOLDER

Standard for the Radio and TV Field

KESTER
FLUX CORE
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- Kester Plastic Rosin-Core Solder
- Kester "Resin-Five" Core Solder
- Kester Radio Solder
- Kester Acid-Core Solder
- Kester "A" Flux-Core Solder
- Kester Nosput Flux-Core Solder
- Kester Knorust Flux-Core Solder
- Specialized Flux-Core Solders
- Solid Wire and Bar Solders
- Kester Preforms, Rings, Pellets, Washers, Ribbon
- External Rosin Soldering Fluxes
- Other Fluxes
- Kester Soldering Iron Brackets

FOR PEAK SOLDERING EFFICIENCY, IT'S KESTER! Kester offers every conceivable type of Solder product. Strand sizes as small as .008″ diameter in Flux-Core Solder, unusual alloys and varying Flux contents or Core sizes.

A COMPLETE TECHNICAL SERVICE. If you're not getting peak efficiency or have a specific problem in your soldering operations, take advantage of the facilities of Kester's Technical Department. . . . It costs you nothing.

STANDARD FOR INDUSTRY
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Factories Also At
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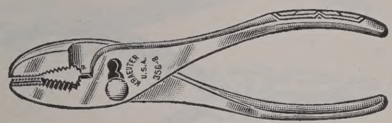
KRAEUTER & COMPANY, INC.
NEWARK, NEW JERSEY, U.S.A.

KRAEUTER

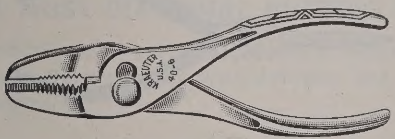
The choice of skilled mechanics



"GRIPTITE" COMBINATION PLIERS

The finest quality combination pliers. Designed for heavy duty. Slightly tapered nose, sharp deep milled teeth and grooved jaws for gripping cotter pins and wire. Knurled handles. The 8″ and 10″ sizes have three slip joint adjustments which give a wide range of parallel grips.

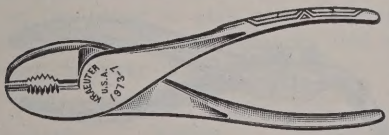
No.	Length	Finish	Wt. per doz.	Price Each
356	5½ in.	Full Nickel	3½ lbs.	$1.50
356	6 in.	Full Nickel	5¼ lbs.	1.60
356	8 in.	Full Nickel	8¾ lbs.	2.00
356	10 in.	Full Nickel	14 lbs.	2.50



THIN NOSE COMBINATION PLIERS

The tapered jaws and thin nose of these pliers enable the mechanic to grip objects difficult to reach in tight, narrow working spaces. Knurled handles, milled gripping teeth and wire cutters.

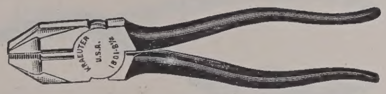
No.	Length	Finish	Wt. per doz.	Price Each
40	5 in.	Nickel Plated	2¼ lbs.	$
40	6 in.	Nickel Plated	4¼ lbs.	$1.25



MECHANICS' SIDE CUTTING PLIERS

Gripping pliers with side cutters. Tapered nose, milled teeth and grooved jaws for gripping cotter pins and wire. Knurled handles. The cutters are very handy for light wire work.

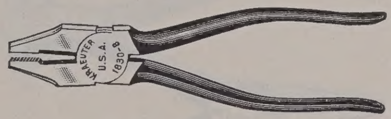
No.	Length	Finish	Wt. per doz.	Price Each
1973	5½ in.	Full Nickel	3½ lbs.	$2.20
1973	7 in.	Full nickel	7¼ lbs.	2.50



LINEMEN'S SIDE CUTTING PLIERS

Designed for heavy work to meet the requirements of linemen. Drop forged from selected plier steel, skilfully hardened and tempered. Powerful wire cutters, a well balanced head and deep milled gripping jaw surface for holding and bending wire.

No.	Length	Finish	Wt. per doz.	Price Each
1801	6 in.	Blue Temper	5¼ lbs.	$2.45
1801	7 in.	Blue Temper	7½ lbs.	2.75
1801	8½ in.	Blue Temper	11¼ lbs.	3.75

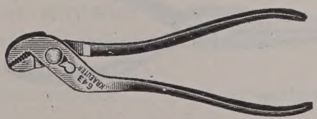


ELECTRICIANS' SIDE CUTTING PLIERS

Used extensively in electric wiring of fixtures, appliances and other general repair work.

Very popular with mechanics on production work where electric wiring is required in the finished product.

No.	Length	Finish	Wt. per doz.	Price Each
1830	4 in.	Blue Temper	1½ lbs.	$1.75
1830	5 in.	Blue Temper	2¼ lbs	1.90
1830	6½ in.	Blue Temper	4¾ lbs.	2.10
1830	7 in.	Blue Temper	6¾ lbs.	2.35
1830	8 in.	Blue Temper	8¼ lbs.	2.75



IGNITION PLIERS

Very narrow head, serrated gripping teeth and well shaped handle grips. Three slip joint positions. Generally used on distributor, generator, magneto and carburetor work.

No.	Length	Finish	Wt. per doz.	Price Each
643	5 in.	Blue Temper	1 lb.	$1.60

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NEWARK, NEW JERSEY, U.S.A.

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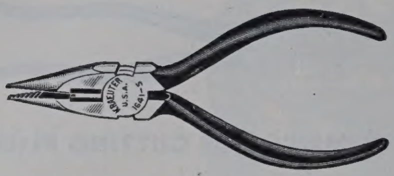
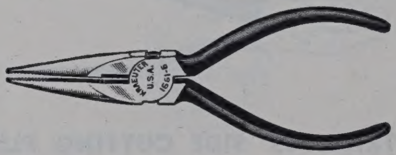


SHORT CHAIN NEEDLE NOSE PLIERS

Short tapered jaws for bending and looping wire. The short nose gives these pliers extra leverage and gripping strength. Used for wiring switches and other open electric work.

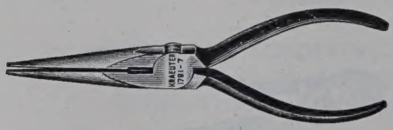
No.	Length	Finish	Wt. per doz.	Price Each
1641	5 in.	Blue Temper	2¾ lbs.	**$2.00**
1643	Same without Cutter		2¾ lbs.	**1.75**



LONG CHAIN NEEDLE NOSE PLIERS

Long tapered jaws and needle nose. Used extensively in all industries . . . from switchboard, electric fixture and appliance wiring . . . to motor ignition, aviation and general manufacturing work.

No.	Length	Finish	Wt. per doz.	Price Each
1661	6 in.	Blue Temper	3½ lbs.	**$2.30**
1671	Same without Cutter		3½ lbs.	**1.80**

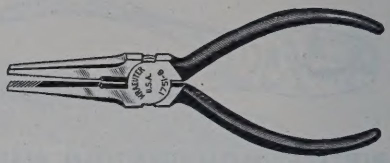


EXTRA LONG CHAIN NOSE PLIERS

Extra long tapered jaws with narrow pointed nose. Used extensively in automotive . . . electric . . . aviation and general production and repair work.

Length of jaw 2¾ in.

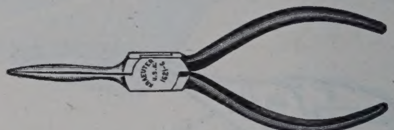
No.	Length	Finish	Wt. per doz.	Price Each
1781	7 in.	Blue Temper	3¾ lbs.	**$2.65**
1771	Same without Cutter		3¾ lbs.	**2.15**



LONG FLAT NOSE PLIERS

Adaptable to many uses where a tool with long flat sturdy jaws is required. Jaws are scored to give a good gripping and holding surface.

No.	Length	Finish	Wt. per doz.	Price Each
1751	6 in.	Blue Temper	3 lbs.	**$2.40**
1741	Same without Cutter		3 lbs.	**1.90**

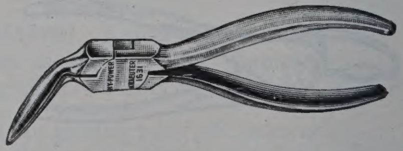


LONG NEEDLE OR SNIPE NOSE PLIERS

Especially designed for difficult and awkward jobs where no other tool will serve. The long slender jaws make it adaptable to many uses. A very popular plier for fine work.

$2\frac{3}{32}$ in. Jaw

No.	Length	Finish	Wt. per doz.	Price Each
1621	6 in.	Blue Temper	2¼ lbs.	**$2.10**



CURVED NEEDLE OR SNIPE NOSE PLIERS

To reach that place down in under or around an obstruction. Very useful where greater visibility is required in holding small objects at an angle.

No.	Length	Finish	Wt. per doz.	Price Each
1631	5½ in.	Blue Temper	2¼ lbs.	**$2.35**

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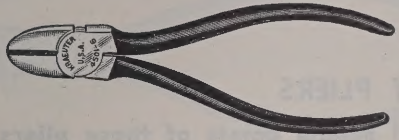
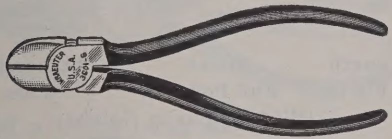


DIAGONAL "OBLIQUE" CUTTING PLIERS

Made especially for close cutting. Used extensively in electrical work, radio manufacturing, telephone and automotive ignition work.

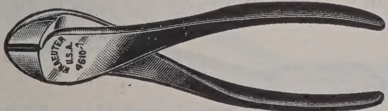
No.	Size	Finish	Wt. per doz.	Price Each
4501	4½ in.	Blue Temper	1½ lbs.	$1.80
	5 in.	" "	2¾ lbs.	2.05
	6 in.	" "	3¾ lbs.	2.35



SHORT NOSE DIAGONAL CUTTING PLIERS

An excellent cotter pin tool. Specially designed with short nose. Very popular with aviation and automotive mechanics.

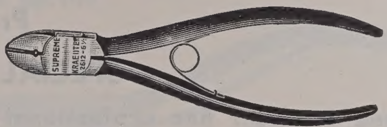
No.	Size	Finish	Wt. per. doz.	Price Each
3601	6	Blue Temper	4½ lbs.	$2.50



"HIGH POWER" DIAGONAL CUTTING PLIERS

This type diagonal plier has the joint very close to the end of the cutter to give added leverage which makes cutting easy. A well balanced tool adaptable to the work in many trades.

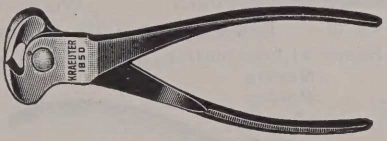
No.	Length	Finish	Wt. per doz.	Price Each
4610	7 in	Blue Temper	5¾ lbs.	$2.30



WIRE STRIPPING DIAGONAL CUTTING PLIERS

Narrow head and notched cutters for stripping fine wire .062 diameter. The spring in the handle makes this a very fast cutting tool. Used by manufacturers of electric fixtures, appliances, radio and radio tubes.

No.	Length	Finish	Wt. per doz.	Price Each
2612	6½ in.	Blue Temper	3 lbs.	$2.85



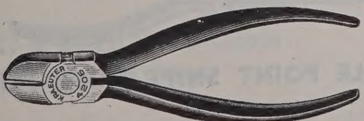
No. 1850

END CUTTING NIPPERS

Powerful end nippers carefully edged to insure sharp enduring cutters. Compact jaws and close riveted joint.

No.	Length	Finish	Wt. per doz.	Price Each
1850	5 in.	Blue Temper	4½ lbs.	$2.00
1850	6 in.	Blue Temper	6 lbs.	2.25
1850	7 in.	Blue Temper	8 lbs.	2.50
1850	8 in.	Blue Temper	10½ lbs.	2.90

NOTE: These pages contain only a partial listing of KRAEUTER Tools. Ask for complete catalog describing the entire extensive KRAEUTER line.
All prices subject to change without notice.



No. 4206

HARD WIRE DIAGONAL CUTTING PLIERS

Designed and edged for the purpose of cutting hard wire . . . in small sizes not larger than $\frac{1}{16}''$ diameter . . . not intended for cutting soft wire.

No.	Length	Finish	Wt. per doz.	Price Each
4206	6 in.	Blue Temper	4½ lbs.	$2.50

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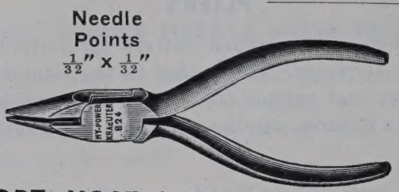
The choice of skilled mechanics

Professional Line

SPECIAL NEEDLE POINT PLIERS

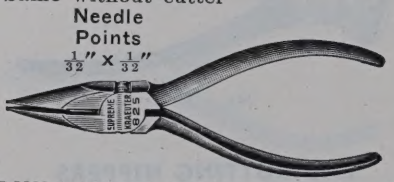
Designed for light fine professional work. The special needle points of these pliers make them invaluable where delicate adjustments have to be made.

(NOSE OF THESE PLIERS NOT GUARANTEED)


Needle Points
1/32" x 1/32"
HY-POWER KRAEUTER 824

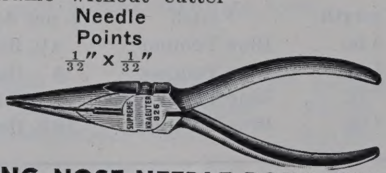
SHORT NOSE NEEDLE POINT PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
824	4½ in.	Full Polished	1½ lbs.	$2.50
834	Same without cutter			2.20


Needle Points
1/32" x 1/32"
SUPREME KRAEUTER 825

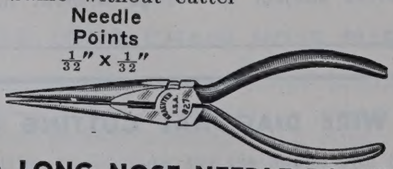
MEDIUM NOSE NEEDLE POINT PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
825	5 in.	Full Polished	2¼ lbs.	$2.50
835	Same without cutter			2.25


Needle Points
1/32" x 1/32"
SUPREME KRAEUTER 826

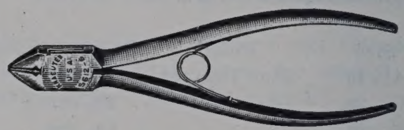
LONG NOSE NEEDLE POINT PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
826	6 in.	Full Polished	3 lbs.	$2.70
836	Same without cutter			2.35


Needle Points
1/32" x 1/32"
KRAEUTER U.S.A. 827

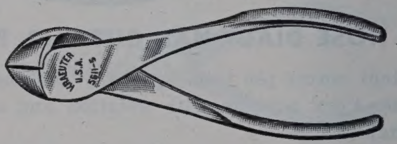
EXTRA LONG NOSE NEEDLE POINT PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
827	7 in.	Full Polished	3¾ lbs.	$3.00
837	Same without cutter		3¾ lbs.	2.75


KRAEUTER U.S.A. 5612

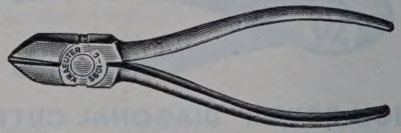
NEEDLE POINT DIAGONAL CUTTING PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
5612	6½ in.	Full Polished (With Stripping Notch)	3 lbs.	$3.30


KRAEUTER U.S.A. 5611-5

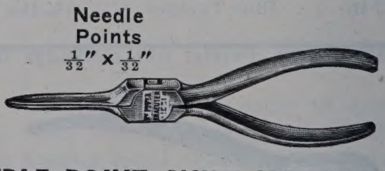
OVAL HEAD DIAGONAL CUTTING PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
5611	5 in	Full Polished	2 ¼ lbs.	$2.75


KRAEUTER 5601-5

NEEDLE POINT DIAGONAL CUTTING PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
5601	4½ in.	Full Polished	2 lbs.	$2.50
5601	5 in.	Full Polished	2¾ lbs.	2.70
5601	6 in.	Full Polished	3¾ lbs.	3.10


Needle Points
1/32" x 1/32"
KRAEUTER 842

NEEDLE POINT SNIPE NOSE PLIERS

No.	Length	Finish	Wt. per.doz.	Price Each
842	6 in.	Full Polished	2¼ lbs.	$2.50

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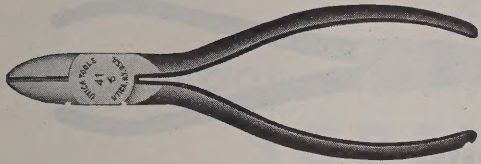
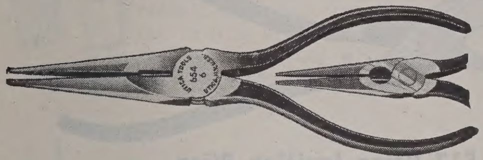

UTICA TOOLS
41
6
UTICA N.Y. U.S.A.

No. 41 ● Electricians' Diagonal Pliers—

Hardened and tempered in oil. Special narrow nose for radio and electrical work.

No. 41..................................4 inches, 5 inches and 6 inches

Can be furnished with insulation stripper.


UTICA TOOLS
654
6
UTICA N.Y. U.S.A.

No. 654 ● Utica Long Needle Nose Side Cutting Plier

This is a long, fine, spring-tempered nose side cutting plier, drop forged and with hand-honed cutting knives.

Utica Finish Size................................6 inches and 7 inches

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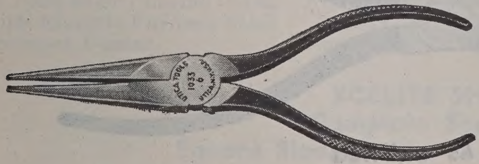
UTICA TOOLS
1033
6
UTICA N.Y. U.S.A.

No. 1033 ● Utica Long Chain Needle Nose Plier

This is a long needle nose type of plier without a side cutter. It has a spring-tempered needle nose with a fine balance for delicate work.

Utica Finish Size................................6 inches and 7 inches

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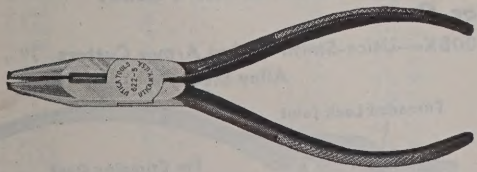
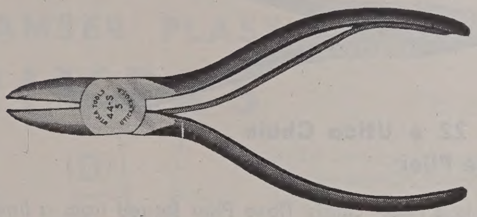

UTICA TOOLS
622-5
UTICA N.Y. U.S.A.

No. 622 ● Utica Short Chain Nose Mechanic's Plier

This plier is a Short Chain Nose Side Cutting Plier, hand-honed cutting knives. It makes an all around Electrical Mechanic's plier.

Utica Finish Size .... 5 inches

No. 44S—Special Diagonal Pliers with Spring


UTICA TOOLS
44-S
5
UTICA N.Y. U.S.A.

A slim nose cutting plier designed especially for radio and electrical work. Extra fine hand honed edges permit nearly flush cuts.

Utica Finish Size .... 5 inches and 6 inches

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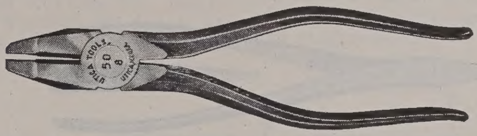
UTICA TOOLS
50
8
UTICA N.Y. U.S.A.

No. 50 ● Utica Standard Side Cutting Plier

An ideal tool for electrical work. Drop forged and skillfully tempered. Its cutting qualities are unsurpassed by any side cutting plier.

Utica Finish Size .... 5, 6, 7, 8 inches

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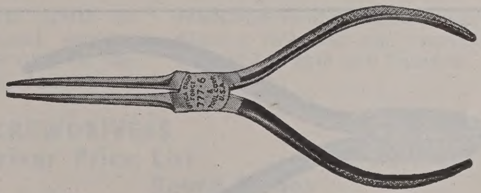
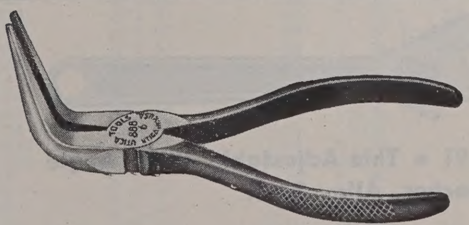

UTICA DROP FORGE
777-6
UTICA N.Y. U.S.A.

No. 777 ● Utica Long Needle Nose Plier

This plier has a long, half-round, spring-tempered nose for very fine work in assembling small electrical apparatus.

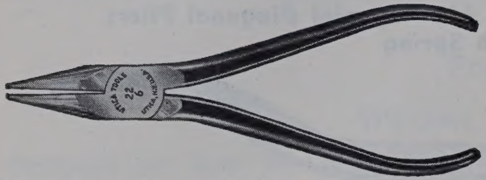
Utica Finish Size ....6 inches


UTICA TOOLS
888
6
UTICA N.Y. U.S.A.

No. 888 ● Curved Needle Nose Pliers—

This is a long curved spring-tempered Needle Nose Pleir for use in deep and narrow places. It may be used without turning or twisting the hand in the assembling of small fixtures, electrical apparatus, etc.

Utica Finish Size ....6 inches



No. 22 • Utica Chain Nose Plier

This is a Short Chain Nose Plier forged from a fine quality of steel with fine points particularly adapted for the use of Jewelers, Opticians, Telephone Installers, Electricians and Radio Assemblers.

Utica Finish Size ....4, 4½, 5, 6 inches

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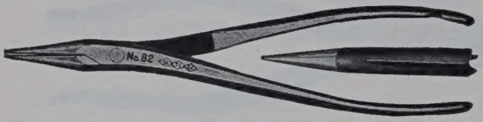
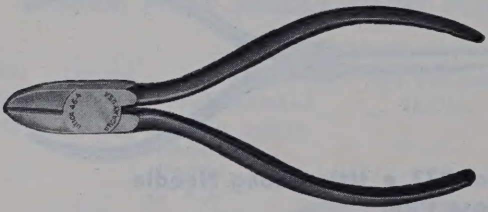


No. 82 • Utica Chain Nose Wiring Plier

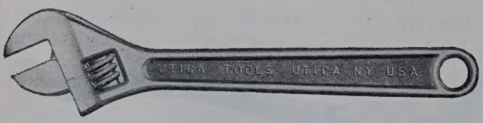
This is a special Radio Repair man's plier, new in design, having a chain nose for those who prefer this type of construction.

Utica Finish Size .... 8 inches



No. 46 • Midget Diagonal Plier

A small Diagonal for radio and electrical work. Hand honed edges with a slim nose for use in cramped quarters.
Utica Finish Size..4 inches



No. 91 • Thin Adjustable 22½° Angle Wrenches, Alloy Steel

Both the handle and jaw are drop forged from a high grade **Alloy Steel**, hardened and tempered in oil. Will not break or wear in the gear teeth and allow play in the wrench, permitting the jaw to slip off the nut.

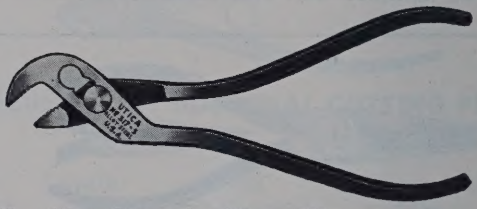
It will give better service and last longer than any other wrench.

Size .... 4, 6, 8, 10, 12 inch

No. 895
Utica Radio Plier

This is a General Radio Repair Man's Plier. It has a center cutter and flat scored nose for looping and bending.

Utica Finish Size ....6 inches



No. 517 Utica Ignition Plier

This ignition Plier with its unique design will fit all ignition units, spring tempered. A great little tool for the hard to get at adjustments.

No. 517 .... 5 inches

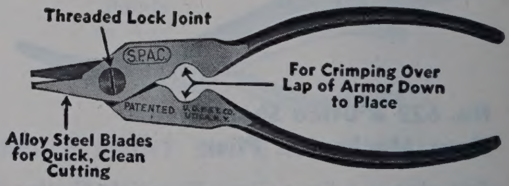
No. 65 • Utica Jeweler's End Cutting Nipper

This Nipper is forged from a fine grade of steel, carefully tempered. A light, strong End Cutting Nipper, used by Electricians and Machinists. The keen cutting edges and "Perfect Fit" handles make this a very popular tool.

Utica Finish Size..4½ and 5 inches

No. 100BX • Utica-Smith Pocket Armor Cutters

No. 100BX—Utica-Smith Pocket Armor Cutters 7"
Alloy Steel


Threaded Lock Joint
S.P.A.C.
For Crimping Over Lap of Armor Down to Place
PATENTED
Alloy Steel Blades for Quick, Clean Cutting

The easiest, quickest tool made for cutting armored cable. Fully illustrated instructions packed with each tool.

Utica Finish Size .... 7 inches

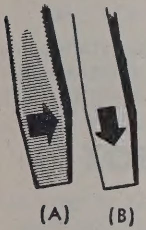
Quality XCELITE *Tools*

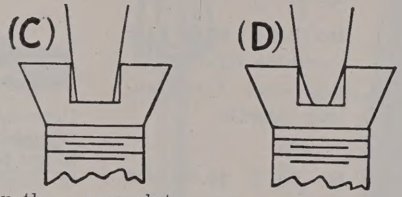
REG. TRADE MARK

Creators of

SHOCK-PROOF BREAK-PROOF AMBER PLASTIC HANDLE

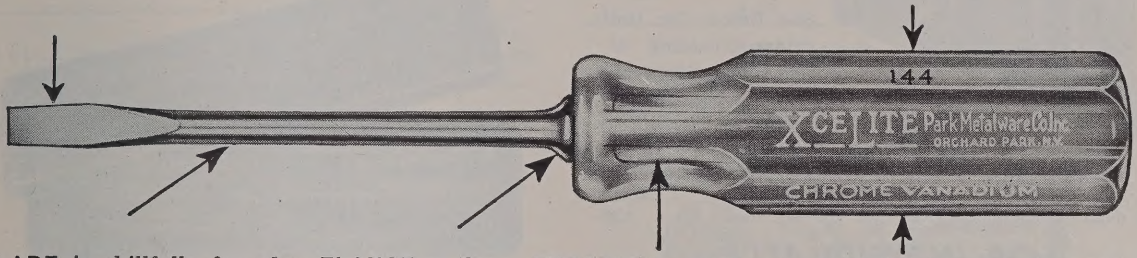
SCREWDRIVERS





TIP is properly ground and gauged to fit screw slot accurately. Ground on a flat belt grinder with grain running lengthwise with the blade "B" eliminates the indentations of crosswise grinding, always sources of tip weakness and breakage "A". XceLite grinding insures uniformity right down to the edge of the tip; insuring perfect fit in the screw slot. Note illustration "C" showing perfect rectangle of XceLite Tip, insuring grip in screw slot. Illustration "D" shows "dubbed-off" result of ordinary grinding with the tendency to lift out of the screw under turning pressure.

SIZE is clearly marked on the handle. Easier to select the correct size — easier to reorder. Number on handle is catalog number, also it gives size of screwdriver. For example: No. 144 means ¼" diameter blade; 4" long. Letters "R" or "S" signify round or square blade.



BLADE is skillfully forged of SAE 6150 Chorme Vanadium Electric Furnace Steel. Polished Blades.

FLANGE on the blade of handle resists shock of pounding.

EMBEDDED END of blade, winged design, prevents turning of the blade in the handle.

HANDLE is of genuine XceLite plastic, full size and correctly shaped for grip and balance.

XCELITE SHOCKLESS SCREWDRIVERS

Complete XceLite Screwdriver Price List

Square Blades

Number	Size Blade	List	Weight Box of 10	
S-183	⅛"x 3"	$ .45	½ lb.	
S-184	⅛"x 4"	.45	½ lb.	
S-185	⅛"x 5"	.45	½ lb.	
†SH-183	⅛"x 3"	.60	½ lb.	
†SH-184	⅛"x 4"	.60	½ lb.	
†SH-185	⅛"x 5"	.60	½ lb.	
S-3163	3/16"x 3"	.75	1¾ lb.	
S-3164	3/16"x 4"	.80	1¾ lb.	
S-3166	3/16"x 6"	.90	2 lb.	
S-3168	3/16"x 8"	.95	2 lb.	
S-31610	3/16"x10"	1.05	2¼ lb.	
S-142	¼"x 2"	.90	1¾ lb.	
S-144	¼"x 4"	.95	2 lb.	
S-146	¼"x 6"	1.00	2½ lb.	
S-148	¼"x 8"	1.10	3 lb.	
S-5162	5/16"x 2"	.95	2 lb.	
S-5166	5/16"x 6"	1.20	3¾ lb.	
S-5168	5/16"x 8"	1.30	4¼ lb.	
S-51610	5/16"x10"	1.40	4¾ lb.	
S-388	⅜"x 8"	1.60	6 lb.	
††S-3812	⅜"x12"	2.25	1¼ lb.	1 in box
††S-7166	7/16"x 6"	1.80	1¼ lb.	
††S-71612	7/16"x12"	2.35	1¼ lb.	
††S-71618	7/16"x18"	2.60	1¼ lb.	
††S-3818	⅜"x18"	2.50	1¼ lb.	
S-1424	¼"x24"	2.25	1¼ lb.	

Stubbies

Number	Size Blade	List	Weight Box of 10
S-3161	3/16"x 1"	.55	¾ lb.
S-141	¼"x 1"	.65	1¼ lb.
S-5161	5/16"x 1"	.65	¼ lb.

††Large double-grip handles.
†Screwholding type used on SH-10 Display.

Round Blades

Number	Size Blade	List	Weight Box of 10	
*R-3322	3/32"x 2"	$ .30	½ lb.	4 ea. on 332 Display
*R-3323	3/32"x 3"	.30	½ lb.	
*R-3324	3/32"x 4"	.30	½ lb.	
**R-181	⅛"x 2"	.30	½ lb.	4 ea. used on #12 Display
*R-183	⅛"x 3"	.30	½ lb.	
*R-184½	⅛"x 4"	.30	½ lb.	
††R-184	⅛"x 4"	.50	½ lb.	
††R-186	⅛"x 6"	.55	¾ lb.	
††R-188	⅛"x 8"	.60	1 lb.	
††R-1810	⅛"x10"	.65	1 lb.	
R-5323	5/32"x 3"	.60	1 lb.	3 ea. on #10 Display
R-5324	5/32"x 4"	.60	1 lb.	
R-5325	5/32"x 5"	.60	1 lb.	
R-5328	5/32"x 8"	.70	1¼ lb.	
R-3163	3/16"x 3"	.70	1½ lb.	
R-3164	3/16"x 4"	.75	1½ lb.	
R-3166	3/16"x 6"	.85	1¾ lb.	
R-3168	3/16"x 8"	.90	1¾ lb.	
R-31610	3/16"x10"	1.00	2 lb.	
R-31618	3/16"x18"	1.75	(pk. 1)	
R-144	¼"x 4"	.90	2 lb.	
R-146	¼"x 6"	.95	2¼ lb.	
R-148	¼"x 8"	1.05	2½ lb.	
R-5166	5/16"x 6"	1.15	3½ lb.	
R-5168	5/16"x 8"	1.25	4 lb.	

**24 of this number used on #24 display.
*These numbers have ½" dia. handles.
††These numbers have ⅝" dia. handles. For insulated blades any size in round list add 25 cents to list price.

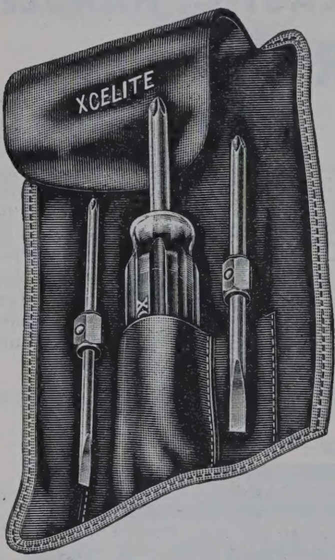
There's an XceLite Screwdriver "sized" to fit every job.

Note: We have standardized our packages on the decimal system instead of in dozens, in accordance with Government practice. All screwdrivers and nut drivers will be packed ten in a box, except where otherwise noted (exceptions are large sizes or slow moving items). Weights given above are correct to the nearest quarter-pound limit.

Quality XceLite Tools

REG. TRADE MARK

DUAL-PURPOSE SCREWDRIVERS



IN ROLL KIT

No. CK-3....$3.95 List
Contains RB-1, RB-2, RB3 and Combination Handle.

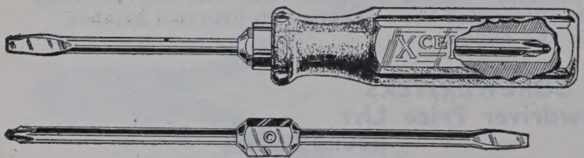
No. CK-2....$3.10 List
Contains RB-1, RB-2 and Combination Handle.

See Below for Individual Listing of Blade Sizes.

IN PLASTIC BOX

No. BC22 Containing RB1, RB2 and Reg. Handle	$3.10
No. BC23 Containing RB1, RB2, RB3 and Reg. Handle	3.95

OR INDIVIDUALLY



BLADE COMBINATIONS
(Please Order by Number)

No. 1—No. 1 Phillips and $\frac{3}{16}$" XceLite
No. 2—No. 2 Phillips and ¼" XceLite
No. 3—No. 3 Phillips and $\frac{5}{16}$" XceLite

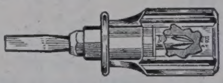
COMPLETE (Regular Type)	List Price
No. CR1	$1.60
No. CR2	1.60
No. CR3	1.60

BLADES ONLY (Regular Type)	List Price
No. RB1	$0.90
No. RB2	.90
No. RB3	.90

HANDLES ONLY

	List Price
No. 25 Regular	$0.75

STUBBY TYPE



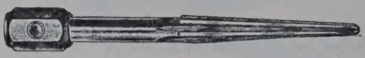
COMPLETE (Stubby Type)	
No. CS1	$1.30
No. CS2	1.30

BLADES ONLY (Stubby Type)	
No. SB1	$0.65
No. SB2	.65

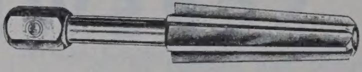
HANDLES ONLY

No. 26 Stubby	$0.65

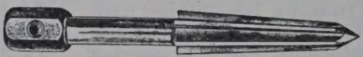
DETACHABLE REAMERS



No. 61....$1.35 List
⅛" — $\frac{5}{16}$"



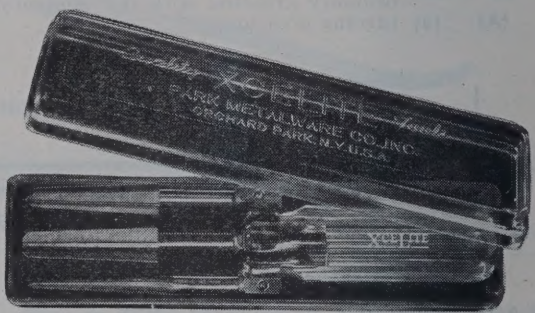
No. 62....$1.65 List
¼" — ½"



No. 63....$1.95 List
$\frac{7}{16}$" — $\frac{11}{16}$"

Detachable to fit your XceLite No. 14 Nut Driver or "Combination-Detachable" Screwdriver! Short enough to get in where ordinary reamers can't! Enlarge holes in plastic, sheet metal, wood!

REAMER SETS IN BOX

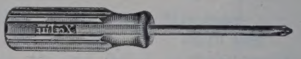


No. BR32 Contains Reg. Handle, No. 61 and 62 Reamers	$4.25
No. BR33 Contains Reg. Handle, No. 61, 62 and 63 Reamers	5.95

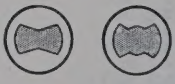
REAMERS IN PLASTIC ROLL KIT

No. RK-42 Contains Reg. Handle, No. 61 and 62 Reamers	$4.25
No. RK-43 Contains Reg. Handle, No. 61, 62 and 63 Reamers	5.95

XceLite- Phillips



No.	Point Size	Length Blade	Diameter Blade	Weight	List Price
X-108	1	6"	$\frac{3}{16}$"	2 lbs.	**$1.05**
X-101	1	3"	$\frac{3}{16}$"	1¼ lbs.	**.95**
X-102	2	4"	¼"	2 lbs.	**1.25**
X-103	3	6"	$\frac{5}{16}$"	3 lbs.	**1.65**
X-104	4	8"	⅜"	3 lbs.	**2.05**
SHORT STUBBY TYPE					
SX-101	1		$\frac{3}{16}$"	⅞ lb.	**.90**
SX-102	2		¼"	2 lbs.	**1.00**



XCELITE Clutch Head Screwdrivers

Type G No.	Type A No.	Size	Diameter Blade	Length Blade	List Price Each
G-183	**A-183**	⅛"	$\frac{3}{16}$"	3"	**$1.10**
G-5324	**A-5324**	$\frac{5}{32}$"	¼"	4"	**1.20**
G-3164	**A-3164**	$\frac{3}{16}$"	¼"	4"	**1.20**
G-146	**A-146**	¼"	$\frac{5}{16}$"	6"	**1.60**
G-5166	**A-5166**	$\frac{5}{16}$"	⅜"	6"	**1.95**

Note: Both above types are the same size and the same price. **Order by Number.**

Quality XCELITE *Tools*

REG. TRADE MARK

XCELITE PLIERS

XceLite Pliers are fully guaranteed against defects of material and workmanship. Any plier showing such defects will be willingly replaced if returned to us.

List Price

No. 51 — XceLite Long Needle Nose and Side Cutter PLIERS, 7″..........$2.80

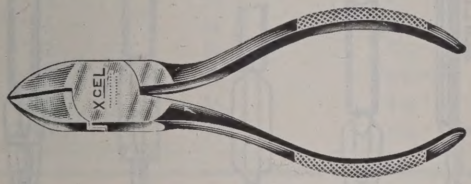
No. 52 — XceLite Long Needle Nose PLIERS
(Without Side Cutters)

List Price

This plier is identical with the above except it does not have the side cutters..........$2.40

List Price

No. 54 — XceLite Diagonal PLIER, 4″..........$2.60

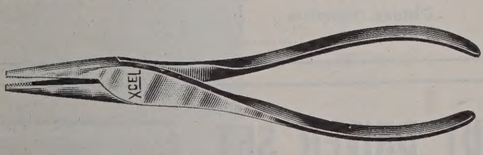


List Price

No. 55 — XceLite Diagonal PLIER, 5″..........$2.60

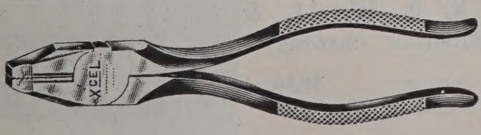
List Price

No. 57 — XceLite Extra Long Duck Bill PLIER, 7″..........$2.70



List Price

No. 59 — XceLite Chain Nose Electrician's PLIER, 7¾″..........$3.10



List Price

No. 60 — XceLite Side Cutting PLIER, 6″..........$2.60

XCELITE NUT DRIVERS

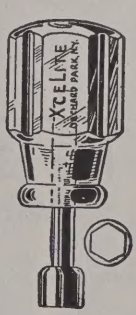
6" Overall Length

Number	Size	Polished	Chrome Plated
6	3/16″	$0.75	$0.85
7	7/32″	.75	.85
8	¼″	.75	.85
9	9/32″	.75	.85
10	5/16″	.75	.85
11	11/32″	.75	.85
12	⅜″	.75	.85
14	7/16″	1.15	
16	½″	1.15	

9" Overall Length

Number	Size	List
A-6	3/16″	$0.95
A-7	7/32″	.95
A-8	¼″	.95
A-9	9/32″	.95
A-10	5/16″	.95
A-11	11/32″	.95
A-12	⅜″	.95
A-14	7/16″	1.15
A-16	½″	1.15

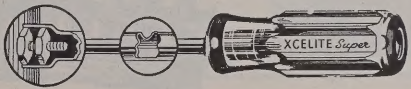
Stubbies



3¼" Overall Length

Number	Nut Size	List
S-8	¼″	$0.70
S-10	5/16″	.70
S-12	⅜″	.70

HOLLOW SHAFT NUT DRIVERS



No. and Length Overall	Nut Size	Depth of Hole	Weight per Box	List	Insulated List
HS-10 6″	5/16″	5″	1 lbs.	$1.05	$1.30
HS-11 6″	11/32″	5″	1 lbs.	1.05	1.30
HS-12 6″	⅜″	5″	1 lbs.	1.05	1.30
HS-14 7″	7/16″	5″	1¼ lbs.	1.20	1.45
HS-16 7″	½″	5″	1½ lbs.	1.25	1.50
HS-18 7″	9/16″	5″	1⅜ lbs.	1.30	1.55
HS-20 7″	⅝″	5″	1⅞ lbs.	1.50	1.75

XCELITE NO. 3 *De Lux*

RADIO AND ELECTRICAL KIT

Set includes:
R-142, R-3163, R-5166, R-184, R-144, X-101 and R-3166.

No. 3..........$6.95
No. 3C Chrome Plated..$7.65

NO. 4 ALL PURPOSE KIT

Kit same as shown above. Set includes:
S-142, S-144, X-102, S-184, S-3166, S-5166 and S-388.
No. 4 Polished......$8.60 No. 4C Chrome......$9.35

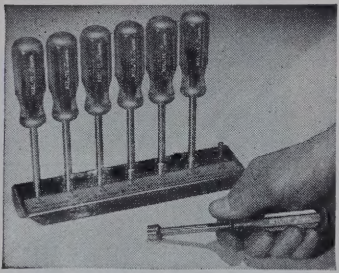
SUBJECT TO CHANGE WITHOUT NOTICE

Quality XCELITE *Tools*

REG. TRADE MARK

NO. 17 NUT DRIVER SET

Amber Handles — Highly Polished Blades



Consisting of:

Number	Size
6	3/16"
7	7/32"
8	¼"
9	9/32"
10	5/16"
11	11/32"
12	⅜"

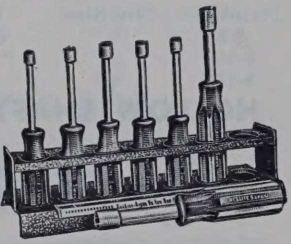
Complete with Rack	**$5.75**

NO. 137 NUT DRIVER SET

With Colored Handles

Consisting of:

Number	Size
6	3/16"
8	¼"
10	5/16"
11	11/32"
12	⅜"
HS-16	½"
HS-18	9/16"



No. 137 Polished Finished	$7.40
No. 137C Chrome Plated	8.15

No. 117 SET With Colored Handles

Set consists of Nos. 6, 7, 8, 9, 10, 11, and 12. Furnished in either full polished or chrome finish. Complete with same type stand as No. 137.

No. 117 Set Polished Finish	$6.45
No. 117C Chrome Plated	7.25

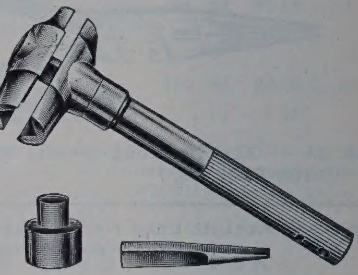
6" XCEL Adjustable SOCKET WRENCH (with Attachments)

A whole set of tools in one! Fits any size nut, hexagon or square, round or odd shaped, from ⅛" to 1".

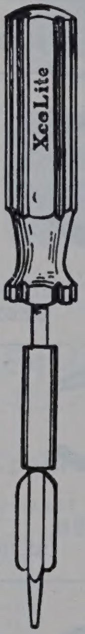
List Price,
$3.50

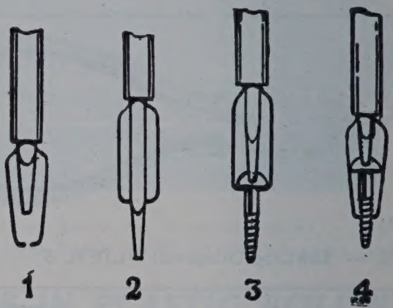
Individually boxed, packed 6 to a self-selling display carton.

Weight, 6 lbs.



SCREW-HOLDING SCREWDRIVER

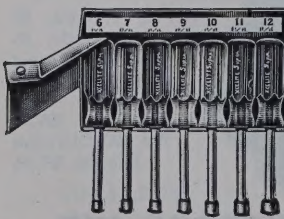




The XceLite Screw-Holding Screw Driver is a tool for which electricians, radio men and mechanics everywhere have long searched. It is a genuine XceLite product with a unique attachment that instantly and rigidly holds and starts any screw, even one without a head. Spring holder remains in place either above, below or exactly at the driver point. Grasps the screw at the head or ⅜" below giving three point suspension for greater rigidity. Can also be used for removing screws. Comes in ⅛" square blade, 3", 4" and 5". Packed 12 assorted lengths on metal display.

	List
Display, complete	**$6.35**
Refills, each	**.60**

Delux No. 127 NUT DRIVER SET



NEW LARGER HANDLES — BRIGHTER COLORS

Makes Size Selection Easy.

Set consists of Nos. 6, 7, 8, 9, 10, 11, & 12. Furnished in either full polished or chrome finish.

No. 127 Polished Finish	**$6.50**
No. 127C Chrome Plated	**7.30**

6
7
8
9
10
11
12
XCELITE

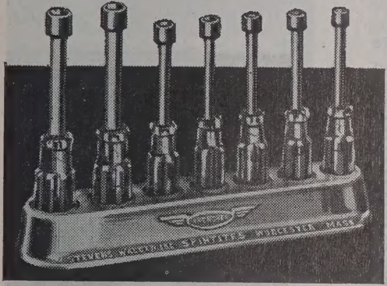
READY FOR QUICK WORK

The metal container can be fastened to the wall or work bench by screws which are inaccessible when locked. Red Wrinkle finish.

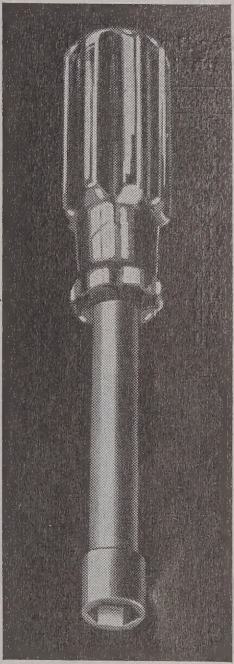
THE ORIGINAL
SPINTITE
(TRADE MARK REGISTERED)
WRENCHES

WALDEN
WORCESTER
WRENCHES
TOOLS BOXES
STEVENS WALDEN, INC.
WORCESTER, MASS.

SUPER DELUXE SPINTITES

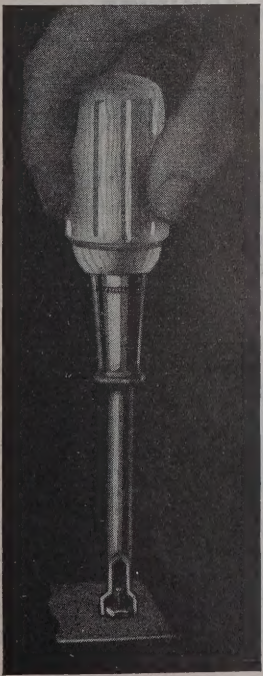


The wrench that works like a screwdriver! The super deluxe Spintite for panel or switchboard work — deep drilled with extra deep sockets. Beautifully plated and finished. A *must* for radio and electrical work.



Number	Size	Length	Drill Depth	List Price
3006	3/16	6″	1¾	$1.10
3007	7/32	6″	2¼	1.10
3008	¼	6″	2¼	1.10
3009	9/32	6″	2¼	1.10
3010	5/16	6″	2¼	1.10
3011	11/32	6″	2¼	1.10
3012	⅜	6⅝″	5⅛	1.10
3014	7/16	6⅝″	5⅛	1.35
3016	½	6⅝″	5⅛	1.35
3018	9/16	6⅝″	5⅛	2.45

REGULAR SPINTITES
THE ORIGINAL SPINTITE WRENCH



Works like a screwdriver—features cold forged sockets, drilled shanks, special tool steel, hardened and tempered, ferrules and shanks are bright plated and the hardwood handles have natural rubbed finish.

Number	Size	Length	Nut Size	List Price
3406	3/16	6″	2 & 3	$0.70
3407	7/32	6″		.70
3408	¼	6″	4	.70
3409	9/32	6″		.70
3410	5/16	6″	5 & 6	.70
3411	11/32	6″	8	.70
3412	⅜	6″	10	.70
3414	7/16	7⅛″	12 & ¼	1.00
3416	½	7⅛″		1.00
3418	9/16	7⅛″	5/16	1.75
3420	⅝	7⅛″	⅜	1.75

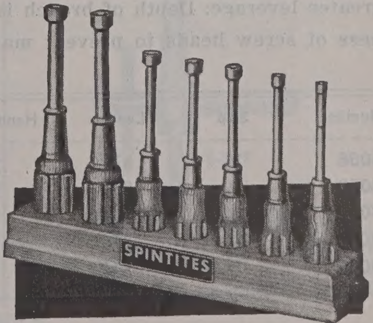
T-73 SET

Set of popular sizes in wood stand.

CONTENTS

3406
3408
3410
3411
3412
3414
3416
Wood Stand

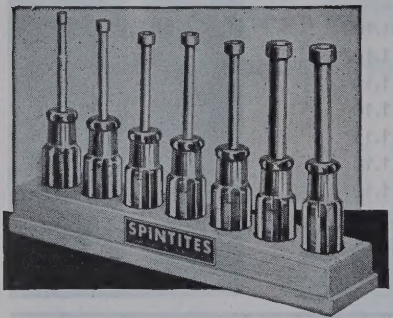
List Price $6.50



DELUXE SPINTITES

For the mechanic who appreciates fine tools we offer these shining Spintites with transparent shockproof handles.

Number	Size	Length	Nut Size	List Price
3906	3/16	6″	2 & 3	$1.00
3907	7/32	6″		1.00
3908	¼	6″	4	1.00
3909	9/32	6″		1.00
3910	5/16	6″	5 & 6	1.00
3911	11/32	6″	8	1.00
3912	⅜	6″	10	1.00
3914	7/16	7⅛″	12 & ¼	1.25
3916	½	7⅛″		1.25
3918	9/16	7⅛″	5/16	2.10
3920	⅝	7⅛″	⅜	2.10



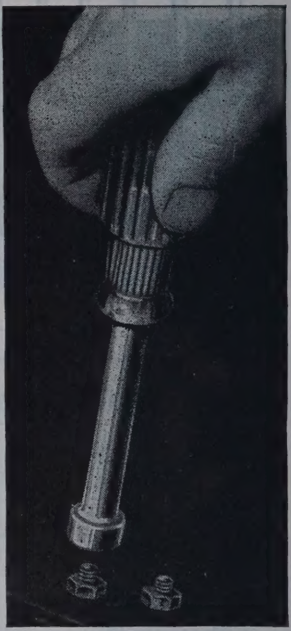
T-8 SET

Just right for a place on the mechanic's bench. Seven popular sizes.

CONTENTS

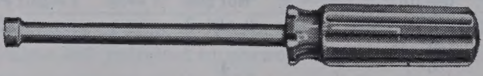
3906	3912
3908	3914
3910	3916
3911	Wood Stand

List Price.......................................$7.75



ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

JUMBO SPINTITES



A rugged special Spintite for use on all types of hardened or self tapping cap screws. Shanks and sockets are made of alloy tool steel with a very high degree of hardness. Plastic grip is oversize for greater leverage. Depth of broach is less than thickness of screw heads to prevent marring panels.

Number	Size	Length	Handle Size	List Price
3058	¼	8½″	1⅛″	$3.15
3059	9/32	8½″	1⅛″	3.15
3062	⅜	8½″	1⅛″	3.15
3066	½	8½″	1⅛″	4.70
3068	9/16	8½″	1⅛″	4.70

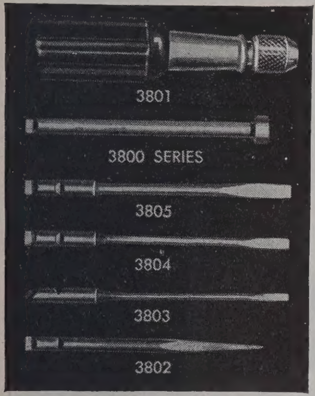
EXTRA LONG SPINTITE

A special Spintite for those hard-to-get-at places. Medium sized, easily controlled plastic grip and extra long shaft made of chrome alloy steel. It belongs in the tool kit of every assembler and repairman.

Number	Size	Length	Drill Depth	List Price
3206	3/16	10″	1½	$1.75
3207	7/32	10″	1½	1.75
3208	¼	10″	1½	1.75
3209	9/32	10″	1½	1.75
3210	5/16	10″	1½	1.75
3211	11/32	10″	1½	1.75
3212	⅜	10″	1½	1.75
3214	7/16	10″	1½	2.75
3216	½	10″	1½	2.75
3218	9/16	10″	1½	4.40
3220	⅝	10″	1½	4.95

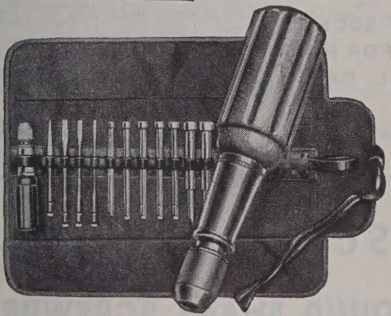
THE ORIGINAL SPINTITE
(TRADE MARK REGISTERED)
WRENCHES

WALDEN
WORCESTER
WRENCHES
TOOLS BOXES
STEVENS WALDEN, INC.
WORCESTER, MASS.



CHUCK TYPE SPINTITES

Number	Description	Size	Length	Nut Size	List Price
3801	Universal Handle				$1.55
3802	Ream Awl	1/16 to 3/16	4⅝		.70
3803	Screwdriver	⅛ x 4	4⅝		.70
3804	Screwdriver	3/16 x 4	4⅝		.70
3805	Screwdriver	¼ x 4	4⅝		.70
3806	Spintite Shank	3/16	4 7/16	2 & 3	.50
3808	Spintite Shank	¼	4⅝	4	.50
3810	Spintite Shank	5/16	4⅝	5 & 6	.50
3811	Spintite Shank	11/32	4⅝	8	.50
3812	Spintite Shank	⅜	4⅝	10	.50
3814	Spintite Shank	7/16	4¾	12 & ¼	.70
3816	Spintite Shank	½	4¾		.70
3850	Screwdriver, Cross Point	No. 2	4⅝		1.00
3852	Four way Neutralizing Tool	5	5		1.35



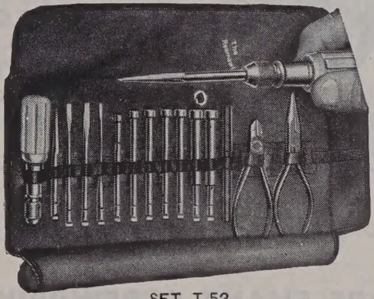
SET T-51

CONTENTS

3801	3805	3811
3802	3806	3812
3803	3808	3814
3804	3810	3816

in Leatherette Roll

List Price....................................$9.25



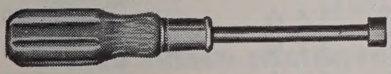
SET T-52

CONTENTS

3801	3805	3811
3802	3806	3812
3803	3808	3814
3804	3810	3816

6" Long Nose Pliers
6" Cutting Pliers
Neutralizing Tool

List Price...............................$15.50



SQUARE SPINTITES

No.	Size	List	No.	Size	List
3505	5/32	$1.00	3511	11/32	$1.25
3506	3/16	1.00	3512	⅜	1.25
3507	7/32	1.00	3513	13/32	1.50
3508	¼	1.00	3514	7/16	1.50
3509	9/32	1.00	3516	½	1.85
3510	5/16	1.00	3520	⅝	1.85

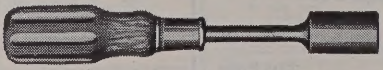
FOUR-IN-ONE NEUTRALIZING AND ALIGNING TOOL

Made entirely of shock-proof plastic this tool has wrenches on each end, key slot, and screwdriver tip.

3852..............................List Price $1.35

STUBBY SPINTITES

No.	Size	List	No.	Size	List
4406	3/16	$0.70	4411	11/32	$0.70
4407	7/32	.70	4412	⅜	.70
4408	¼	.70	4414	7/16	1.00
4409	9/32	.70	4416	½	1.00
4410	5/16	.70			



SPECIAL SPINTITE FOR BAT TYPE SWITCHES

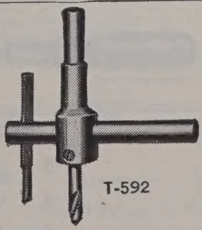
Deep cavity accommodates bat handle, fine knurl is tapered to adjust for variations in knurled rings.

6337..............................List Price $2.75

KNURLED SPINTITES

Tapered knurls to take care of variations in size.

Number	Diameter	List Price
3710	5/16	$1.50
3711	11/32	1.60
3712	⅜	1.80



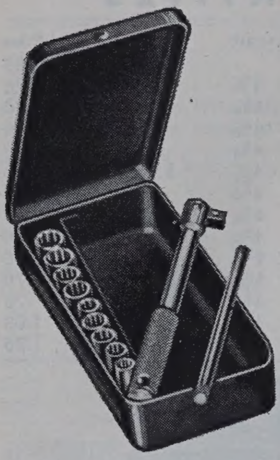
PANEL CUTTERS

	List Price
T-564—For Bit Brace	$4.80
T-592—For Drill Chuck..............	4.80

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

WALDEN
WORCESTER
WRENCHES
TOOLS BOXES
STEVENS WALDEN, INC.
WORCESTER, MASS.

THE ORIGINAL SPINTITE WRENCHES
(TRADE MARK REGISTERED)



SET NUMBER S-211

SET NUMBER S-211
¼ Inch Square Drive — 11 Pieces

6 HEX SOCKETS	1 HINGE HANDLE
3 SQUARE SOCKETS	1 CROSS BAR

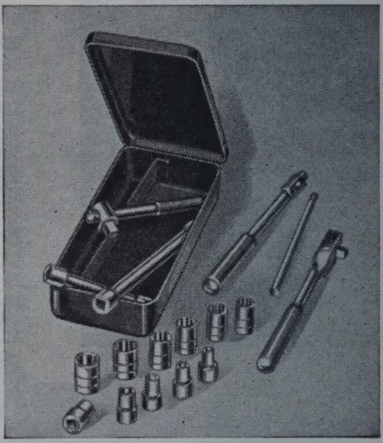
ALL IN HEAVY ENAMELED METAL BOX
Special Low Price

SET NUMBER S-217
¼ Inch Square Drive — 17 Pieces

8 Hex Sockets	1 Cross Bar
3 Square Sockets	1 Sliding Tee Handle
1 Reversible Ratchet	1 Short Extension
1 Hinge Handle	1 Long Extension

AN EXCELLENT COMBINATION OF SOCKET WRENCHES AND ATTACHMENTS FOR FINE WORK ON IGNITION, ELECTRICAL, RADIO OR HOBBY WORK.

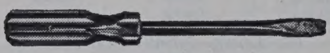
—Alloy Steel —Bright Plated



SET NUMBER S-217

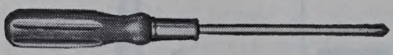
WALDEN WORCESTER SCREWDRIVERS

SQUARE SHANK SCREWDRIVER
Plastic Handle



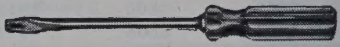
Number	Size	List Price
SS4	4 x ¼	$1.20
SS6	6 x $\frac{5}{16}$	1.65
SS8	8 x ⅜	2.05
SS12	12 x ⅜	2.45

CROSSPOINT SCREWDRIVER
Wood Handle



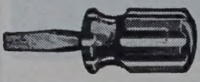
Number	Size	List Price
SC3	3 x $\frac{9}{64}$	$0.75
SC4	4 x ¼	.75
SC6	6 x $\frac{5}{16}$	.95
SC8	8 x ⅜	1.30

ROUND SHANK SCREWDRIVER
Plastic Handle



Number	Size	List Price
SM2	2¼ x ⅛	$0.40
SR3	3 x $\frac{3}{16}$	.90
SR4	4 x ¼	1.20
SR6	6 x $\frac{5}{16}$	1.55
SR6A	6 x $\frac{3}{16}$	1.15
SR8	8 x ⅜	2.00
SR12	12 x ⅜	2.30

STUBBY SCREWDRIVER
Plastic Handle



Number	Size	List Price
SS2	1½ x ¼	$0.80

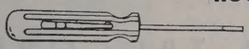
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

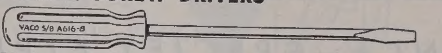
VACO PRODUCTS COMPANY • CHICAGO 11, ILLINOIS • U. S. A.

Hand Forged Chrome Vanadium Screw and Nut Drivers With Amberyl* S/B* (Slo-Burn) Fire Safe Break and Shock Proof Handles

*Trade Marks Registered U. S. Pat. Off.

ROUND BLADE SCREW DRIVERS





Pocket Styles*—3/32" & ⅛" Blades.
***High carbon tool steel blades only.**

Stock Number	Handle Diameter and Length	Blade Diameter and Length	Weight per Doz.
A 010	13/32" x 1¾"	3/32" x 1⅝"	¼ lb.
A 130-2	½" x 1⅞"	⅛" x 2"	½ lb.
A 130-3	½" x 1⅞"	⅛" x 3"	⅔ lb.
A 116-2	½" x 2½"	3/32" x 2"	⅔ lb.
A 116-3	½" x 2½"	3/32" x 3"	⅓ lb.

Electrician and Cabinet Styles—⅛" Blades.

Stock Number	Handle Diameter and Length	Blade Diameter and Length	Weight per Doz.
A 216-2*	⅝" x 2¾"	⅛" x 2"	¾ lb.
*With Pocket Clip.			
A 216-4	¾" x 3"	⅛" x 4"	1 lb.
A 216-6	¾" x 3"	⅛" x 6"	1¼ lbs.
A 216-8	¾" x 3"	⅛" x 8"	1½ lbs.
A 216-10	¾" x 3"	⅛" x 10"	1¾ lbs.

Electrician and Regular Cabinet Styles — 3/16" Blades.

Stock Number	Handle Diameter and Length	Blade Diameter and Length	Weight per Doz.
A 316-3	⅞" x 3½"	3/16" x 3"	1¼ lbs.
A 316-4	⅞" x 3½"	3/16" x 4"	1½ lbs.
A 316-6	⅞" x 3½"	3/16" x 6"	1¾ lbs.
A 316-8	⅞" x 3½"	3/16" x 8"	2 lbs.
A 316-10	⅞" x 3½"	3/16" x 10"	2½ lbs.

General Service Round Blade Styles —¼" Blades.

Stock Number	Handle Diameter and Length	Blade Diameter and Length	Weight per Doz.
A 416-4	1" x 3⅝"	¼" x 4"	2¼ lbs.
A 416-5	1" x 3⅝"	¼" x 5"	2½ lbs.
A 416-6	1" x 3⅝"	¼" x 6"	2¾ lbs.
A 416-8	1" x 3⅝"	¼" x 8"	3¼ lbs.
A 416-10	1" x 3⅝"	¼" x 10"	3½ lbs.

Heavy Duty General Service Round Blade Styles — 5/16" Blades.

Stock Number	Handle Diameter and Length	Blade Diameter and Length	Weight per Doz.
A 516-6	1-1/16" x 4"	5/16" x 6"	4 lbs.
A 516-8	1-1/16" x 4"	5/16" x 8"	4½ lbs.
A 516-10	1⅛" x 4¼"	5/16" x 10"	5½ lbs.
A 516-12	1⅛" x 4¼"	5/16" x 12"	6½ lbs.

RADIO ALIGNING TOOLS

NON-METALLIC ALIGNER

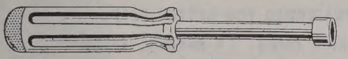
No metal — completely non-capacitance. Bone fibre blade may be repointed as required.

VACO S/B AT 55

Stock Number	Handle Diameter and Length	Blade Diameter and Length	Weight per Doz.
AT 55	½" x 2½"	3/16" x 4"	¾ lbs.

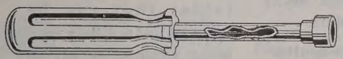
VACO Super Hard NUT DRIVERS

Color Coded Hollow Handles For Quick Size Identification. For Use on Hardened Steel Self-Threading Sheet Metal Screws, Etc.



Stock Number	Hexagon Size (Across Flats)	Handle Diameter and Length	Color Code	Fits Machine Screw Nos.
S 61	3/16"	1" x 3⅝"	Brown	2 and 3
S 82	¼"	1" x 3⅝"	Red	4
S 103	5/16"	1" x 3⅝"	Green	5 and 6
S 114	11/32"	1" x 3⅝"	Ivory	8
S 125	⅜"	1" x 3⅝"	Blue	10
S 146	7/16"	1" x 3⅝"	Orange	12 and ¼"
S 167	½"	1" x 3⅝"	Yellow	5/16"

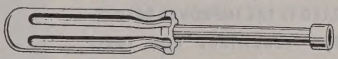
ALL HOLLOW SHAFT NUT DRIVERS



Stock Number	Hexagon Size (Across Flats)	Handle Diameter and Length	Weight per Doz.
S 160	½"	1" x 3⅝"	3 lbs. 4 oz.
S 180	9/16"	1" x 3⅝"	3 lbs. 8 oz.

VACO EXTRA HARD NUT DRIVERS

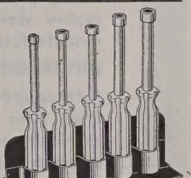
Size Stamped on Each Shaft for Easy Identification
Solid Amberyl S/B Fire Safe Handles



Stock Number	Hexagon Size	Handle Diameter and Length	Weight per Doz.
S 5	5/32"	⅞" x 3½"	1 lb. 8 oz.
S 6	3/16"	⅞" x 3½"	1 lb. 10 oz.
S 7	7/32"	⅞" x 3½"	1 lb. 11 oz.
S 8	¼"	⅞" x 3½"	1 lb. 12 oz.
S 9	9/32"	⅞" x 3½"	1 lb. 14 oz.
S 10	5/16"	⅞" x 3½"	2 lbs.
S 11	11/32"	⅞" x 3½"	2 lbs. 8 oz.
S 12	⅜"	⅞" x 3½"	2 lbs. 12 oz.
S 14	7/16"	⅞" x 3½"	2 lbs. 14 oz.
S 15	15/32"	⅞" x 3½"	2 lbs 15 oz.
S 16	½"	⅞" x 3½"	3 lbs.

Extra Large Size

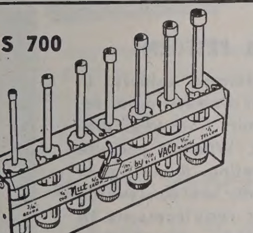
Stock Number	Hexagon Size	Handle Diameter and Length	Weight per Doz.
S 17	17/32"	1-1/16" x 4"	4½ lbs.
S 18	9/16"	1-1/16" x 4"	4½ lbs.
S 19	19/32"	1-1/16" x 4"	4½ lbs.
S 20	⅝"	1-1/16" x 4"	4½ lbs.



No. S 500 METAL BENCH HOLDER

Furnished with 1 each of five most popular sizes: S 8, S 10, S 11, S 12, S 14. Weight each . . . 1½ lbs.

S 700

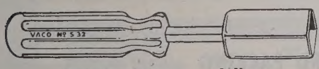


VACO WALL OR BENCH PADLOCK TYPE NUT DRIVER STAND

Holds One Complete Driver Outfit . . . from 3/16" to ½".

Stock Number		Weight (Packed)
S 700		2¼ lbs.
S 70	(Stand only)	1 lb. 2 oz.

VACO AMBERYL ELECTROLYTIC CONDENSER NUT DRIVERS

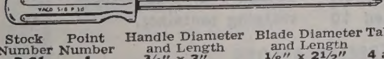


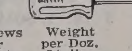
Weight per box . . . 3 lbs.

Packed 4 each of following sizes in display box, or assorted as desired:

No. S 32 for 31/32" Nuts
No. S 34 for 1" Nuts
No. S 36 for 1-5/32" Nuts

AMBERYL HANDLE PHILLIPS SCREW DRIVERS



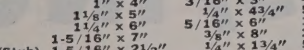


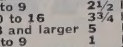
Stock Number	Point Number	Handle Diameter and Length	Blade Diameter and Length	Takes Screws Number	Weight per Doz.
P 01	1	¾" x 3"	⅛" x 2½"	4 and smaller	¾ lb.
P 1	1	⅞" x 3½"	3/16" x 3"	4 and smaller	1¼ lbs.
P 2	2	1" x 3⅝"	¼" x 4¾"	5 to 9	2½ lbs.
P 3	3	1-1/16" x 4"	5/16" x 6"	10 to 16	3½ lbs.
P 4	4	1-3/16" x 4½"	⅜" x 8"	18 and larger	6 lbs.
P 5§	2	1¼" x 2⅛"	¼" x 1¾"	5 to 9	1¼ lbs.
P 6§	1	1⅛" x 1¾"	3/16" x 1¼"	4 and smaller	1 lb. 2 oz.
P 12†	1	½" x 2½"	⅛" x 2½"	4 and smaller	11 oz.
P 101‡	1	¾" x 3"	3/16" x 3"	4 and smaller	1¼ lbs.

§Stub. †Pocket Clip. ‡Screw-Holding.

WOOD HANDLE PHILLIPS SCREW DRIVERS

High Carbon Tool Steel Blades . . . Chrome Vanadium Blades Also Available.





Stock Number	Handle Diameter and Length	Blade Diameter and Length	Take Screws Number	Weight per Doz.
WP 10	1" x 4"	3/16" x 3"	4 and smaller	1¼ lbs.
WP 20	1⅛" x 5"	¼" x 4¾"	5 to 9	2½ lbs.
WP 30	1¼" x 6"	5/16" x 6"	10 to 16	3¾ lbs.
WP 40	1-5/16" x 7"	⅜" x 8"	18 and larger	5 lbs.
WP 50 (Stub)	1-5/16" x 2½"	¼" x 1¾"	5 to 9	1 lb. 2 oz.
WP 60 (Stub)	1-5/16" x 2½"	3/16" x 1¼"	4 and smaller	1 lb.

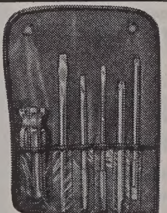
VACOMBO Nut Setter Kit No. ZS 60

Kit Consists of:

- 1 — ZH 1 Amberyl Handle with Clutch
- 1 — ZS 8 Hex. Wrench ¼" x 3"
- 1 — ZS 10 Hex. Wrench 5/16" x 3"
- 1 — ZS 11 Hex. Wrench 11/32" x 3"
- 1 — ZS 12 Hex. Wrench ⅜" x 3"
- 1 — ZS 14 Hex. Wrench 7/16" x 3"
- 1 — ZR 77 Seven Section Leatherette Tool Roll

Also Available
6" Extension No. ZX 56
3/16" Hex. Wrench No. ZS 6
½" Hex. Wrench No. ZS 16

Weight packed . . . 9 oz.



VACOMBO Screw Driver Kit No. ZB 50

Kit Consists of:

- 1 — ZH 1 Amberyl Handle with Clutch, 1" x 3⅝"
- 1 — ZB 24 Blade ⅛" x 4" Out of Handle
- 1 — ZB 34 Blade 3/16" x 4" Out of Handle
- 1 — ZB 45 Blade ¼" x 5" Out of Handle
- 1 — ZP 14 Blade No. 1 Phillips x 4"
- 1 — ZP 24 Blade No. 2 Phillips x 4"
- 1 — ZR 77 Seven Section Leatherette Tool Roll

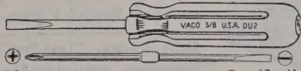
Also Available — 6" Extension No. ZX 56

Specifications: Amberyl S/B (Slo-Burn) Fire Safe Handle — Oil Tempered Chrome Vanadium Blades — Bright Cadmium Rust-Proof Plated Finish.

Weight packed . . . 8 oz.

VACO DUPLEX REVERSIBLE SCREW DRIVERS

with Amberyl S/B (Slo-Burn) Plastic Handle



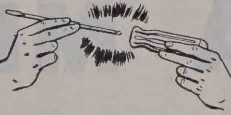
TWO SIZES
DU2 Light Duty —
DUH4 Heavy Duty

Chrome vanadium steel blade. Long lasting Amberyl handle of high dielectric and impact strength . . . shock and break resistant . . . impervious to most alkalies and acids.

Specifications

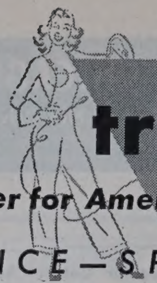
Stock Number	Handle Diameter and Length	Blade Diameter and Length
DU 2	1" x 3⅝"	No. 1 Phillips 3/16" x 2¾" Regular 3/16" x 2¾"
DUH 4	1 1/16" x 4"	No. 2 Philips ¼" x 2¾"

A Flip of the Wrist Does It . . . From Phillips to Regular.



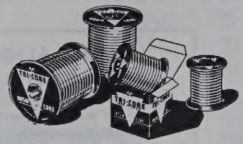
Precision engineered blade may easily be inserted or removed and reversed to provide either a regular or Phillips bit. Ideal for automobiles, radios, refrigerators, household utilities, toys, etc., where straight slot screws and cross slot screws are frequently used in combination.

ALPHA tri-core solders



An American Solder for American Production Methods

INSURE PERFORMANCE—SPECIFY ALPHA TRI-CORE



TRI-CORE ROSIN-FILLED SOLDER

Craftsmen prefer this faster, easier sequence solder. It provides more uniform fluxing and stronger joints for Radio, Electrical, and Automotive work. Saves time, money and labor for manufacturing or repair service.

WHY TRI-CORE ROSIN-FILLED IS THE IMPROVED SOLDER:

- three independently filled cores assure flux continuity, eliminate risk of empty flux sections.
- thinner solder walls speed melting, cut soldering time by 25% or more.
- no activating chloride agent to produce acid conditions and toxic vapors.
- forms a clean, smooth, strong joint without carbonizing.
- three cores instead of one at no premium in price.
- all gauges from 1/4" and heavier down to 0.020" and finer.

TRI-CORE "LEAKPRUF" ACID-FILLED SOLDER

Why put up with old-fashioned, leaky acid-cored solders? Mechanics acclaim Tri-Core's cleaner job, long shelf life, and guaranteed leakproof feature. Now you can protect *yourself* as well as your reputation for better craftsmanship with this development in the field of acid-cored solders!

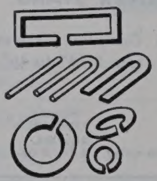
WIDELY PREFERRED FOR BETTER SOLDERING:

- The only three cored acid-filled solder.
- No solder waste due to fluxless areas.
- Highly soluble flux washes off with water.
- Non-toxic, and emits no offensive odors.
- Virtually non-sputtering, reduces hazards.
- Readily solders stainless steel, monel, nickel, etc.
- Leakproof; drip-proof; chalk-like flux will not leak to damage tools.
- The only acid core solder that can be formed into rings and other shapes, or cut to lengths without flux loss.

ALPHA SOLID SOLDER WIRE

Alpha's specialized know-how in lead and tin metallurgy and completely modern production facilities assures you of the finest solder wire available. Alpha's unique extrusion process assures a completely homogenized and uniform solder wire throughout. Supplied in any diameter and composition for your needs.

ALPHA PREFORMS



Alpha's preformed solders, in any shape or diameter required, cut many hours from your production time. Whether you use induction heating, flame jigs or heating ovens, we can swiftly supply your requirements in washers, rings, cut shapes, drops, pellets, solder foil, or other special shapes.

HANDY CAN PACKAGING

Alpha tri-core, rosin-filled, handy-cans: retail list 25c, packed in eye-appealing, sales-compelling, self-selling, safety flange tins. 12 cans per metal-edged display carton. 12 cartons per shipping container. Weight: 1 gross—25 pounds.

Alpha tri-core, "Leak-Pruf" acid-filled handy-cans: retail list 25c, packed in multiple color lithographed safety flange tins. 12 cans per metal-edged display carton. 12 cartons per shipping container. Weight: 1 gross—25 pounds.

STANDARD PACKING

1 LB. SPOOLS packed in individual cartons; 50 cartons per shipping container. 5 LB. SPOOLS packed 10 spools per shipping container. 20 LB. SPOOLS packed 2 or 3 spools per shipping container.

SPECIAL ALLOYS

STANDARD ALPHA TRI-CORE SOLDERS ARE 40/60.
Also available in 25/75—35/65—45/55—50/50—60/40.
ALPHA SOLID SOLDER wire in all alloy ratios.

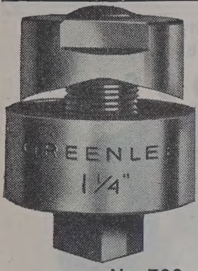
Available in all diameters from 1/4"
and heavier, down to 0.020" and finer.

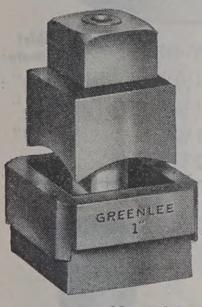
ALPHA METALS, INC.

TOOLS FOR CRAFTSMEN
GREENLEE

RADIO CHASSIS PUNCHES
KNOCKOUT PUNCHES AND CUTTERS

Greenlee Tool Co., Rockford, Illinois

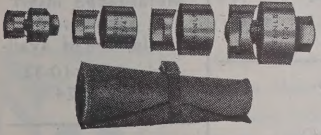

No. 730


No. 731

Nos. 730 and 731 RADIO CHASSIS PUNCHES

No. 730 Round Punch *shown at left,* quickly cuts accurate, round holes in radio chassis for sockets, plugs, and other receptacles. No reaming or filing—hole is smooth, perfect. Operates simply with an ordinary wrench for drive power. Just insert in a ⅜" or 13/32" drilled hole and turn drive nut. 13 sizes from ½" to 2¼" as shown in table at right. Individually packed. Odd-size holes for meters can be made with other punches and cutters shown below.

No. 731 Square Punch (*left*) easily makes full or partial cuts so that any square or oblong shaped hole can be rapidly made. Available in three sizes for making ⅝", ¾", and 1" square holes. Simple to operate, turn with an ordinary wrench. Drive screw fits into ½" hole in the metal. Individually packed.

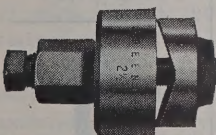


No. 735 KNOCKOUT PUNCH SET

For fast, easy cutting of holes in metal up to ⅛-inch or 10-gauge thickness. Insert in small opening and drive with an ordinary wrench. Speeds radio set work, cuts cleanly, no reaming and filing. Set includes four punches for making ⅞, 1 3/32, 1 11/32, 1 11/16 inch holes. Packed in leather case.

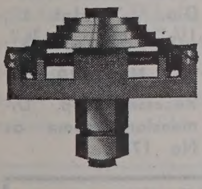
No. 737 KNOCKOUT PUNCH SET

Similar to the No. 735 set, but consists of two punches . . . for cutting holes 1 15/16 and 2⅜ inch diameter. Packed in leather case.



Nos. 738 and 739 KNOCKOUT PUNCHES

For cutting holes 2⅞" diameter (No. 738) and 3½" diameter (No. 739) in metal up to ⅛" or 10 gauge thickness. Similar in design and operation to that of smaller GREENLEE Knockout Punches. Packed and sold individually.



No. 740 KNOCKOUT CUTTER

Excellent tool for making meter openings and other large holes needed in radio work. Quickly cuts holes 1 15/16, 2⅜, 2⅞, 3½-diameter. Operation is simple . . . driven with ordinary wrench. Special discs can be furnished for cutting odd-size holes from 1 15/16 to 3½-inch diameter. Packed in leather case.

	Price	Wt. (lbs.)
No. 740 Knockout Cutter	$15.00	4½

No. 730 List Price and Weight in Pounds Each

	Price	Weight
½" Complete	$2.15	¼
AV1760 Punch	1.25	1/16
AV1759 Die	.65	1/16
⅝" Complete	2.15	¼
AV1742 Punch	1.25	1/16
AV1743 Die	.65	1/16
AV1675 for ½" & ⅝" Punches	.25	
¾" Complete	2.15	¼
AV113 Punch	1.25	1/16
AV114 Die	.65	1/16
⅞" Complete	2.15	⅜
AV121 Punch	1.25	⅛
AV122 Die	.65	1/16
AV322 Screw for ¾" & ⅞" Punches	.25	1/16
1" Complete	2.35	⅜
AV87 Punch	1.35	⅛
AV88 Die	.75	¼
1 1/16" Complete	2.50	⅝
AV1763 Punch	1.45	¼
AV1764 Die	.80	¼
1⅛" Complete	2.50	⅝
AV91 Punch	1.45	¼
AV92 Die	.80	¼
1 5/32" Complete	2.50	⅝
AV83 Punch	1.45	¼
AV84 Die	.80	¼
1 3/16" Complete	2.50	⅝
AV115 Punch	1.45	¼
AV116 Die	.80	¼
1¼" Complete	2.50	¾
AV117 Punch	1.45	¼
AV118 Die	.80	⅜
1⅜" Complete	2.85	⅞
AV119 Punch	1.65	⅜
AV120 Die	.95	⅜
1½" Complete	3.20	1
AV89 Punch	1.90	⅜
AV90 Die	1.05	½
AV112 Screw for 1" to 1½" inclusive	.25	1/16
2¼" Complete	6.20	2¼
AV437 Punch	3.20	⅞
AV438 Die	2.50	1
AV304 Screw for 2¼" Punch	.50	½

No. 731 List Price and Weight in Pounds Each

⅝" No. 731 Square Radio Chassis Punch	$3.35 complete
AV-2891 ⅝" Square Punch	$1.40
AV-2881 ⅝" Square Die	1.15
AV-2886 Drive Screw	.60
AV-2929 Drive Nut	.20
¾" No. 731 Square Radio Chassis Punch	$3.90 complete
AV-2882 ¾" Square Punch	$1.65
AV-2883 ¾" Square Die	1.35
AV-2914 Drive Screw	.70
AV-2929 Drive Nut	.20
1" No. 731 Square Radio Chassis Punch	$4.50 complete
AV-2884 1" Square Punch	$1.80
AV-2885 1" Square Die	1.50
AV-2887 Drive Screw	1.00
AV-2929 Drive Nut	.20

Nos. 735, 737, 738, 739 List Price and Weight in Pounds Each

	Price	Weight
No. 735 Knockout Punch Set	$10.00	2¾
No. 737 Knockout Punch Set	10.00	4¼
No. 738 Knockout Punch	14.00	5¾
No. 739 Knockout Punch	19.00	7¼

Extra Parts

No. 735 Knockout Punch Set	
No. AV121—⅞" Punch	1.25
No. AV122—⅞" Die	.65
No. AV123—1 3/32" Punch	1.45
No. AV124—1 3/32" Die	.80
No. AV125—1 11/32" Punch	1.65
No. AV126—1 11/32" Die	.95
No. AV127—1 11/16" Punch	1.90
No. AV128—1 11/16" Die	1.05
No. AV322—⅜" x 1½" Cap Screw	.25
No. AV249—¾" x 2⅛" Cap Screw	.35
No. 737 Knockout Punch Set	
No. AV439—1 15/16" Punch	2.30
No. AV440—1 15/16" Die	2.00
No. AV441—2⅜" Punch	3.20
No. AV442—2⅜" Die	2.50
No. AV304—¾" x 2¾" Cap Screw	.50
No. 738 Knockout Punch	
No. AV1429—2⅞" Punch	5.40
No. AV1430—2⅞" Die	5.00
No. AV1433—Drive Nut	1.35
No. AV1434—Drive Screw	2.75
No. 739 Knockout Punch	
No. AV1431—3½" Punch	8.00
No. AV1432—3½" Die	7.50
No. AV1433—Drive Nut	1.35
No. AV1434—Drive Screw	2.75

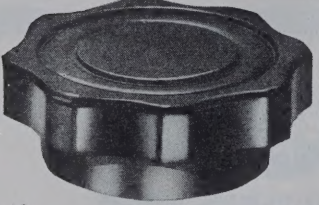
Harry Davies Molding Co.

Molders of Plastics

1428 NORTH WELLS STREET • CHICAGO 10, Ill.

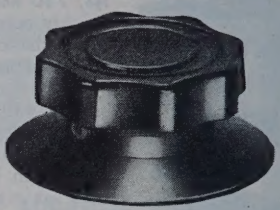
STANDARD COLORS FOR DAVIES KNOBS: Black, Walnut, Red or Ivory. Others to order. Quality radio knobs for standard ¼" shaft. Set screw, spring, or knurled hole mounting, or ¼" brass bushing.

ELECTRONIC INSTRUMENT KNOBS



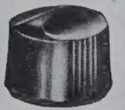
Type No.	Width	Height
4100	1⅛"	⅝"
4101	1⅜"	11/16"
4102	1⅝"	¾"
4103	2⅜"	⅞"

Type No.	Width	Pointer from length shaft center
4100-P	1⅛"	⅞"
4101-P	1⅜"	1 1/16"
4102-P	1⅝"	1 1/16"
4103-P	2⅜"	1 9/16"



Type No.	Width	Skirt diameter
4104	1⅛"	1½"
4106	1⅜"	1½"
4108	1⅝"	3"
4109	2⅜"	2 1/16"

No. 1400. (With pointer). Height 13/32". Diameter 11/16".
No. 1450. (No pointer). Height 13/32". Diameter 11/16".
Set screw, spring, or knurled hole mounting.



No. 1700.
Height 19/32". Diameter ¾". Set screw, spring, or knurled hole mounting.

No. 2500.
Height ¾". Diameter ¾".
No. 2600.
Height ⅞". Diameter ⅞".
Set screw, spring, or knurled hole mounting.

No. 2965.
Short Shank. Dia. ⅞"; Hgt. from ½" to 1½".
Medium Shank. Dia. ⅞"; Hgt. from 9/16" to 1½".
Long Shank. Dia. ⅞"; Hgt. from 9/16" to 1½".

This type knob can be supplied with arrow; Off-On; Tuning; Volume; Tone; Batt-Elec.; Band Switch; Radio-Phono, or Dot markings.

Set screw, spring, or knurled hole mounting.

No. 3008.
Dia. 1¼"; Hgt. ¾".
No. 3009.
Dia. 1½"; Hgt. ¾".
No. 3000
Long Shank Dia. 1¾"; Hgt. ¾", 1", 1¼" and 1½".
Short Shank. Dia. 1¾". Hgt. ¾", 1", 1¼" and 1½".
¼" molded hole or brass insert. Plain or threaded hole. Set screw or knurled hole mounting.

	Length overall	Hgt.	Dia.
No. 2110	1⅝"	19/32"	¾"
No. 2100	2½"	⅝"	¾"

Molded hole or brass insert, set screw mounting.

No. 2110-P	1 15/16"	19/32"	¾"
No. 2100-P	2 13/16"	⅝"	¾"

Metal insert and pointer, set screw mounting.

No. 2300—Zephyr bar knob. Length 1¼".
No. 2350—Zephyr bar knob. Length 2".
Molded hole, set screw mounting.
No. 2300-A—Zephyr bar knob. Length 1¼".
No. 2350-A—Zephyr bar knob. Length 2".
¼" brass insert and set screw.

No. 1800 Series
These can be furnished in either plain or recessed tops. Dia. 7/16": Heights range from 1" to 1⅜". Also supplied with studs of various lengths.

No. 5149 — Rectangular touch tuning knob. Push on, self-locating.
No. 5149-A—Oval touch tuning knob. Push on, self-locating.
Hgt. 13/16" - 1 1/32".

No. 1750—Touch Tuning. Push on, self-locating.
No. 1760—Touch Tuning, Recessed top, push on, self-locating. Dia. 31/64". Hgt. 9/16", 11/16", 13/16", 15/16".
No. 1770—Binding Post and Switch knob. No. 6-32 and No. 8-32 brass inserts. Dia. 31/64". Hgt. ½", ⅝", ¾", ⅞".

No. 2710
Height ½". Dia. ¾". Metal-faced insert or plain insert. Female thread available 8-32, 10-32 and 10-24.

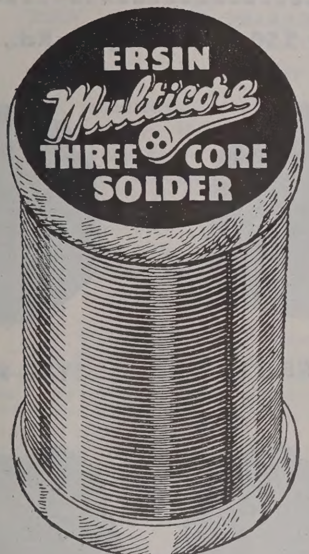
No. 2150
Streamlined bar knob. Length 1¼".

No. 1780
Push button knob. Dia. ½". Hgt. 1", 1⅛", 1 7/32", 1⅜".

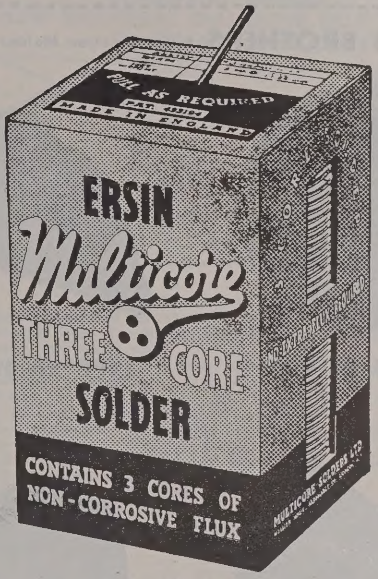
No. 1790
Recessed top. Dimensions same as No. 1780.

FACTORY & GENERAL OFFICES — 1428 NO. WELLS ST., CHICAGO 10, ILL.
Branch Offices: Baltimore, Cincinnati, Grand Rapids, New York, Los Angeles and Milwaukee
Foreign Office: Toronto, Canada

ERSIN MULTICORE SOLDER



SEVEN POUND REELS



ONE POUND CARTONS

ERSIN MULTICORE

The Solder containing 3 cores of extra active non-corrosive flux giving high speed soldering.

Our claim is a simple one: We believe that ERSIN MULTICORE is the finest cored solder in the World!

Ersin Multicore is solder in the form of wire containing three cores of non-corrosive Ersin Resin Flux. No extra flux is required. The use of Ersin Multicore guarantees that the correct proportion of flux to solder is used and maximum fluxing action occurs at the correct melting point of the solder. Only by using solder wire with three cores of flux is it possible to be sure the flux is always present—that there will not be lengths of wire without flux which result in "dry" or high-resistance joints.

In addition to this advantage, Ersin Multicore is the *only* cored solder in the world containing ERSIN, an extra-active non-corrosive flux. It is high grade rosin homogeneously activated by a process which confers on the rosin the vigorous fluxing action characteristic of the more active fluxes.

You enjoy speedy and a consistently high precision standard of soldering and attain just that extra rapidity which guarantees economy of operation. Ersin Flux not only removes surface oxides prior to soldering, but prevents formation during the soldering period. You can satisfactorily solder components which are highly oxidized—ones on which it would be necessary to undertake additional mechanical or chemical cleansing processes when using any other type of flux.

In Ersin Flux, the protective qualities of the original rosin are preserved. Joints made with Ersin Multicore Solder will not corrode even after prolonged exposure to any degree of humidity. The flux residue is impervious to moisture. It is hard and not sticky. It avoids accumulation of dirt and impurities on the joint.

Every reel or carton of Ersin Multicore is clearly marked both as to Gauge and Alloy, showing the actual content of Tin and Lead. You know exactly what you are getting when you buy Ersin Multicore Solder! Multicore costs a fraction more initially, but is unquestionably most economical in the long run.

Ersin Multicore Solder is available in all Tin/Lead alloys and in standard wire gauge from 10 to 22. (14, 16 and 18 s.w.g. are most popular.)

Ersin Multicore is the only solder which offers you these two fundamental advantages: (1) Multicore construction, providing three cores which assure perfect joints; (2) Ersin Flux, our *exclusive* fast non-corrosive flux.

Ersin Multicore is the answer for those who seek the finest Cored Solder in the World!

ERSIN MULTICORE

The Solder containing 3 cores of extra active non-corrosive flux giving high speed soldering.

The Original Three Cored Solder

ROGAN KNOBS *FROM STOCK MOLDS*

For All Types of Instruments and Apparatus . . . Low Cost . . . Immediate Delivery

ROGAN BROTHERS • *Compression Molders and Branders of Plastics* • **2506 W. Irving Pk. Rd., Chicago 18**

TYPE RB-901

TYPE RB-501

TYPE RB-111

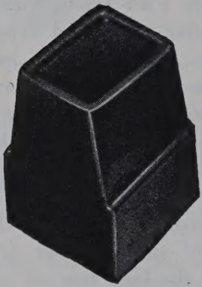
TYPE RB-121

TYPE RB-31

TYPE RB-301

TYPE RB-11

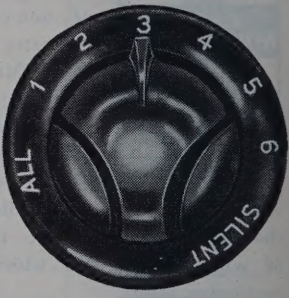
TYPE RB-21



TYPE RB-821

TYPE RB-51

TYPE RB-41



RB-11 *with* RB-1000

WIDE SELECTION OF SHAPES AND SIZES

Shown above, are but a few of the many Rogan plastic knobs available to you from our regular stock molds. These are supplied without tool charge, resulting in considerable savings in cost, faster delivery. Choice of a wide selection of sizes, shapes and colors. Molded of phenolic or urea thermosetting materials, which will not soften, warp, or scratch easily. Heat resisting materials can be used so knobs can withstand 350-400° F. continuous heat. Most knobs supplied with ¼" shaft hole and set screws. Special shaft hole sizes and means of fastening can be supplied to specifications at nominal cost.

KNOBS CAN BE BRANDED, AS REQUIRED

Rogan's famous "deep relief" branding process, applied after molding, provides sharp perfect marking at low cost. Any type marking, graduations or numerals can be branded on blank knobs to fit your requirements. Rogan knobs are available in black, brown or walnut, when molded of phenolic materials; and in all light pastel colors when molded of urea materials. Whatever your knob requirements may be, Rogan is equipped to supply you faster, better, more economically. The complete line of Rogan knobs with specifications is shown in the new Rogan catalog. Write for your copy now.

WALSCO *products*

Help The Radio Man

WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

STAPLE DRIVER — TUBE PULLERS — DIAL BELTS—GRILLE CLOTH & SCREENING

WALSCO
STAPLE DRIVER

WALSCO STAPLE DRIVER

"NEW IMPROVED GUARANTEED MODEL"

Patent No. 2,285,384

Pays for itself on the first job!

- **A sensational tool for installing wires and cables, that saves time and money.**
- **Used by Radio, Public Address and Intercom Technicians.**
- **Staples into corners and other inaccessible places.**
- **Staples on hard surfaces such as plaster, hardwood, etc.**
- **Can be loaded in 10 seconds.**

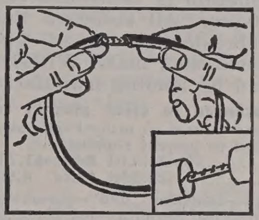
This tool automatically positions the staple — then one or two strokes with the palm of the hand and the staple is driven home neatly, quickly, and accurately. A small trigger regulates the feeding mechanism to enable the operator to strike the handle on hard surfaces as often as necessary before a second staple leaves the magazine. Staples come in strips, are large enough for cables and wires up to ¼″ diameter. An adjustable regulator controls the depth to which the staple is driven into surface, thus preventing damage to the insulation of the wire.

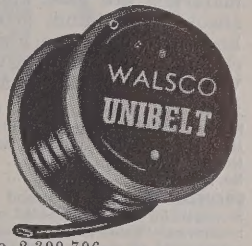
Cat. No.		List Price	Dealer's Net
500	Staple Driver Complete, including box of staples	$8.25	$4.95
507	Rubber Cap for Head of Staple Driver	0.37	0.22
550	Box of 250 Carbon Steel Staples	0.60	0.36
552	Box of 1000 Carbon Steel Staples	2.25	1.35

Staples put up in handy strips; available in plain, brown or ivory finish.

WALSCO UNIBELT

A NEW UNIVERSAL DIAL-DRIVE BELT ADJUSTABLE TO FIT ANY DIAL DRIVE





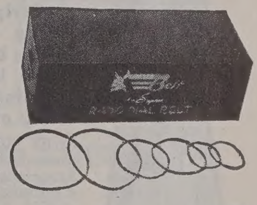
Covered by Patent No. 2,300,706

- **Eliminates need for stocking 96 different sizes of belts.**
- **Unibelt gives the Radio Man the correct size belt for every make and model set.**
- **Easily installed in a few minutes. No need for taking dial mechanism apart.**
- **Put up on spools in continuous lengths which will make five or more average belt replacements.**
- **New patented construction incorporates special stainless steel core and pure latex covering.**
- **Belts cannot stretch, and when properly installed will not slip, fray or break.**
- **Unconditionally guaranteed.**

The ingenious construction of the New WALSCO Unibelt makes it possible to assemble any size belt by merely cutting the desired length and joining the ends with a simple "zipper-like" connector. The connected belt cannot stretch and has a breaking strength of over 60 lbs. **ONLY ONE SIZE NEEDED** for any belt replacement job.

Cat. No.		List Price	Dealer's Net
303	5-ft. spool Unibelt (with 10 connectors and instructions)	$2.75	$1.65

WALSCO DIAL DRIVE BELTS



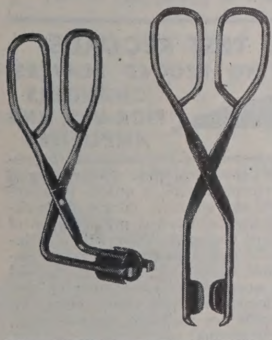
- **Precision Made.**
- **No Stretch — No Slip.**
- **Smooth and Uniform.**
- **Exceptionally Strong.**

Available for any type of radio set. Specially constructed to give long lasting, trouble-free service. Treated for maximum friction and to provide accurate tuning. WALSCO Dial Belts are uniformly thick throughout the entire length and are precision made and guaranteed to fit perfectly.

All Sizes............List Price Each, **$0.25**

Also put up in Kits of 25, 50, 100 and 150 Belts

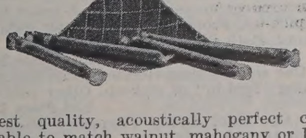
WALSCO TUBE PULLERS



The first practical tube pullers ever devised for the electronic trade. Lift out tubes by wedging action between base and socket, without applying strain to the glass. Tubes are securely held while extracting or inserting. Made of tempered steel throughout. Attractively and durably finished.

Cat. No.		List Price
565	Standard Puller, for all metal, GT, Locktal and most regular glass tubes. Also for extracting vibrators and for pulling knobs	$1.95
566	Right-Angle Puller, for metal, GT, Locktal and most regular glass tubes. Designed for extracting and inserting tubes without removing chasis from cabinet	2.40
567	Standard Puller, for all Miniature Tubes. Pulls out straight and thereby prevents tube breakage or bending of pins	1.95
568	Right-Angle Puller, for Miniature Tubes	2.40

GRILLE CLOTH

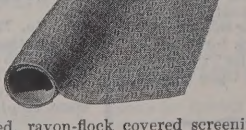


Highest quality, acoustically perfect cloth available to match walnut, mahogany or light wood finishes.

Cat. No.	Size	List Price
360	12″ x 12″	$0.60
361	18″ x 24″	1.50
362	1 yard x 52″ (packaged)	6.25
362-1	1 yard x 40″ (packaged)	4.95
362 BU	52″ wide material in bulk, minimum order: 5 yards, per yd.	5.75

GRILLE SCREENING

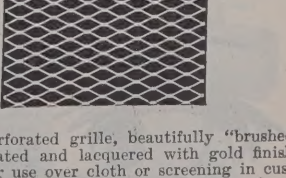
(Flocked)



Galvanized, rayon-flock covered screening. Attractive, weatherproof and modern. For auto radios, P.A. and Intercom. speakers, etc.

Cat. No.		Size	List Price
Brown	Ivory		
374-1	374-3	8″ x 11″	$0.85
376-1	376-3	18″ x 24″	2.90
378-1	378-3	36″ x 36″	9.00

ORNAMENTAL METAL GRILLE



Heavy perforated grille, beautifully "brushed brass" plated and lacquered with gold finish effect. For use over cloth or screening in custom-built radios, high quality P.A. speakers, juke boxes, etc.

Cat. No.	Size	List Price
382	12″ x 18″	$2.75
384	18″ x 24″	5.00
386	24″ x 36″	9.50

PRICES FOR BULK QUANTITIES AND SPECIAL SIZES QUOTED ON REQUEST

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

DIAL CABLES AND CORDS—TEST RECORDS — WIRE STRIPPER — PROTECTO-TUBE

WALSCO DIAL CABLES AND CORDS

WALSCO Dial Cables and Cords are manufactured to meet the most rigid standards of the Government, Radio Industry and Engineering Laboratories. The finest raw materials are used and production is controlled to supply a uniform product with an absolute minimum stretch factor. All standard Cords are made with **NYLON** braid, known to have the highest abrasion resistance. These selected materials, plus special chemical treatment after fabrication, make WALSCO Cords the finest on the market. WALSCO Dial Cords are used by leading manufacturers as a standard component.

25-ft. and 100-ft. spools are packaged in clear plastic, re-usable storage boxes with sliding lids.

HEAVY CORD—Diameter .062"—Same as used on many Philco and Majestic sets. Very durable, and treated to prevent slipping.

No. 33	25 ft.	**List Price $1.75**
No. 33-1C	100 ft.	**List Price 4.60**

BRONZE CABLE—16-Strand Braided—Diameter .039"—Breaking Strength 50 lbs.—A braided cable with good flexibility and abrasion resistance. "Fiber-glass" is used as core material and the braid is constructed of special hard Cadmium bronze. Does not unravel.

No. 31	25 ft.	**List Price $1.20**
No. 31-1C	100 ft.	**List Price 3.45**
No. 31-5C	500 ft.	**List Price 14.00**

PHOSPHOR BRONZE CABLE—42-Strand—Diameter .032"—Breaking Strength 60 lbs.—A very flexible metal cable constructed of 42 strands of hard Phosphor bronze over a "Fiber-glass" core. Extremely durable. Used for replacement of dial cables and many special applications where a strong, stranded cable is required.

No. 30	25 ft.	**List Price $1.50**
No. 30-1C	100 ft.	**List Price 5 00**
No. 30-5C	500 ft.	**List Price 20.00**

SPECIAL THIN BRONZE CABLE—Diameter .022"—An extra-thin cable for dial drives, flexible connections, pigtails, and many other applications—wherever a thin, but strong cable is required.

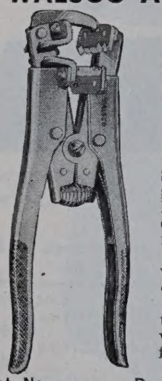
No. 32	25 ft.	**List Price $1.20**
No. 32-1C	100 ft.	**List Price 3.45**
No. 32-5C	500 ft.	**List Price 14.00**

The following cords cover over 80% of the replacement demand. With one spool of each kind on hand, the serviceman has the proper size for practically any set manufactured since 1934. Constructed with "Fiber-glass" or linen core and "pre-stretched," these are the most efficient cords available. The braided sleeves are made of Nylon.

Cat. No.	**Diam.**	**Breaking Strength**	**LIST PRICES Feet Per Spool 25**	**100**	**500**
		"SPECIAL THIN"			
35	.025"	25 lbs.	**$1.25**		
35-1C	.025"	25 lbs.		**$4.50**	
35-5C	.025"	25 lbs.			**$13.00**
		STANDARD			
39	.032"	30 lbs.	**$1.25**		
39-1C	.032"	30 lbs.		**$4.50**	
39-5C	.032"	30 lbs.			**$13.00**
		MEDIUM			
34	.042"	35 lbs.	**$1.25**		
34-1C	.042"	35 lbs.		**$4.50**	
34-5C	.042"	35 lbs.			**$16.00**

STANDARD PACKAGE—12

WALSCO ALL-PURPOSE WIRE STRIPPER



All these features in *ONE* model: • Strips all wires from 16 to 22-gauge • Strips 300-ohm twin lead • Has built-in wire cutter • Has automatic locking device which prevents crushing of stranded wire • Made entirely of steel and will last a lifetime.

Strips insulation quickly and cleanly. Precision-ground blades will not nick or cut wire strands. Especially made for wire types and sizes used in electronic work, but equally applicable for automotive, aviation, and telephone trade.

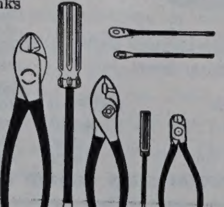
Blades are hardened and precision-ground, and will last for thousands of stripping and cutting operations. Can readily be replaced when dulled.

Operation is extremely easy, requires no particular skill or experience. From 700 to 1000 wires can be stripped per hour. Equally adaptable for the production line or for use "on the job."

Cat. No.	**Description**	**List Price**	**Dealer's Net**
590	—WALSCO All-Purpose Wire Stripper	$10.95	$6.57
590-1	—Replacement Blade Set for No. 590	2.00	1.20
591	—Special "Wide-Range" Model for Electrical Trade. Strips all wire gauges from No. 10 to No. 22	10.95	6.57
591-1	—Replacement Blade Set for No. 591	2.00	1.20

WALSCO PROTECTO-TUBE

A new synthetic tubing especially designed for insulating handles of pliers, screwdriver blades, cable connector ends, test prods, etc. This tubing is highly abrasion-resistant for long wear, and will not crack or shatter. Special Expanding Solution is furnished as part of the kit and "swells" tubing to permit easy application. Upon drying, tubing shrinks on tight.



Protecto-Tube Kit, containing approx. 12 ft. assorted sizes and colors of WALSCO Protecto-Tube, jar of Expanding Solution, and instructions.

Cat. No. K-18............**List Price $1.65**

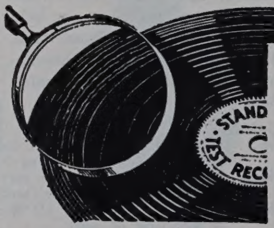
POPULAR DIAL CORD IN SMALL PACKAGES

Cat. No.		List Price
3070	—Approximately 10 ft. Special Thin Cord (Type 35)	**$0.40**
3080	—Approximately 8 ft. Medium Cord (Type 34)	**0.40**
3090	—Approximately 8 ft. Standard Cord (Type 39)	**0.40**

(Standard Package . . . 20; available on display card or box)

WALSCO STANDARD TEST RECORDS

FOR TESTING AND ADJUSTING RECORD PLAYERS, CHANGERS PICK-UPS, AND AMPLIFIERS



These records are designed to provide the electronic engineer and serviceman with a quick, inexpensive, and accurate means of checking the mechanical performance of record changers. They will also indicate any defects in pick-up, amplifier, or speaker, and may be used for accurate measurements of performance of these components. All records are made of long-wearing, plastic material, and are unbreakable in normal use.

Cat. No. 720-6—Set of six 10" records consisting of one each of the following: Record No. 720, 721, 725, 726, 727, 728. With this set, all mechanical and electrical performance characteristics of a phonograph system can be quickly and accurately checked. No laboratory or well-equipped service shop should be without this set.............**List Price $9.90**

Cat. No. 720—10" record with accelerated pitch. Playing time approximately 45 sec. Lead-in grooves modulated with 3 tones to indicate set-down position of pick-up. Proper tripping action indicated by tone signals at end of record. Both sides of record identical **List Price $1.65**

Cat. No. 721—10" record. One side with accelerated pitch and without starting spiral for checking "feed-in" of pick-up. Other side same as No. 720.............**List Price $1.65**

Cat. No. 725—10" record. One side: Sweep Frequency Record at N.A.B. standard level. Range 10,000 to 50 c.p.s. Cross-over to constant amplitude at 500 c.p.s. Other side same as No. 720. **List Price $1.90**

Cat. No. 726—10" record. One side: Test Frequency Record at N.A.B. standard level. Range 10,000 to 50 c.p.s. in 16 steps. Other side same as No. 720.............**List Price $1.90**

Cat. No. 727—10" record. One side contains 1000 and 400-cycle tone for 1 min. each. Especially designed for testing irregular turntable speed ("WOW"). Other side same as No. 720.............**List Price $1.90**

Cat. No. 728—10" record. One side contains silent (unmodulated) groove for checking turn-table rumble. Other side same as No. 720. **List Price $1.65**

Cat. No. 730-4—Set of four 12" records of same design as No. 720. Designed for use in connection with set No. 720-6 in checking performance of intermix changers.............**List Price $9.90**

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

WALSCO ELECTRONIC HARDWARE

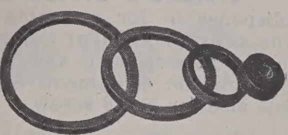
The 99 Line

IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS

The 40 Line

PACKED IN HANDY ECONOMICAL PLASTIC BAGS

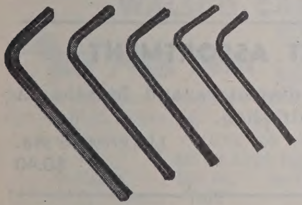
WALSCO PHONO-MOTOR DRIVES



Precision made to assure constant uniform speed and made of abrasion-resistant synthetic rubber to assure long wear. For attaching, use WALSCO Rubber Cement.

Cat. No.	I.D.	O.D.	Thick	No. of Drives per pkg.	Used on	List Price per pkg.
†2560-16	2"	2⅜"	5/32"	2	Gen. Indust. Mod. LX & RX	$0.40
†2560-17	1½"	1¾"	3/16"	2	Alliance, Seeburg, G.E. V. M. 400	0.40
†2560-18	⅞"	1⅛"	3/16"	3	Seeburg, R.C.A., G.E.	0.40
†2560-19	⅛"	⅜"	¼"	4	Philco, R.C.A., etc.	0.40
†2560-20	5¾"	6"	3/16"	1	Detrola	0.40
*2560-22	1 7/32"	1 15/32"	3/16"	3	G.I. Recorder/Changer	0.40
*2560-23A	11/16"	1⅛"	¼"	2	R.C.A., RP-176, 177 and most pre-war R.C.A. Changers. Also on G.E. 809-J, etc.	0.40
*2560-23B	4½"	5½"	5/16"	1	Same as #2560-23A	1.00
*2560-24	2⅞"	3⅜"	¼"	1	R.C.A. 960015, 960260, 960276. Also most Admiral and Crescent postwar changers	0.50
†2560-25	Spring-Drive			1	Detrola - Utah	0.40

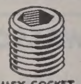
WALSCO KEY WRENCHES



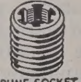
FOR HEX AND SPLINE SOCKET SCREWS

WALSCO features three sets of socket wrenches made of special alloy steel to fit all standard socket screws used in radio and electronic equipment.

Cat. No.	Description	List Price
†3580	Assortment of 4 small HEX wrenches. Fits set screws No. 4 to ¼" and cap screws No. 2 to 8.	$0.40
†3581	Assortment of 3 medium HEX wrenches. Fits set screws ¼" to 7/16" and cap screws No. 8 to 5/16".	0.40
†3584	Assortment of 4 small SPLINE wrenches. Fits all set screws up to ¼" and cap screws up to No. 8.	0.40

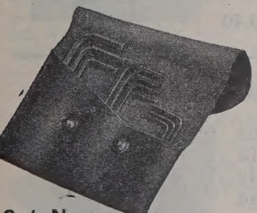


HEX SOCKET



SPLINE SOCKET

WALSCO HEX & SPLINE WRENCH KIT

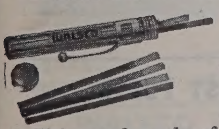


A handy kit containing a complete range of wrench sizes as used in the electronic trade. The case is made of durable leatherette with double snap button closure and contains both hex (Allen) and spline (Bristol) wrench keys for No. 2 to ⅜" screws.

Cat. No.		List Price	Dealer's Net
560	Wrench Kit	$1.65	$0.99

Standard Package — 25

WALSCO SPEAKER ADJUSTMENT SHIMS

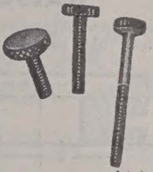


- MADE OF NON-MAGNETIC METAL
- STRONG AND FLEXIBLE, SPRING TEMPER
- CORROSION-RESISTANT

4 Shims of each of 4 sizes supplied in handy plastic case with screw top and pencil clip. As easy to carry as a fountain pen. Marked for easy identification. Sizes supplied—.004", .006", .008" and .010". Indispensable to the serviceman in adjusting voice coils.

Cat. No.		List Price
†2550	16 Assorted Shims—4 of each size	$0.60

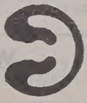
WALSCO PHONOGRAPH PICKUP SET SCREWS



Precision knurled head steel screws, antique bronze finished for all popular pickups and recording heads. The assortment contains several each of the popular numbers and one each of the other sizes.

Cat. No.	Approx. No. Units per pkg.	Used On	Size	List Price per pkg.
†2570	10	Assorted	7 diff. sizes	$0.40
*2571	10	Shure and others	2-56 x ⅝"	0.40
*2572	10	Most Astatic & Webster	2-64 x ¾"	0.40
*2576	6	Most RCA, etc.	1-72 x 1"	0.40

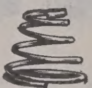
WALSCO TURNTABLE RETAINING CLIPS



For holding phonograph turntables securely to spindle. Indispensable for portable phonographs or to prevent damage when shipping record players.

Cat. No.		List Price per pkg.
*3424	4 Clips	$0.40

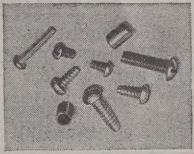
WALSCO PHONO PANEL MOUNTING SPRINGS



An assortment of various sizes of conical springs as used in mounting record changer units.

Cat. No.		List Price per pkg.
*3385	8 Assorted Springs	$0.40

WALSCO PICKUP CARTRIDGE MOUNTING SCREWS



An assortment containing small machine and self-tapping screws of various lengths, sizes and styles as required in fastening cartridge to pick-up arm. Especially useful when threads are stripped or replacement of different cartridge requires longer screws.

Cat. No.		List Price
*3365	Apprx. 30 Screws & Spacers	$0.40

WALSCO DIAL CORD CLIPS

For fastening the end of dial drive cord. The assortment contains the proper sizes for all standard thicknesses of cord.

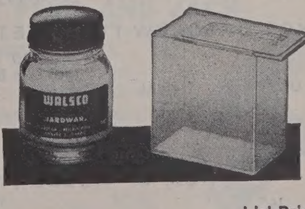
Cat. No.		List Price per pkg.
*2770	Approximately 35 Clips	$0.40

WALSCO HARDWARE ASSORTMENT

A wonderful assortment of screws, nuts, washers, springs, clamps, eyelets, grommets, terminals, etc. Only regular hardware included. Just the thing for the experimenter, ham and technician. In plastic jar.

Cat. No.		List Price	Dealer's Net
K3003	"1000 Piece" Hardware Assortment	$1.65	$0.99

WALSCO GLASS JARS AND PLASTIC BOXES



Handy for storing small hardware items to keep them clean and rust-free.

Cat. No.		List Price
998	Plastic Box with Sliding Lid (Standard Package . . . 24)	$0.25
999	Glass Jar, 2 oz. size (Standard Package: 36)	.12

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

*Std. Pack: Display Box of 20 Individual Packages. Add suffix "B" to part number to indicate one standard package. Example: 1 #3330-B consists of standard box containing 20 packages #3330.

†Available Either in Standard Display Box of 20 Packages or on Standard Display Card of 20 Packages. When ordering add suffix "B" for box or suffix "D" for display card. See example above.

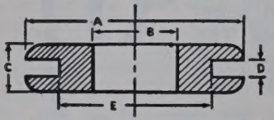
WALSCO ELECTRONIC HARDWARE

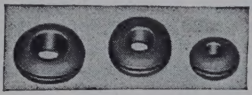
The 99 Line
IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS

The 40 Line
PACKED IN HANDY ECONOMICAL PLASTIC BAGS

WALSCO RUBBER GROMMETS

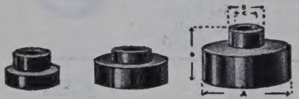
For protecting cables from abrasion when passing through chassis holes. Also used for vibrationless mounting of parts.





Dimensions A	B	C	D	E	THE 40 LINE $0.40 List Ea. Pkg. Cat. No.	Approx. Quan. per pkg.	THE 99 LINE $1.65 List Ea. Pkg. Cat. No.	Approx. Quan. per pkg.
11/32	1/8	3/16	1/16	1/4	†3341	15	3341-99	100
7/16	3/16	7/32	1/16	5/16	†3342	12	3342-99	75
9/16	1/4	1/4	1/16	3/8	†3343	10	3343-99	65
5/8	3/8	1/4	1/16	1/2	†3344	10	3344-99	50
13/16	1/2	9/32	1/16	5/8	†3345	8	3345-99	40
Assorted					†3340	12		

WALSCO CHASSIS MOUNTS



Made of resilient synthetic rubber to give chassis or other components a floating effect and to reduce "microphonics." Essential wherever vibration will affect operation.

Dimensions A	B	C	D	THE 40 LINE $0.40 List Ea. Pkg. Cat. No.	Quan. per pkg.	THE 99 LINE $1.65 List Ea. Pkg. Cat. No.	Quan. per pkg.
3/4"	1/2"	1/4"	3/8"	*2742	6	2742-99	30
1"	1/2"	1/4"	17/32"	*2744	4	2744-99	20
Assorted				†2740	10		

WALSCO RUBBER WASHER AND BUMPER ASSORTMENT

An assortment of the various kinds of rubber washers, bumpers, and spacers used in the electronic and radio industry for shockless, vibrationless mounting, for eliminating rattles and microphonics, etc.

Cat. No.	List Price
†3440—20 Assorted Washers and Bumpers	$0.40

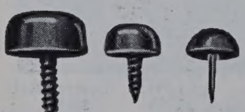
WALSCO CORD STRAINRELIEFS

FOR POSJ WIRE

Provides a grommet and strain relief in one piece. For use on appliance cord sets. Use WALSCO Rubber Cement (Cat. No. 112) for attaching to cord. Prevents insulation of wire from being damaged by sharp-edged holes in metal chassis or cabinets.

Cat. No.	List Price per pkg.
*3348—4 Strainreliefs	$0.40

WALSCO CABINET FEET



Made of oil resistant synthetic rubber. Wood screws are supplied with screw-type feet but machine or selftapping screws may be used. The rubber tack feet have steel tacks securely molded in.

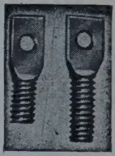
PKGS. OF SCREW-TYPE FEET, INDIVIDUAL SIZES

Diam.	Height	THE 40 LINE $0.40 List Ea. Pkg. Cat. No.	Quan.	THE 99 LINE $1.65 List Ea. Pkg. Cat. No.	Quan.
3/8"	7/32	*3351	12	3351-99	50
1/2"	9/32	*3352	8	3352-99	50
3/4"	3/8	*3353	8	3353-99	30
Assorted		†3350	12		

PKGS. OF RUBBER TACK FEET

Diam.	Height	THE 40 LINE Cat. No.	Quan.	THE 99 LINE Cat. No.	Quan.
1/2"				3355-99	50
3/8"				3356-99	50
Assorted		†3355	12		

WALSCO SPADE BOLTS

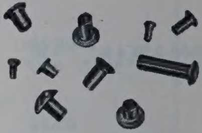


Indispensable for attaching condensers, coils, cans, and similar items. For Experimenters, Servicemen and Manufacturers of electronic equipment. Stud size 6-32. Hole size for No. 6 screw.

Approx. Length	THE 40 LINE $0.40 List Ea. Pkg. Cat. No.	Quan. per pkg.	THE 99 LINE $1.65 List Ea. Pkg. Cat. No.	Quan. per pkg.
5/8"			3271-99	125
3/4"			3272-99	100
Assorted	†3270	25		

WALSCO RIVET ASSORTMENT

Various sizes of hollow, solid and split rivets in brass, copper and aluminum as used in everyday repair and experimental work. Sizes range approximately from 1/16" to 3/16" in diam. and up to 3/4" in length.



Cat. No.	List Price per pkg.
†2620—Approx. 60 asstd. Rivets	$0.40

WALSCO EYELET ASSORTMENT

Brass eyelets of various diameters and lengths. A handy item for every repair shop.

Cat. No.	List Price per pkg.
†2630—Approx. 55 Eyelets	$0.40

WALSCO SMALL COTTER & HAIR PINS

Package contains an assortment of most popular sizes of cotter and hair pins. A valuable aid in the repair of radios and phonograph mechanisms.

Cat. No.	List Price per pkg.
*2650—Approx. 50 Assorted Cotter and Hair Pins	$0.40

WALSCO SPEAKER CONE PATCHES

A quick and inexpensive means for patching tears and holes in speaker cones. Made of specially flexible material and backed with an adhesive which forms a permanent bond with the cone.

Cat. No.	List Price
†2553—10 Assorted Patches	$0.40

WALSCO SPEAKER DUST FELTS

Special, thin felt disks to keep metal particles and dust out of voice coils. Use Walsco Radio Cement to attach to cone.

Cat. No.	List Price per pkg.
2775—Approx. 25 assorted sizes	$0.40

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

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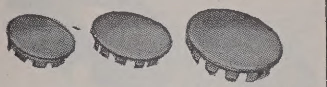
†Available Either in Standard Display Box of 20 Packages or on Standard Display Card of 20 Packages. When ordering add suffix "B" for box or suffix "D" for display card. See example above.

WALSCO ELECTRONIC HARDWARE

The 99 *Line*
IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS

The 40 *Line*
PACKED IN HANDY ECONOMICAL PLASTIC BAGS

WALSCO SNAP-HOLE PLUGS



A round, flat head, metal button with spring flanges that snap right into the hole. Used to seal adjustments, cover unused holes, etc.

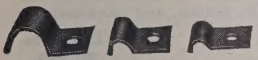
	THE 40 LINE $0.40 List Ea. Pkg.		THE 99 LINE $1.65 List Ea. Pkg.	
Description	**Cat. No.**	**Quan. per pkg.**	**Cat. No.**	**Quan. per pkg.**
For ¼″ hole......	*3501	8	3501-99	50
For ⅜″ hole......	*3502	8	3502-99	50
For ½″ hole......	*3503	6	3503-99	40
For ⅝″ hole......	*3504	6	3504-99	30
For ¾″ hole......	*3505	5	3505-99	25
For 1″ hole......	*3506	4	3506-99	20
Assorted...........	†3500	8		

WALSCO VENTILATING HOLE PLUGS

For amplifiers, transmitters, portable radios, amateur equipment, etc., wherever ventilation is required.

Cat. No.	**List Price per pkg.**
†3320—Assorted Plugs	$0.40

WALSCO CABLE CLAMPS



Heavy gauge steel, Cadmium plated, ⅜″ wide. Perfectly punched and formed with No. 6 or No. 8 mounting holes. Available in 3 sizes for cables from ⅛″ to $\frac{5}{16}$″ in diameter.

	THE 40 LINE $0.40 List Ea. Pkg.		THE 99 LINE $1.65 List Ea. Pkg.	
For Cables	**Cat. No.**	**Quan. Per pkg.**	**Cat. No.**	**Quan. per pkg.**
⅛″ to $\frac{3}{16}$″ Diam.	*3331	20	3331-99	125
$\frac{3}{16}$″ to ¼″ Diam.	*3332	18	3332-99	100
¼″ to $\frac{5}{16}$″ Diam.	*3333	15	3333-99	75
Assorted............	†3330	20		

WALSCO GRID CAP ASSORTMENT

An assortment of Grid Caps for all standard metal and glass tubes. Made of high quality spring brass, or steel and plated.

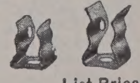
Cat. No.	**List Price per pkg.**
†2600—Approximately 15 Assorted Caps................	$0.40

WALSCO SPRING CONNECTOR CLIPS
(FAHNESTOCK TYPE)

For fast connection and good electrical contact. No tools required for connecting or disconnecting. Made of spring brass or phosphor bronze.

	THE 40 LINE $0.40 List Ea. Pkg.		THE 99 LINE $1.65 List Ea. Pkg.	
For Wires	**Cat. No.**	**Approx. Quan.**	**Cat. No.**	**Approx. Quan.**
#16 gauge and smaller	*2731	20	2731-99	100
#12 to #18 gauge	*2732	12	2732-99	75
Assorted............	*2730	12		

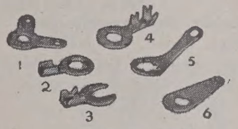
WALSCO FUSE CLIPS



Made of spring brass, nickel plated for single hole mounting.

Cat. No.	**List Price per pkg.**
*2720—10 Assorted Clips..................................	$0.40

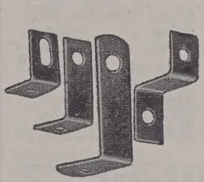
WALSCO TERMINAL LUGS



Available in the six popular sizes which meet most of the requirements of the radio and electronic field. Accurate forming facilitates easy handling. Made of tinned brass.

	THE 40 LINE $0.40 List Ea. Pkg.		THE 99 LINE $1.65 List Ea. Pkg.	
Figure No.	**Cat. No.**	**Approx. Quan.**	**Cat. No.**	**Approx. Quan.**
1	*3281	30	3281-99	150
2	*3282	25	3282-99	150
3	*3283	25	3283-99	150
4	*3284	25	3284-99	150
5	*3285	25	3285-99	125
6	*3286	40	3286-99	150
Assorted...........	†3280	40		
Asst. Solderless Terminals	*3288	8		

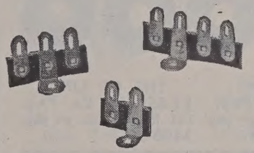
WALSCO ANGLE BRACKET ASSORTMENT



Handy brackets of various lengths and shapes as needed by every repairman, experimenter, "ham", etc. Precision made, of steel, or brass and plated.

Cat. No.	**List Price per pkg.**
*2610—Approximately 15 Assorted Brackets	$0.40

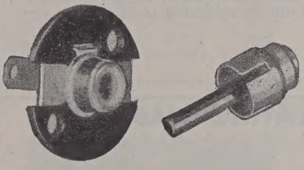
WALSCO TERMINAL STRIPS



For mounting parts which are to be insulated from chassis, and for wire distribution. Made with high-grade phenolic insulation. Solder-coated terminals.

Cat. No.	**List Price per pkg.**
*2660—Assortment of various size Strips	$0.40

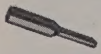
WALSCO PHONO PLUGS AND JACKS



Standard plugs and jacks as used for connecting record players or pick-ups; also used on auto radio antennas. Used for all single conductor, shielded cable connections.

Cat. No.	**List Price per pkg.**
†2580—Package of 4 Plugs..	$0.40
†2585—Package of 2 Jacks...	0.40

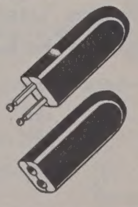
WALSCO PHONE TIPS



Fit all standard tip jacks. Easy to solder. Made of brass, nickel-plated. These are the conventional tips so often needed by both experimenters and service men.

	THE 40 LINE $0.40 List Ea. Pkg.		THE 99 LINE $1.65 List Ea. Pkg.	
	Cat. No.	**Approx. Quan.**	**Cat. No.**	**Approx. Quan.**
Phone Tips.........	†2725	12	2725-99	60

MINIATURE PLUG AND JACK



TWO-CONDUCTOR PRECISION TYPE

Ideal for hearing aids, speaker extensions, carbon microphones, and numerous other installations. Needs no screws; molded plastic case cements together. Illustration shown approximately one-half size.

Cat. No.	**Description**	**List Price**
†790	—1 Plug (type PL-291)..................	$0.55
†791	—1 Jack (type JK-48)....................	0.75

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

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WALSCO ELECTRONIC HARDWARE

The 99 *Line*

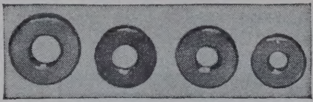
IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS

The 40 *Line*

PACKED IN HANDY ECONOMICAL PLASTIC BAGS

WALSCO METAL WASHERS

Precision steel washers, Cadmium plated, in standard small sizes for innumerable uses.



For Screw Size	Dimensions I.D.	Dimensions O.D.	Dimensions Thick.	THE 40 LINE $0.40 List Ea. Pkg. Cat. No.	THE 40 LINE Approx. Quan.	THE 99 LINE $1.65 List Ea. Pkg. Cat. No.	THE 99 LINE Approx. Quan.
#4	.125"	5/16"	1/32"	*3511	100		
#6	.149"	⅜"	1/32"	*3512	100	3512-99	500
#8	.175"	⅜"	1/32"	*3513	100	3513-99	500
#10	.203"	7/16"	1/32"	*3514	75	3514-99	300
¼"	.265"	½"	1/32"	*3515	60	3515-99	300
Assorted				†3510	80		

WALSCO LOCK WASHERS

Made of special steel and rust-proofed. Sizes listed below are the most popular ones in the radio and electrical appliance field.

For Screw Size	The 40 LINE $0.40 List Ea. Pkg. Cat. No.	Approx. Quan.	THE 99 LINE $1.65 List Ea. Pkg. Cat. No.	Approx. Quan.
#6	*3592	50	3592-99	300
#8	*3593	45	3593-99	250
#10	*3594	40	3594-99	250
¼"			3595-99	200
⅜"			3596-99	120
Assorted	†3590	50		

WALSCO KNOB FELT WASHERS

Keep cabinets from being scratched and make knobs turn smoothly. Made of tough brown felt with ¼" hole to fit standard control and condenser shafts. O.D. is approx. ¾" and thickness 1/32".

	THE 40 LINE $0.40 List Ea. Pkg. Cat. No.	Quan. per pkg.	THE 99 LINE $1.65 List Ea. Pkg. Cat. No.	Quan. per pkg.
Felt Washers in cellophane bag	†3490	45	3490-99	250

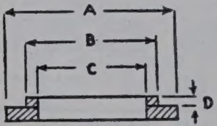
WALSCO MICA WASHERS AND SHIMS

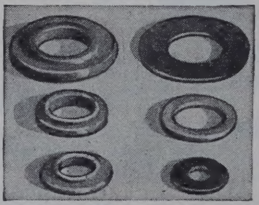
An assortment of flat and round shims and washers. Required by experimenters and for repairing of trimmers, soldering irons, heater elements, etc.

Cat. No.	List Price per pkg.
*3428—Assorted sizes	$0.40

WALSCO INSULATING WASHERS

Precision made of high-grade vulcanized fibre or phenolic material. Used on electronic and electrical equipment to insulate parts from chassis, etc.



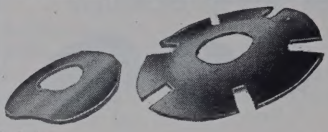


Overall thickness of extruded washers is approximately 3/32" and of the flat washers 1/32".

In the "99 LINE," WALSCO Insulating Washers come in packages of either flat or extruded washers. In the "40 LINE" the packages contain both flat and extruded washers.

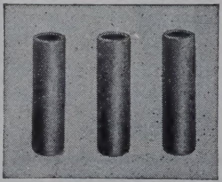
Dimensions A	Dimensions B	Dimensions C	Dimensions D	Fits Screw Size	THE 40 LINE $0.40 List Ea. Pkg. Cat. No.	Quan. per pkg. Flat & Extruded	THE 99 LINE $1.65 List — Ea. Pkg. Cat. No.	Quan. Flat	$1.65 List Cat. No.	Quan. Extruded
5/16	3/16	.136	1/32	#6	*3431	15 and 15	3431-F-99	250	3431-E-99	100
⅜	¼	.165	1/32	#8	*3432	15 and 15	3432-F-99	250	3432-E-99	100
⅜	.308	.195	1/32	#10	*3433	15 and 15	3433-F-99	250	3433-E-99	100
½	11/32	¼	1/32	¼"	*3434	12 and 12	3434-F-99	200	3434-E-99	75
⅝	½	⅜	1/32	⅜"	*3435	10 and 10	3535-F-99	200	3535-E-99	75
Assorted					†3430	15 and 15				

WALSCO SPRING (FRICTION) WASHERS



Used in record changers, automatic tuning assemblies, etc. Assortment contains many popular sizes of phosphor bronze and spring steel washers.

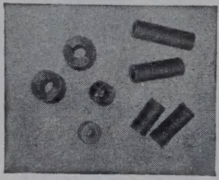
Cat. No.	List Price per pkg.
†3425—Approx. 15 Assorted Spring Washers	$0.40



WALSCO FUSE INSULATORS

Standard fibre insulators for use on automobile radios. Two lengths included fit all standard ¼" diameter fuses.

Cat. No.	List Price per pkg.
†2690—Approx. 16 Assorted Insulators	$0.40

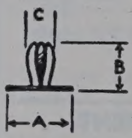


WALSCO METAL AND INSULATING SPACERS

A popular assortment of spacers of various lengths, with hole size to accommodate #6 and #8 screws. Often used for mounting sockets, switches, and for raising panels, chassis, and condensers.

Cat. No.	List Price per pkg.
*2670—Approx. 12 Assorted Insulating Spacers	$0.40
*2680—Approx. 12 Assorted Metal Spacers	0.40

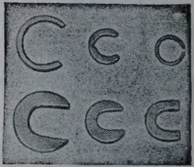
WALSCO SNAP-IN TRIMOUNTS



Faster than screws. Use them on modern radio sets, back covers, dial scales, chassis, built-in antennae, etc., to speed assembly and repairs.

Dimensions A	Dimensions B	Dimensions C	For Hole	THE 40 LINE $0.40 List Ea. Pkg. Cat. No.	Quan. per pkg.	THE 99 LINE $1.65 List Ea. Pkg. Cat. No.	Quan. per pkg.
9/32"	13/64"	9/64"	⅛"	*3462	20	3462-99	125
23/64"	9/32"	3/16"	5/32"	*3464	18	3464-99	100
⅜"	⅝"	5/32"	⅛"	*3465	15	3465-99	100
Assorted				†3460	approx. 20		

WALSCO RETAINING RINGS AND "C" WASHERS



A necessity in the servicing of volume controls, record changers, etc. The rings are tempered spring steel. The washers are annealed.

Cat. No.	Description	Approx. No. of units per pkg.	List Price per pkg.
†3420	Assorted Rings & Washers	35	$0.40
*3422	"C" Washers for ¼" Shaft	25	0.40
*3423	"C" Washers for 3/16" Shaft	25	0.40

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

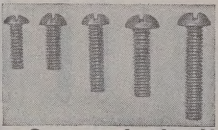
***Std. Pack: Display Box of 20 Individual Packages.** Add suffix "B" to part number to indicate one standard package. Example: 1 #3330-B consists of standard box containing 20 packages #3330.

†Available Either in Standard Display Box of 20 Packages or on Standard Display Card of 20 Packages. When ordering add suffix "B" for box or suffix "D" for display card. See example above.

WALSCO ELECTRONIC HARDWARE

The 99 *Line* IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS ● *The* 40 *Line* PACKED IN HANDY ECONOMICAL PLASTIC BAGS

WALSCO STEEL MACHINE SCREWS



Round head, cadmium-plated, steel machine screws. Available in assortments or individual sizes, conveniently packaged for experimenters, servicemen and amateurs.

WALSCO Standard Machine Screw Ass'tm't

All the standard sizes used in electronic and similar work are combined in this handy, inexpensive assortment. It contains Nos. 6, 8, 10 screws—¼ to 1″ long.

	THE 40 LINE $0.40 List Ea. Pkg.		THE 99 LINE $1.65 List Ea. Pkg.	
	Cat. No.	Approx. Quan.	Cat. No.	Approx. Quan.
Assorted Screws	†3560	40	3560-99	200

WALSCO Small Machine Screw & Nut Ass'tm't

A special assortment of extra small screws (Nos. 2 and 4), and nuts so often needed in electronic and experimental work for fastening small parts, to replace rivets, etc.

Cat. No.		List Price
†3360	Approximately 30 Assorted Screws and 30 Assorted Nuts, per pkg.	$0.40

PACKAGES OF SCREWS — INDIVIDUAL SIZES

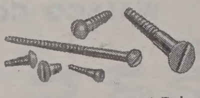
	THE 40 LINE $0.40 List Ea. Pkg.		THE 99 LINE $1.65 List Ea. Pkg.	
Size	Cat. No.	Approx. Quan.	Cat. No.	Approx. Quan.
#6-32 x ¼″	†3100	40	3100-99	225
#6-32 x ⅜″	†3110	35	3110-99	225
#6-32 x ½″	†3120	35	3120-99	200
#6-32 x ¾″	*3130	30	3130-99	175
#6-32 x 1″			3132-99	150
#8-32 x ¼″	*3135	30	3135-99	200
#8-32 x ⅜″	†3140	30	3140-99	175
#8-32 x ½″	†3150	30	3150-99	160
#8-32 x ¾″	†3160	25	3160-99	140
#8-32 x 1″			3162-99	125
#10-32 x ½″	*3165	20	3165-99	150
#10-32 x ¾″	*3167	20	3167-99	125
#10-32 x 1″	*3169	15	3169-99	100

WALSCO SMALL ESCUTCHEON AND WOOD SCREW ASSORTMENT

This assortment contains the extra small sizes of hard-to-get wood screws as needed by radio men, model builders, etc., for fastening name plates, escutcheons and numerous other devices.

Cat. No.		List Price
†3550	Approx. 30 Assorted Screws, per pkg.	$0.40

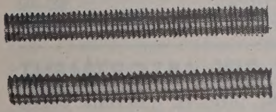
WALSCO Standard Wood Screw Assortment



Handy assortment for workshop or home. Contains round and flathead screws of popular sizes in brass and steel.

Cat. No.		List Price
†3553	Approx. 30 Screws, per pkg.	$0.40

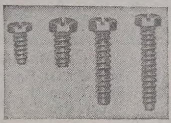
WALSCO THREADED STEEL RODS



These rods have many uses in service and repair work and are made from the finest cold rolled steel to give maximum strength. Each package contains one each of 6-32 and 8-32 threaded rod. Both 8 inches long.

Cat. No.		List Price
†2640	1 each 6-32 and 8-32 Threaded Rod	$0.40

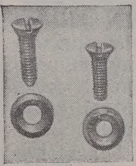
WALSCO SHEET METAL AND SELF-TAPPING SCREWS



These screws cut their own threads in either metal or plastic. Just drill a hole and drive in the screw — no nut or tapping required. Ideal for mounting parts to chassis, replacing rivets and eyelets, etc.

	THE 40 LINE $0.40 List Ea. Pkg.		THE 99 LINE $1.65 List Ea. Pkg.	
Size	Cat. No.	Approx. Quan.	Cat. No.	Approx. Quan.
Assorted	†3470	30	3470-99	125
#6 x ¼″	†2910	30	2910-99	150
#6 x ⅜″	*2911	25	2911-99	150
#6 x ½″	*2912	25	2912-99	150
#6 x ¾″	*2914	20	2914-99	125
#6 x 1″	*2916	20	2916-99	100
#8 x ¼″	*2919	25	2919-99	125
#8 x ⅜″	*2920	25	2920-99	125
#8 x ½″	*2922	20	2922-99	125
#8 x ¾″	*2924	15	2924-99	100
#8 x 1″	*2926	15	2926-99	100
#10 x ⅜″	*2930	20	2930-99	100
#10 x ½″	*2932	16	2932-99	100
#10 x ¾″	*2934	15	2934-99	100

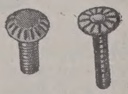
WALSCO RACK SCREWS & CUP WASHERS



For mounting panels in racks and cabinets, fastening record-players and recording chassis, etc. Enhances appearance of any assembly. The oval head screws are nickel plated—so are the cup washers.

	THE 40 LINE $0.40 List Ea. Pkg.		THE 99 LINE $1.65 List Ea. Pkg.	
Size	Cat. No.	Approx. Quan.	Cat. No.	Approx. Quan.
#6-32 x ⅝″ Screws	*3543	30	3543-99	175
#8-32 x ⅝″ Screws	*3541	25	3541-99	125
#10-32 x ¾″ Screws	*3542	20	3542-99	100
#6 Washers ($\frac{7}{16}$″ O.D.)	*3544	50	3544-99	300
#8 Washers (½″ O.D.)	*3545	40	3545-99	250
#10 Washers ($\frac{9}{16}$″ O.D.)	*3546	25	3546-99	200
Asstd. Screws & Washers	†3540	12		

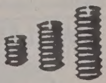
WALSCO ORNAMENTAL HEAD SCREWS



Antique bronze finished; rosette head. For mounting of speakers, etc.

	THE 40 LINE $0.40 List Ea. Pkg.		THE 99 LINE $1.65 List Ea. Pkg.	
Size	Cat. No.	Quan. per pkg.	Cat. No.	Quan. per pkg.
#6-32 x ¾″	*2951	20	2951-99	125
#6-32 x 1″	*2952	20	2952-99	125
#8-32 x 1¼″	*2953	12	2953-99	80
Assorted	†2950	15		

WALSCO STEEL SET SCREWS



Precision, hardened steel set screws in all popular sizes for radio knobs, record changers, home and automobile radios, or wherever set screws are needed.

	THE 40 LINE $0.40 List Ea. Pkg.		THE 99 LINE $1.65 List Ea. Pkg.	
Size	Cat. No.	Approx. Quan.	Cat. No.	Approx. Quan.
#6-32 x $\frac{3}{16}$″	†3210	12		
#8-32 x $\frac{3}{16}$″	†3220	12	3220-99	75
#8-32 x ¼″	†3230	12		
#10-32 x ¼″	*3237	12		
Assorted	†3480	15	3480-99	75

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

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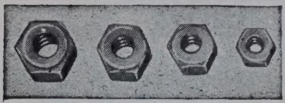
WALSCO ELECTRONIC HARDWARE

The **99** *Line*
IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS

The **40** *Line*
PACKED IN HANDY ECONOMICAL PLASTIC BAGS

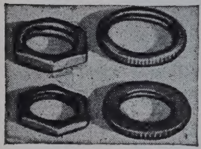
WALSCO MACHINE SCREW NUTS



Walsco nuts are "Small Pattern" as preferred in the electronic and electric trade. Precision made and plated.

	THE 40 LINE		THE 99 LINE			
	$0.40 List Ea. Pkg.		$1.65 List Ea. Pkg.		$1.65 List Ea. Pkg.	
Size	Steel, Cadm.Pl. Cat. No.	Apprx. Quan.	Brass, Nickel Pl. Cat. No.	Apprx. Quan.	Steel, Cadm.Pl. Cat. No.	Apprx. Quan.
#4-40					3175-99	200
#6-32	†3180	35	3180-B-99	150	3180-99	200
#8-32	†3190	30	3190-B-99	125	3190-99	200
#10-32	*3195	25	3195-B-99	100	3195-99	175
Assorted	†3520	35			3520-99	175

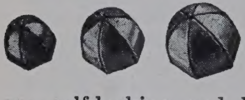
WALSCO SPECIAL MOUNTING NUTS



Various kinds of nuts used on volume controls, switches, jacks, potentiometers, etc. A "must" for every radioman and electrician. All nuts are cadmium or nickel plated.

	THE 40 LINE		THE 99 LINE	
	$0.40 List Ea. Pkg.		$1.65 List Ea. Pkg.	
Description	Cat. No.	Apprx. Quan.	Cat. No.	Apprx. Quan.
⅜" x 32 Vol. Control Hex Nut....	*3531	12	3531-99	100
15/32" x 32 Toggle Switch Hex Nut.	*3532	10	3532-99	50
15/32" x 32 Toggle Switch Ring Nut.	*3533	8	3533-99	50
Assorted..............................	†3530	15		

WALSCO ACORN NUTS



Greatly improves the appearance on panel assemblies, test instruments, cabinets, etc. These PAL type steel nuts are self-locking and bright cadmium plated.

Cat. No.	List per pkg.
*2960—12 Assorted Nuts..	$0.40

WALSCO KNURLED THUMB NUTS

Precision-made, Brass Nuts.

Cat. No.	List Price per pkg.
*2971—Approx. 12 Nuts, 6-32.............	$0.40
*2972—Approx. 12 Nuts, 8-32.............	0.40
*2973—Approx. 6 Nuts, 10-32.............	0.40

WALSCO WING NUTS

Handy for experimental work and hobby craft. Made of Steel and plated.

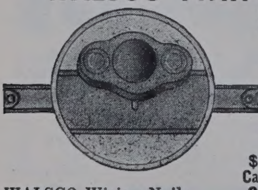
Cat. No.	List Price per pkg.
*2975—10 Nuts, 6-32..	$0.40
*2976—10 Nuts, 8-32..	0.40
*2977— 8 Nuts, 10-32..	0.40

WALSCO SPEED NUTS

Self-locking and easy to install. Often required for replacement on many record changers, tuning units, etc.

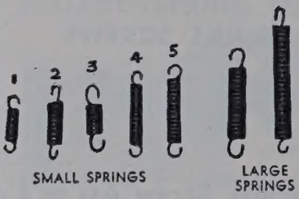
Cat. No.	List Price per pkg.
*2980—Approx. 30 Assorted Speed Nuts...............	$0.40

WALSCO TWIN-LEAD WIRING NAILS



Designed for attaching 300-ohm leads to walls, moldings, etc. Ornamental head greatly improves the appearance of the installation. WALSCO nails have no appreciable effect on the impedance of the line as the heads consist almost entirely of insulating material.

	THE 40 LINE		THE 99 LINE	
	$0.40 List Ea. Pkg.		$1.65 List Ea. Pkg.	
	Cat. No.	Apprx. Quan.	Cat. No.	Apprx. Quan.
WALSCO Wiring Nails........	2552	35	2552-99	200



WALSCO DIAL DRIVE SPRINGS

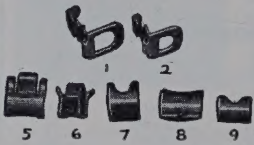
Made of fine music wire for greater flexibility. Available in all standard sizes. Carefully looped at each end, rustproofed and cadmium plated.

Illustration Approximately two-thirds actual size

	THE 40 LINE		THE 99 LINE	
	$0.40 List Ea. Pkg.		$1.65 List Ea. Pkg.	
Springs	Cat. No.	Qun. per pkg.	Cat. No.	Qun. per pkg.
Assorted (Large and Small)	3400	10	3400-99	50
Assorted Small Springs........	3410	10		

Cat. No.	Dimensions Overall Length	Dimensions Diam.	Dimensions Wire Thickness	Picture Number	No. of springs per pkg.	List Price
*3411	½"	⅛"	.016"	1	10	$0.40
*3412	⅝"	5/32"	.018"	2	10	0.40
*3413	9/16"	3/16"	.020"	3	10	0.40
*3414	¾"	⅛"	.016"	4	8	0.40
*3415	¾"	5/32"	.020"	5	8	0.40

WALSCO RADIO KNOB SPRINGS

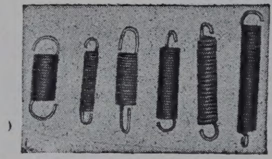


The modern method of fastening knobs to shafts. Available in all regular sizes and shapes. The assortment is complete and most useful to radio shops. Finest grade of selected steel is used.

Cat. No.	Picture No.	Approx. No. of Springs per pkg.	List per pkg.
†3450	Assorted	16	$0.40
*3451	1	10	0.40
*3452	2	10	0.40
*3455	5	15	0.40
*3456	6	15	0.40
*3457	7	20	0.40
*3458	8	20	0.40
*3459	9	20	0.40

(Bulk Prices Upon Request)

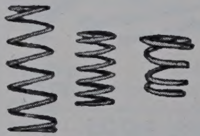
WALSCO EXPANSION SPRINGS



Very handy for radio and electrical shops, laboratories, etc. The assortments contain various sizes of springs for many applications: record changers—to name one of a thousand.

Cat. No.	List per pkg.
†3290—10 Assorted Large Springs..........................	$0.40
†3390—10 Assorted Small Springs..........................	0.40

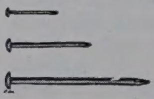
WALSCO COMPRESSION SPRINGS



A hard-to-get item. The Walsco assortments contain all of the springs often needed for repair work on radio and electronic equipment, motors, appliances, etc. Available in two assortments.

Cat. No.	List per pkg.
†3370—20 Assorted Small Springs..........................	$0.40
†3380—15 Assorted Large Springs..........................	0.40

WALSCO ESCUTCHEON PIN ASSORTMENT



Brass finished pins in various sizes and lengths from ¼" to 1".

Cat. No.	List per pkg.
†3555—Approx. 100 Asstd. Pins..	$0.40

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

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CEMENTS—SOLVENTS COIL DOPE—IMPRECONE

WALSCO RADIO CEMENT

Vibration-Proof **Heat Resisting**
Unsurpassed Adhesive Power

WALSCO
RADIO CEMENT

An elastic cement especially made for the manufacture and repairing of speakers and for general radio work. Unaffected by vibration, dries fast and will never become brittle with age. • The latest developments in synthetic resins and gums are incorporated in Walsco Radio Cement.

• In addition to its use for speaker repair, Walsco Radio Cement can be used for repairing cabinets, loose tube bases, grid caps, etc. It will provide a strong bond between almost any materials and is not affected by high temperature, moisture or oil. All bottles come with built-in brush and have an evaporation-proof cap liner.

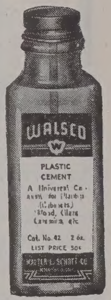
WALSCO
RADIO CEMENT

WALSCO
RADIO CEMENT

Cat. No.	List Price
51—1¾ oz. tube	$0.55
52—2 oz. bottle	0.60
54—4 oz. bottle	1.10
58—8 oz. bottle	1.75
59—1 pt. bottle	3.30
50-GL—1 gal. can	12.50

Also available in 5, 15, 50 gal. containers.

WALSCO PLASTIC CEMENT



Especially made to repair broken plastic cabinets, knobs, etc. Waterproof, heat-resisting, and heavier in substance than Walsco Radio Cement. Unexcelled as "Household Cement," "Model Airplane Cement," etc. Cements Plastics, Metal, Wood, Glass, etc. Dries fast and forms an exceedingly strong bond.

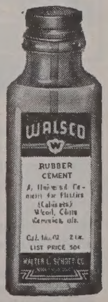
Cat. No.	List Price
41—1¾ oz. tube	$0.55
42—2 oz. bottle	0.60
44—4 oz. bottle	1.10
48—8 oz. bottle	1.75

WALSCO VINYLITE CEMENT

This adhesive uses the new Vinylite plastic resin as a base and has remarkable properties such as high tackiness, extreme flexibility when dry and excellent adhesion to metals, plastics, leather, cardboard and paper. Fast drying. Also an excellent thermoplastic cement for joining nonporous materials (e.g. metals). In this case the cement is applied to both surfaces and dried after which the parts are pressed together and bond established by heating with flatiron, soldering iron, etc.

Cat. No.	List Price
25—2 oz. bottle	$0.70

WALSCO ALL-PURPOSE RUBBER CEMENT



For cementing rubber parts to metal or wood, rubber mounts to chassis, rubber cushions to lids, etc.—gives an especially strong bond. A Radio Serviceman should always have a bottle on his work bench.

Cat. No.	List Price
112—2 oz. bottle	$0.60
114—4 oz. bottle	1.10

WALSCO FABRIC CEMENT

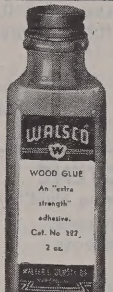
Does Not Penetrate the Fabric

WALSCO
FABRIC CEMENT

Especially made for attaching grille cloth, turntable felt, covering of portable radios, etc. Dries very fast; is unaffected by moisture, sunlight, and high temperature and does not become brittle. Indispensable to Radio Dealers and Servicemen—eliminates the danger of spoiling the outside of a grille cloth, turntable felt, or other fabrics, since it does not penetrate the material.

Cat. No.	List Price
21—1¾ oz. tube	$0.55

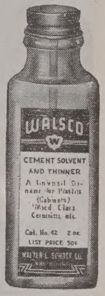
WALSCO WOOD GLUE



An "extra strength" adhesive incorporating the latest chemical developments and resins. A "must" item for every repair shop. Bottle caps have non-sticking rubber gaskets.

Cat. No.	List Price
222—2 oz. bottle	$0.60
224—4 oz. bottle	1.00

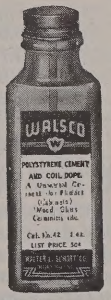
WALSCO CEMENT SOLVENT AND THINNER



This Cement-Solvent is used for loosening cement on speaker cones, voice coils, and other parts where cement has been applied previously. Recommended also for thinning Walsco Radio Cement, Plastic Cement, and Fabric Cement.

Cat. No.	List Price
62—2 oz. bottle	$0.50
64—4 oz. bottle	0.65
68—8 oz. bottle	0.90
69—1 pt. bottle	1.40

WALSCO POLYSTYRENE CEMENT AND COIL DOPE



For Bonding Polystyrene Parts and Coil Coating in Radio and High Frequency Work

A Polystyrene solution with a high solid content. Can be brushed on or parts can be dipped. Renders coils or other parts moisture-proof. Holds windings firmly in place due to a certain amount of shrinkage upon drying. Electrical losses due to coating with this cement are negligible—even if used for high or ultra-high frequency work.

Cat. No.	List Price
154—4 oz. bottle	$1.00

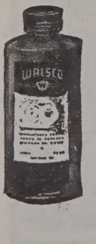
Larger Sizes on Request

WALSCO Polystyrene Solvent and Thinner

This thinner is especially designed for use with Walsco Polystyrene Cement where regular thinner cannot be used.

Cat. No.	List Price
164—4 oz. bottle	$0.60

WALSCO IMPRECONE



An impregnating fluid which will render speaker cones moisture-repellent and impervious to fungus and mildew. Also prevents the drying out of cones under heat or adverse climatic conditions. Restores brittle cones to original texture. Developed for use in drive-in theatre installations, on outdoor speakers, car radios, etc.

Cat. No.	List Price
98 —8 oz. bottle	$ 1.60
98-GL—1 gal. can	17.50

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

WALSCO *products*
Help The Radio Man
WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

CLEANERS — LUBRICANTS "CONTACTENE"—"NO SLIP"

WALSCOLUB - B

WALSCO
WALSCOLUB
B

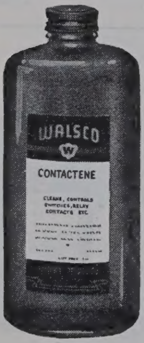
A recently-developed chemical compound in thin paste form. WALSCOLUB - B counteracts oxidation, prevents corrosion of metals and eliminates noise on band switches, push buttons, tuners, volume and other controls, as well as air-exposed electrical contacts, attenuators, etc. WALSCOLUB-B will not change electrical properties. It is superior to any graphite compound for this purpose. Ideal on metal surfaces to prevent rust. Servicemen: Its use will save you both time and money. Once you have tried it, you will never be without it! Large, handy applicator tube.

Available also in 1-lb., 5-lb. and 25-lb. containers for industrial users. Prices on request.

Cat. No.	List Price
22—1¾ oz. tube	$0.55

WALSCO CONTACTENE

New Improved "Contact Cleaning Fluid"



- Cleans contacts and controls.
- Keeps controls and contacts noise-free.
- Lubricates and reduces friction.

A fast-evaporating combination of special solvents affording greatest cleaning power without affecting insulating materials. Contains "No-Ox," which after evaporation of the solvents, forms a thin film that protects the contacts. Contactene is recommended for treating volume controls, band switches, tuning condensers, springs, etc., to eliminate noisy operation. Bottles come with built-in brushes.

Cat. No.	List Price
82—2 oz. bottle	$0.50
84—4 oz. bottle	0.75
88—8 oz. bottle	1.00
89—1 pt. bottle	1.80

WALSCO Motor and Gear Lubricant

WALSCO
WALSCO
MOTOR & GEAR
LUBRICANT

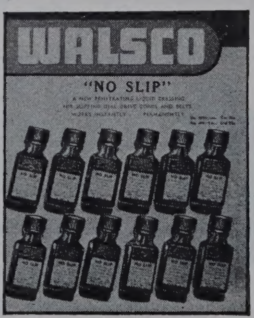
The latest development in chemicals for lubricating purposes. Much superior to greases because of its higher lubricating and lasting qualities. Its viscosity does not change with temperature. Used on phonograph motors, record changers, and all appliances that require a grease-type lubricant. In large handy "applicator" tube.

Cat. No.	List Price
23—1¾ oz. tube	$0.55

WALSCO "NO-SLIP"

A newly developed chemical composition that greatly increases the friction of pulleys, cords or belts. Contracts, "sets" and shrinks the fibres at the same time. Stops instantly any slippage of Dial Belts, Dial Cords, etc. Easily applied with brush. Indispensable to any radio man.

Cat. No.	List Price
401—½ oz. bottle	$0.45
402— 2 oz. bottle	0.75



WALSCO "NO-OX"*

"The Miracle Electronic Contact Fluid"

WALSCO
ELECTRICAL CONTACT CLEANER

Fast-acting liquid chemical formulated with a neutral, non-gumming special lubricating base. The answer to the radioman's need for an outstanding contact and control cleaner. Contains no solvents; its corrosion-dissolving action is entirely chemical. Cleans, lubricates and preserves. Proved in tens of thousands of applications by radio laboratories, service shops, broadcasting companies, motion picture, sound and recording studios, etc. "NO-OX" is highly recommended for treatment of volume and tone controls, attenuators, mixers, relay contacts and similar equipment.

Cat. No.	List Price
101—1 oz. bottle	$0.85
102—2 oz. bottle	1.60
100-16—1 pt. bottle	12.50

* Mfd. under exclusive licensing agreement with NO-OX Laboratories. Trade mark registered.

WALSCOFLUX

WALSCO
WALSCOFLUX
A non-corrosive liquid solder flux.
Cat. No. 220
2 oz.

A non-corrosive flux. Quick acting, easy to apply. May be safely used for all electrical, radio and telephone work. Helps to keep the iron tip clean.

Cat. No.	List Price
220—2 oz. bottle with applicator	$0.60

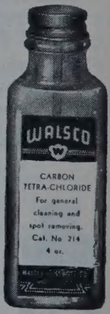
WALSCO SOLDERING PASTE

A high-quality paste, fast acting and safe for most electrical and electronic uses.

Cat. No.	List Price
221 —2 oz. can	$0.30
221-D—Display of 24 No. 221	7.20

WALSCO
NON-CORROSIVE
Soldering
• PASTE
CAT. NO.
CONT. 2 OZ.
WALTER L. SCHOTT CO.
BEVERLY HILLS, CALIF.

WALSCO CARBON TETRACHLORIDE



For general cleaning and spot removing. Dissolves dirt and grease instantly. May be used on most delicate parts. Chemically pure, rapid drying, non-explosive and non-inflammable. A safe cleaning fluid.

Cat. No.	List Price
214 — 4 oz. bottle	$0.60
219 —16 oz. bottle	1.65
214GL—1 gal. can	6.25

WALSCO RADIO DIAL OIL

WALSCO
RADIO DIAL OIL

A light-bodied lubricating oil for all electronic and electrical appliances — absolutely free of acids or gummy substances. Also recommended as a rust preventive for radio chassis, tools, machinery, etc.

Cat. No.	List Price
72—2 oz. bottle	$0.45
74—4 oz. bottle	0.60

WALSCO CONTACTENE INJECTOR

For applying WALSCO Contactene, NO-OX, Dial Oil, etc., to spots which are not accessible with ordinary applicators. "Injector Needle" will permit application of contact chemicals to most volume controls without unsoldering connections or taking control apart.

This tool is made with a highest quality surgical-grade needle, and an oil-resistant rubber bulb.

Cat. No.	List Price
989 —Contactene Injector	$0.75
989 D—Display of 12 No. 989	9.00

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

WALSCO products
Help The Radio Man
WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

POLISHES, PAINTS, LACQUERS
SPECIAL CHEMICAL

WALSCO SCRATCH REMOVING POLISH

"Makes Scratches Disappear"

WALSCO
W
SCRATCH
REMOVING
POLISH

A blend of polishing and staining ingredients. Removes scratches from cabinets, radios, furniture, etc., and polishes at the same time. Very easy to apply. Will not change shade of finish. Comes in two shades: "Dark" for walnut, mahogany, etc., "Light" for light maple, light oak, etc.

Cat. No. Dark	Cat. No. Light		List Price
414	434	4 oz. bottle	$0.50
416	438	8 oz. bottle	0.75

Standard Package: 4 oz. bottles 1 doz.
8 oz. bottles 2 doz.

WALSCO SUPER POLISH

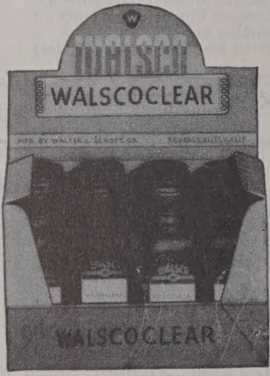
"A Concentrated White Cream Wax Polish"

Does two things: First, it removes any old polish, grease or dirt that may be on the cabinet or furniture. Second, it forms a hard, dry and durable film that will protect the object for a long time, giving it a "brand new" appearance. Requires very little rubbing.

Cat. No.	List Price
412—4 oz. bottle	$0.50
418—8 oz. bottle	0.75

Standard Package: 4 oz. bottles 1 doz.
8 oz. bottles 2 doz.

WALSCOCLEAR



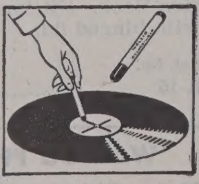
A scientific preparation for cleaning plastics such as television filters, lenses, optical systems, vinyl and LP records, etc.

WALSCOCLEAR contains a new chemical discovery that counteracts the dust-attracting electrostatic effect which usually interferes with proper polishing of plastic articles.

WALSCOCLEAR is very easy to apply, gives a wonderful polish, and is absolutely harmless to all plastics.

Cat. No.	List Price
91 —4 oz. bottle	$0.75
91 D—Display of 12 bottles of No. 91	9.00

WALSCO RECORDGRIP



Positively stops slipping of phonograph records on changers. Indispensable for new plastic light-weight and vinyl records, to assure uniform speed and undistorted reproduction. "Recordgrip" is transparent and easily applied to the records by marking an "X" on the record label on each side. Application is permanent and one stick is sufficient for several dozen records.

Cat. No.	List Price
405 —Recordgrip Stick	$ 0.50
405-D—Display of 20 No. 405 Sticks	10.00

WALSCO INSECTENE

A new WALSCO development to control insects such as spiders, beetles and roaches, often found in juke boxes, radio cabinets, and amplifiers. Will kill insects on contact, and provides a coating with long-lasting repellent action. WALSCO Insectene is best applied to cabinets and chassis with a brush or regular insecticide spray gun. Harmless to wiring and parts.

Cat. No	List Price
448 —8 oz. bottle	$ 1.10
448GL—1 gal. can	12.50

WALSCO AIR-DRY WRINKLE VARNISH

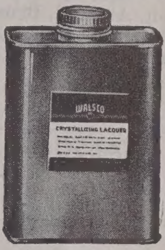
WALSCO
W
Air-Dry
Wrinkle
Varnish

Easy to apply in one coat. WALSCO Air-Dry Wrinkle Varnish provides a film that is hard, tough, and very resistant to wear. Repairs and replaces original wrinkle finish of manufactured equipment. No baking required. WALSCO Wrinkle Varnish will air-dry at room temperature.

Standard colors: grey and black. Other colors upon request.

Cat. No.	List Price
145—2 oz. jar (specify color)	$0.60
147—16 oz. can (specify color)	3.00

WALSCO CRYSTALLIZING LACQUER



Easily applied to metal, wood, cardboard, etc.—does not require experience. No spraying equipment or baking oven necessary. Brushed on, will dry in about thirty minutes, leaving an absolutely professional finish. Identical to finish found on commercial chassis, panels, speakers and transformers. Walsco Lacquer Sealer, Cat. No. 142, should be used as undercoat if this lacquer is to be applied on porous materials or over other finishes. **Available colors: Black, Green, Grey, Brown, Clear. Specify color when ordering.**

Cat. No.	List Price
122—2 oz. jar	$0.60
129—16 oz. can	3.00
142—Sealer, 2 oz. jar	0.50

WALSCO SATIN FINISH LACQUER
(TELEPHONE)

WALSCO
TELEPHONE BLACK

Made for commercial and amateur use on cabinets, chassis, panels, meters, racks, etc. This "satin finish" lacquer dries very fast and produces the "original finish" of most standard telephone and communication equipment. It air dries. May be brushed or sprayed.

Cat. No. Black	Cat. No. Grey		List Price
172	182	2 oz. jar	$0.60
179	189	1 pt. can	2.50

WALSCO INSULATING VARNISH

WALSCO
INSULATING VARNISH

Walsco "air-dry" varnish is fast-drying and produces excellent results when used on radio coils, transformers, solenoids, motors, and all electrical appliances. Withstands heat and is extremely resistant to acid, oil, and grease. It is non-corrosive and moisture-proof. An all-around clear insulating varnish.

Cat. No.	List Price
192—2 oz. bottle	$0.60
193—1 pt. can	2.00
194—1 gal. can	9.80

WALSCO LIGHT BULB COLORING

WALSCO
LIGHT BULB COLORING

A transparent, heat and moisture-resisting dipping lacquer especially made for coloring bulbs such as used in radio dials, signal systems, auto dash lights, and fancy illumination. Big jars permit dipping of even larger bulbs.

Cat. No.	List Price
116 Red—2 oz. jar	$0.60
117 Blue—2 oz. jar	0.60
118 Green—2 oz. jar	0.60
119 Assorted—Kit of 3	1.60

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

REFINISHING *and* REPAIR KITS

WALSCO RADIO CABINET PATCHING OUTFIT

"The Most Popular Kit on the Market"

PLASTIC WOOD

A complete kit especially designed for radio men who have little experience in cabinet work. Over 95% of all cabinet-finish damages can be repaired with this kit. The kit contains two shades of Spirit Walnut Stain, Dark Brown Lacquer, Plastic Wood, two shades of Ivory Spirit Enamel, Patching Lacquer, Super Polish, Alcohol, Brushes, Garnet Finishing Paper, French Polishing Pad, and Steel Wool, together with complete Instruction Booklet.

Cat. No.	List	Dealer's Net
K-10—In sturdy box with hinged lid	$6.50	$3.90
K-10-W—In California redwood case	7.50	4.50

WALSCO RADIO CABINET REPAIR KIT

A very handy compact and inexpensive kit that fills the requirements of many shops and stores. Especially useful for the Dealer or Serviceman who has only occasional cabinet repairs. The kit contains one bottle each of the following: Ivory Spirit Enamel—light and dark; Lacquer Enamel—Dark Brown; Spirit Stain; Super Polish; French Varnish; Finishing Paper; Steel Wool; Polishing Cloth; Instruction Booklet.

Cat. No.	List	Dealer's Net
K-9	$3.00	$1.80

WALSCO STICK SHELLAC KIT

An inexpensive kit for servicemen who have some experience in cabinet refinishing. Combined with Radio Cabinet Patching Outfit (K-10) it makes a most economical and completely professional kit for repairing radio cabinets. The shellac sticks match in color almost any cabinet on the market. The Walsco shellac rubbing fluid makes it possible to smooth the patch without any effort or skill. Kit includes: six colors Stick Shellac, Alcohol Lamp, Burn-in Spatula, bottle of Shellac Rubbing Fluid, Felt, Steel Wool, Alcohol and Instructions.

Cat. No.	List	Dealer's Net
K-11	$3.50	$2.10

REFILLS OF POPULAR REFINISHING MATERIALS AS CONTAINED IN ABOVE KITS

Cat. No.	List Price
Stains	
287—Spirit Stain, 2 oz. (Walnut, Mahogany, Maple, Black)	$0.30
288—Spirit Stain, 8 oz.	1.40
289—Blending Stain (Lt. Brown, Med. Brown)	0.75
Patching Lacquer (Improved French Varnishing Materials)	
290—4 oz. bottle	1.20
291—16 oz. bottle	3.50
Stick Shellac Rubbing Fluid	
295—4 oz. bottle	.75
296—16 oz. bottle	1.75
Stick Shellac	
299—Set of 8 assorted colors	1.50

WALSCO "SUPER-CHIEF" REFINISHING KIT

A "Must" Item

This is the most complete kit of its kind on the market. Designed by Walsco for radio dealers. It contains everything which is needed to make an old radio look like new—all handy in one box-type carrying case. Contents of kit can be used by either skilled or unskilled refinishers, to completely refinish old radios and trade-ins, or to quickly patch up scratches, mars, etc. This kit will pay for itself on the first or second job. Every first-class radio dealer should have one. Kit contains the following:

Spirit Stain Dark Walnut
Spirit Stain Black
Spirit Stain Mahogany
Spirit Stain Maple
Super Polish
Spirit Stain Light Walnut
Blending Stain Light Brown
Blending Stain Medium Brown
Lacquer Enamel Light Ivory
Lacquer Enamel Dark Brown
Lacquer Enamel Dark Ivory
Shellac Rubbing Fluid
Stick Shellac (8 asstd. shades)
Scratch Removing Polish (Dark)
Scratch Removing Polish (Light)
Patching Lacquer
Alcohol Lamp
Alcohol
Spatula
Felt
Polishing Cloth
Polishing Pad
Garnet Paper (8 sheets)
Instruction Book
Brushes (3 different sizes)

Cat. No.	List	Dealer's Net
K-26	$18.50	$11.10

WALSCO FURNITURE REFINISHING KIT

Ideal for touch-up work on radios, furniture, pianos, etc. Scratches, mars, dents, broken edges can be repaired quickly. Contains: Super Polish, Patching Lacquer, Alcohol, Spirit Stains in Walnut, Mahogany, Maple and Black; Shellac Rubbing Fluid, Plastic Wood, six colors Stick Shellac, Alcohol Lamp, Spatula, Brushes, Garnet Finishing Paper, Complete Instruction Book. Kit furnished in California Redwood case with hinged lid.

Cat. No.	List	Dealer's Net
K-15	$8.00	$4.80

WALSCO PHONO TURNTABLE FELTS

Made of high-quality brown felt, accurately die-cut with concentric center hole. Use WALSCO Radio Cement or WALSCO Fabric Cement for attaching.

Cat. No.	List Price
350-8 — 7⅞" diameter	$0.45
350-9 — 8⅞" diameter	0.60
350-10— 9⅞" diameter	0.65
350-12—11⅞" diameter	0.75

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

POLISHES, PAINTS, LACQUERS SPECIAL CHEMICAL

WALSCO SCRATCH REMOVING POLISH

"Makes Scratches Disappear"

WALSCO
SCRATCH REMOVING POLISH

A blend of polishing and staining ingredients. Removes scratches from cabinets, radios, furniture, etc., and polishes at the same time. Very easy to apply. Will not change shade of finish. Comes in two shades: "Dark" for walnut, mahogany, etc., "Light" for light maple, light oak, etc.

Cat. No. Dark	Light		List Price
414	434	4 oz. bottle	$0.50
416	438	8 oz. bottle	0.75

Standard Package: 4 oz. bottles 1 doz.
8 oz. bottles 2 doz.

WALSCO SUPER POLISH

"A Concentrated White Cream Wax Polish"

Does two things: First, it removes any old polish, grease or dirt that may be on the cabinet or furniture. Second, it forms a hard, dry and durable film that will protect the object for a long time, giving it a "brand new" appearance. Requires very little rubbing.

Cat. No.	List Price
412—4 oz. bottle	$0.50
418—8 oz. bottle	0.75

Standard Package: 4 oz. bottles 1 doz.
8 oz. bottles 2 doz.

WALSCOCLEAR

WALSCOCLEAR
WALSCOCLEAR

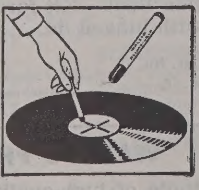
A scientific preparation for cleaning plastics such as television filters, lenses, optical systems, vinyl and LP records, etc.

WALSCOCLEAR contains a new chemical discovery that counteracts the dust-attracting electrostatic effect which usually interferes with proper polishing of plastic articles.

WALSCOCLEAR is very easy to apply, gives a wonderful polish, and is absolutely harmless to all plastics.

Cat. No.	List Price
91 —4 oz. bottle	$0.75
91 D—Display of 12 bottles of No. 91	9.00

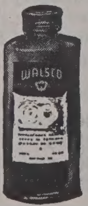
WALSCO RECORDGRIP



Positively stops slipping of phonograph records on changers. Indispensable for new plastic light-weight and vinyl records, to assure uniform speed and undistorted reproduction. "Recordgrip" is transparent and easily applied to the records by marking an "X" on the record label on each side. Application is permanent and one stick is sufficient for several dozen records.

Cat. No.	List Price
405 —Recordgrip Stick	$ 0.50
405-D—Display of 20 No. 405 Sticks	10.00

WALSCO INSECTENE



A new WALSCO development to control insects such as spiders, beetles and roaches, often found in juke boxes, radio cabinets, and amplifiers. Will kill insects on contact, and provides a coating with long-lasting repellent action. WALSCO Insectene is best applied to cabinets and chassis with a brush or regular insecticide spray gun. Harmless to wiring and parts.

Cat. No	List Price
448 —8 oz. bottle	$ 1.10
448GL—1 gal. can	12.50

WALSCO AIR-DRY WRINKLE VARNISH

WALSCO
Air-Dry
Wrinkle
Varnish

Easy to apply in one coat. WALSCO Air-Dry Wrinkle Varnish provides a film that is hard, tough, and very resistant to wear. Repairs and replaces original wrinkle finish of manufactured equipment. No baking required. WALSCO Wrinkle Varnish will air-dry at room temperature.

Standard colors: grey and black. Other colors upon request.

Cat. No.	List Price
145—2 oz. jar (specify color)	$0.60
147—16 oz. can (specify color)	3.00

WALSCO CRYSTALLIZING LACQUER

WALSCO
CRYSTALLIZING LACQUER

Easily applied to metal, wood, cardboard, etc.—does not require experience. No spraying equipment or baking oven necessary. Brushed on, will dry in about thirty minutes, leaving an absolutely professional finish. Identical to finish found on commercial chassis, panels, speakers and transformers. Walsco Lacquer Sealer, Cat. No. 142, should be used as undercoat if this lacquer is to be applied on porous materials or over other finishes. **Available colors: Black, Green, Grey, Brown, Clear. Specify color when ordering.**

Cat. No.	List Price
122—2 oz. jar	$0.60
129—16 oz. can	3.00
142—Sealer, 2 oz. jar	0.50

WALSCO SATIN FINISH LACQUER

(TELEPHONE)

WALSCO
TELEPHONE BLACK

Made for commercial and amateur use on cabinets, chassis, panels, meters, racks, etc. This "satin finish" lacquer dries very fast and produces the "original finish" of most standard telephone and communication equipment. It air dries. May be brushed or sprayed.

Cat. No. Black	Grey		List Price
172	182	2 oz. jar	$0.60
179	189	1 pt. can	2.50

WALSCO INSULATING VARNISH

WALSCO
INSULATING VARNISH

Walsco "air-dry" varnish is fast-drying and produces excellent results when used on radio coils, transformers, solenoids, motors, and all electrical appliances. Withstands heat and is extremely resistant to acid, oil, and grease. It is non-corrosive and moisture-proof. An all-around clear insulating varnish.

Cat. No.	List Price
192—2 oz. bottle	$0.60
193—1 pt. can	2.00
194—1 gal. can	9.80

WALSCO LIGHT BULB COLORING

WALSCO
LIGHT BULB COLORING

A transparent, heat and moisture-resisting dipping lacquer especially made for coloring bulbs such as used in radio dials, signal systems, auto dash lights, and fancy illumination. Big jars permit dipping of even larger bulbs.

Cat. No.	List Price
116 Red—2 oz. jar	$0.60
117 Blue—2 oz. jar	0.60
118 Green—2 oz. jar	0.60
119 Assorted—Kit of 3	1.60

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

REFINISHING and REPAIR KITS

WALSCO RADIO CABINET PATCHING OUTFIT

"The Most Popular Kit on the Market"

PLASTIC WOOD

A complete kit especially designed for radio men who have little experience in cabinet work. Over 95% of all cabinet-finish damages can be repaired with this kit. The kit contains two shades of Spirit Walnut Stain, Dark Brown Lacquer, Plastic Wood, two shades of Ivory Spirit Enamel, Patching Lacquer, Super Polish, Alcohol, Brushes, Garnet Finishing Paper, French Polishing Pad, and Steel Wool, together with complete Instruction Booklet.

Cat. No.	List	Dealer's Net
K-10—In sturdy box with hinged lid	$6.50	$3.90
K-10-W—In California redwood case	7.50	4.50

WALSCO RADIO CABINET REPAIR KIT

A very handy compact and inexpensive kit that fills the requirements of many shops and stores. Especially useful for the Dealer or Serviceman who has only occasional cabinet repairs. The kit contains one bottle each of the following: Ivory Spirit Enamel—light and dark; Lacquer Enamel—Dark Brown; Spirit Stain; Super Polish; French Varnish; Finishing Paper; Steel Wool; Polishing Cloth; Instruction Booklet.

Cat. No.	List	Dealer's Net
K-9	$3.00	$1.80

WALSCO STICK SHELLAC KIT

An inexpensive kit for servicemen who have some experience in cabinet refinishing. Combined with Radio Cabinet Patching Outfit (K-10) it makes a most economical and completely professional kit for repairing radio cabinets. The shellac sticks match in color almost any cabinet on the market. The Walsco shellac rubbing fluid makes it possible to smooth the patch without any effort or skill. Kit includes: six colors Stick Shellac, Alcohol Lamp, Burn-in Spatula, bottle of Shellac Rubbing Fluid, Felt, Steel Wool, Alcohol and Instructions.

Cat. No.	List	Dealer's Net
K-11	$3.50	$2.10

REFILLS OF POPULAR REFINISHING MATERIALS AS CONTAINED IN ABOVE KITS

Cat. No.	List Price
Stains	
287—Spirit Stain, 2 oz.	$0.30
(Walnut, Mahogany, Maple, Black)	
288—Spirit Stain, 8 oz.	1.40
289—Blending Stain (Lt. Brown, Med. Brown)	0.75
Patching Lacquer (Improved French Varnishing Materials)	
290—4 oz. bottle	1.20
291—16 oz. bottle	3.50
Stick Shellac Rubbing Fluid	
295—4 oz. bottle	.75
296—16 oz. bottle	1.75
Stick Shellac	
299—Set of 8 assorted colors	1.50

WALSCO "SUPER-CHIEF" REFINISHING KIT

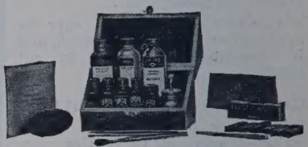
A "Must" Item

This is the most complete kit of its kind on the market. Designed by Walsco for radio dealers. It contains everything which is needed to make an old radio look like new—all handy in one box-type carrying case. Contents of kit can be used by either skilled or unskilled refinishers, to completely refinish old radios and trade-ins, or to quickly patch up scratches, mars, etc. This kit will pay for itself on the first or second job. Every first-class radio dealer should have one. Kit contains the following:

Spirit Stain Dark Walnut
Spirit Stain Black
Spirit Stain Mahogany
Spirit Stain Maple
Super Polish
Spirit Stain Light Walnut
Blending Stain Light Brown
Blending Stain Medium Brown
Lacquer Enamel Light Ivory
Lacquer Enamel Dark Brown
Lacquer Enamel Dark Ivory
Shellac Rubbing Fluid
Stick Shellac (8 asstd. shades)
Scratch Removing Polish (Dark)
Scratch Removing Polish (Light)
Patching Lacquer
Alcohol Lamp
Alcohol
Spatula
Felt
Polishing Cloth
Polishing Pad
Garnet Paper (8 sheets)
Instruction Book
Brushes (3 different sizes)

Cat. No.	List	Dealer's Net
K-26	$18.50	$11.10

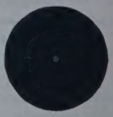
WALSCO FURNITURE REFINISHING KIT



Ideal for touch-up work on radios, furniture, pianos, etc. Scratches, mars, dents, broken edges can be repaired quickly. Contains: Super Polish, Patching Lacquer, Alcohol, Spirit Stains in Walnut, Mahogany, Maple and Black; Shellac Rubbing Fluid, Plastic Wood, six colors Stick Shellac, Alcohol Lamp, Spatula, Brushes, Garnet Finishing Paper, Complete Instruction Book. Kit furnished in California Redwood case with hinged lid.

Cat. No.	List	Dealer's Net
K-15	$8.00	$4.80

WALSCO PHONO TURNTABLE FELTS



Made of high-quality brown felt, accurately die-cut with concentric center hole. Use WALSCO Radio Cement or WALSCO Fabric Cement for attaching.

Cat. No.		List Price
350-8	7⅞" diameter	$0.45
350-9	8⅞" diameter	0.60
350-10	9⅞" diameter	0.65
350-12	11⅞" diameter	0.75

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

WALSCO products
Help The Radio Man
WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

INSULATING TUBING FLOCK FINISH — DIAL CRYSTALS

WALSCO FLOCK FINISH SPRAY KIT

For flock finishing of radio cabinets, speaker grilles, interior of record and other cabinets, turntables, jewelry and gift boxes, toys, novelties and many automotive and hobby uses. This original WALSCO Flock Kit is very easy to use and requires no skill — anyone can obtain expert results. Contains everything to produce a colorful, velvet-like and durable flock finish. The kit includes patented felt flock spray gun, ivory and brown felt flock, undercoats to match, thinner, brushes and complete instructions.

Cat. No. K-50—Complete Flocking Kit..**List Price, $11.90**

WALSCO FELT FLOCK MATERIALS

Felt Flock

Made of precision cut, lustrous rayon. Packed in 3¼ oz. containers (covers 7 to 10 square feet). **List Price**..............**$1.65**

Cat. No.	Color	Cat. No.	Color
470	Brown	475	Green
471	Ivory	476	Silver
472	Blue	477	White
473	Taupe	478	Black
474	Red	479	Canary
474-1	Maroon		

List Price
Flock per pound (specify color)........**$5.50**

Flock Undercoat

Provides proper adhesive and color base for felt flock. Packaged in halfpint cans (covers 10-15 square feet of non-porous surface). **List Price**.........................**$1.65**

Cat. No.	Color	Cat. No.	Color
480	Brown	484-1	Maroon
481	Ivory	485	Green
482	Blue	486	Silver-White
483	Taupe	488	Black
484	Red	489	Canary

List Price
Undercoat per gal (specify color)....**$14.40**

Undercoat Thinner

For thinning of Undercoat, if necessary, and washing out brushes.

Cat. No. **List Price**
468—Half-pint can...**$0.55**

Felt Flock Spray Gun

Same as contained in WALSCO Flock Finish Spray Kit.

Cat. No. **List Price**
455 ....**$4.35**

WALSCO INSULATING TUBING (SPAGHETTI)

WALSCO RAYOFLEX

A new type "spaghetti tubing" made of heavily lacquered rayon braid. More flexible and superior in many other respects to the conventional varnished tubing. Good dielectric strength (4,000 to 5,000 volts). RAYOFLEX has a smooth and tough surface inside and out. Meets ASTM and VTA Specifications #B2. Sizes up to #6 are packed in handy boxes.

Cat. No.	Size B & S Gauge No.	Approx inch	Quantity per pkg.*	List Price per pkg.
630	18	.042	10 ft.	$0.95
631	15	.059	10 ft.	0.95
632	12	.085	8 ft.	0.95
633	9	.118	5 ft.	0.95
634	6	.166	5 ft.	0.95
635	2	¼"	30 in.	0.56
636	0	5/16"	30 in.	0.65
637	00	⅜"	30 in.	0.69
638	0000	½"	30 in.	1.15

*For larger quantities, write for quotation.
Available in: Black, Blue, Red, Yellow. Please specify color when ordering.

WALSCO FLEXITUBE

A high-grade synthetic extruded vinylite tubing for electronic and electrical insulation. Extremely flexible and resistant to abrasion. High dielectric strength (average 12,000-volt). Resistant to cold or heat from minus 65°F to plus 185°F. (Minus 54°C to 85°C). This tubing is impervious to water, oil, alcohol and most acids and alkalies.

List Price, per pkg...............................**$0.95**

Cat. No.	Size B & S Gauge No.	Approx. I.D. inch	Approx. I.D. mm	Quantity per pkg.*
600	18	.042	1	20 ft.
601	16	.053	1.4	20 ft.
602	14	.066	1.6	18 ft.
603	12	.085	2	16 ft.
604	10	.106	2.7	14 ft.
605	8	.133	3.5	12 ft.
606	6	.166	4	10 ft.
607	4	.208	5	6 ft.
608	2	.263	6.5	6 ft.

*For larger quantities, write for quotation.
Available in: Black, Green, Red, Clear. Please specify color when ordering.

WALSCO
FLEXITUBE

HANDY ASSORTMENTS

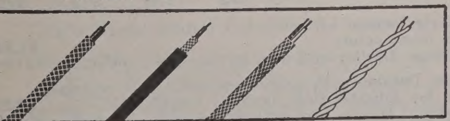
RAYOFLEX

Cat. No. **List Price**
640—12 ft. of Assorted sizes and colors, from size 18 to 9...$ 0.90
640-D—36 Assortmts. of #640 in Display Box 32.40
641—6 ft. of Assorted sizes and colors, from size 9 to ½"... 0.90
641-D—24 Assortmts. of #641 in Display Box 21.60

FLEXITUBE

Cat. No. **List Price**
620—20 ft. of Assorted sizes and colors, from size 18 to 10..$ 0.90
620-D—36 Assortments of #620 in one Display Box.... 32.40
621—12 ft. of Assorted sizes and colors, from size 10 to 2 0.90
621-D—24 Assortments of #621 in one Display Box.... 21.60

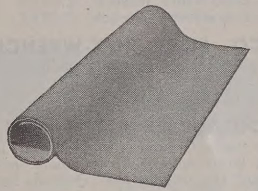
WALSCO ULTRA-FLEXIBLE MINIATURE WIRES



For all connections in electronic devices requiring special thin and flexible leads such as phono pick-ups, miniature earphones, relays, etc. All wires, except tinsel, are 30-gauge, stranded.

Cat. No. **List Price**
304 —Single-conductor, shielded, for pick-up leads, etc., 25-ft. spool...........................$1.75
3040—Same as No. 304, but package of 54" length.. 0.40
305 —Single-conductor, shielded, with black cotton overbraid, 25-ft. spool.................. 2.40
3050—Same as No. 305, but package of 48" length.. 0.40
307 —Two conductors, parallel, color-coded, shielded, 25-ft. spool.......................... 2.70
308 —Two conductors, tinsel, twisted, with flesh-colored plastic insulation. Designed for headphones, hearing aids, etc., 25-ft. spool.. 3.60

WALSCO INSULATING CAMBRIC



High-voltage (5000-v.) insulating material for repairing transformers, field coils, solenoids, relays, etc. Yellow color; very flexible and durable.

Cat. No. **List Price**
645 —Roll of approx. 210 sq. in.........$0.75
645-D—Display of 10 No. 645 rolls.... 7.50

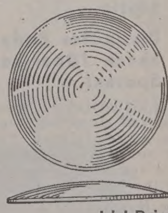
WALSCO STROBOSCOPE DISK

For checking proper speed of turntables. Lines on disk appear to be stationary on correct speed when observed under 60-cycle AC lighting (preferably fluorescent). For checking 78, 45, and 33⅓ rpm. speeds.

WALSCO
STROBOSCOPE DISK

Cat. No. **List Price**
949—Stroboscope Disk..........................$0.15
Standard Packing: 25

WALSCO PLASTIC DIAL CRYSTALS

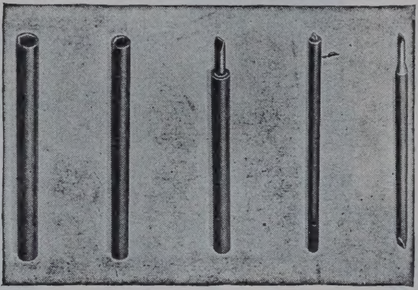


Can be cut with scissors. Easily press-fitted or cemented in place. Solves the replacement problem on radio dials, instruments, etc.

Cat. No.	Size	List Price
990	6" Maximum Diameter	$1.10
992	9" Maximum Diameter	1.80
994	8" x 10" Flat Sheet	1.65

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

WALSCO ALIGNMENT TOOLS



WALSCO ¼" HEX I. D. NEUTRALIZING WRENCH.

Very durable. Can be cut if corners become rounded from wear. Over-all length—7½", O.D.—⅜" round.

Cat. No.	Picture No.	List Price
§2500—Bone Fibre Wrench	2	$0.40
§2503—Polystyrene Wrench	2	0.40

WALSCO 5/16" HEX. I. D. NEUTRALIZING WRENCH.

Same construction as ¼" wrench listed above. Over-all length—7½", O. D.—7/32".

Cat. No.	Picture No.	List Price
§2505—Bone Fibre Wrench	1	$0.40
§2508—Polystyrene Wrench	1	0.40

WALSCO FIBRE HEX-WRENCH-AND-SCREW-DRIVER.

Standard ¼" hex wrench combined with a fibre screw driver.

Cat. No.	Picture No.	List Price
°2510—Combination Tool	3	$0.60

WALSCO DUPLEX ALIGNMENT SCREWDRIVER.

Precision made. Ground or molded to fit large or small screws. Width of blade on large end—¼"; on small end—⅛". Thickness to conform to standard slot dimensions. Over-all length—6".

Cat. No.	Picture No.	List Price
°2520—Fibre Screwdriver	5	$0.50
°2521—Polystyrene Screwdriver	5	0.40

WALSCO METAL TIP ALIGNMENT SCREWDRIVER.

Polystyrene handle. This tool combines the low capacity effect of an alignment tool with the mechanical strength of a metal screwdriver. Diameter—¼"; over-all length—6".

Cat. No.	Picture No.	List Price
°2525—Alignment Screwdriver	4	$0.45

WALSCO TUNING WAND.

Made from Polystyrene rod with inductance-increasing powdered iron core on one end and inductance-reducing brass piece on opposite end. Over-all length—6".

Cat. No.	List Price
°2540—Tuning Wand	$0.50

(Picture not shown, but similar to Picture #1.)

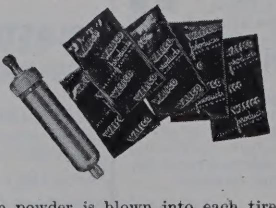
WALSCO TV-FM ALIGNMENT TOOL KIT.

Complete set of all tools required for receiver alignment.

Cat. No.	List Price
580—12 tools in leatherette case	$11.50
581—12 tools on wall rack	11.50

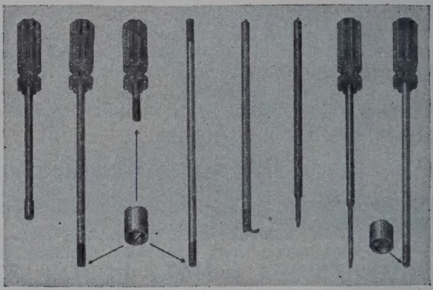
WALSCO TIRE STATIC NEUTRALIZING KIT

- **Reduces or Eliminates Automobile Radio Tire Static.**
- **Dissipates Body Contact Shock (Door-handle Sparks).**



This kit contains a special injector gun and 5 packages of WALSCO Static Neutralizing Powder (one for each tire, including spare). The powder is blown into each tire in a very simple operation, which takes just a few minutes and lasts for the life of the tire.

Cat. No.	List Price
980—**Tire Static Neutralizing Kit,** complete with injector, powder and instructions	$2.50
982—Injector gun only	1.50
985—Powder only (enough for 5 passenger-car tires)	1.00



WALSCO TV OSCILLATOR ALIGNMENT TOOLS.

Cat. No.	Picture No.	List Price
°2518—For Philco Receivers	6	$1.60
°2522—For Receivers, "Standard Coil" Front Ends	12	1.00

WALSCO TV I.F. ALIGNMENT SCREWDRIVERS.

Standard Tools for all TV and FM sets. Made of new flexible low-loss plastic with thin precision screwdriver tips.

Cat. No.	Picture No.	List Price
°2516—8½" long, for No. 6 Studs	7	$1.00
°2517—3" long, for No. 6 Studs	8	.95
°2519—7" long—1 end for No. 6 Studs; other end for No. 4 Studs	9	.95
°2524—8½" long, Slotted Type, for No. 6 Studs	13	1.00

WALSCO WIRE DRESSING AND ALIGNMENT TOOL.

Made with thin (7/32") polystyrene handle, 7" long. Special tool on one end for dressing wires and finding loose connections or shorts. Other end has low capacity screwdriver tip.

Cat. No.	Picture No.	List Price
°2512—Wire Dressing and Alignment Tool	10	$0.55

WALSCO "K-TRAN" ALIGNMENT TOOL.

For adjustment of all miniature (K-Tran) I.F. transformers. Made of tough bone fibre. One end is machined to fit "K-tran" slots; other end is equipped with low-capacity metal screwdriver tip.

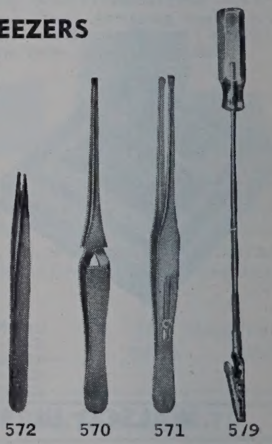
Cat. No.	Picture No.	List Price
°2515—"K-Tran" Alignment Tool	11	$0.75

WALSCO SERVICE TWEEZERS

These handy holding tools are made of fine spring steel and are polished nickel-plated. They have numerous uses in the shop and laboratory, such as starting screws and nuts in difficult places, holding wires and small parts together when soldering, clamping cemented items, installing dial cord and record-changer springs, looping and untying knots on drive cord, etc.

Cat. No.	List Price
570—**Self - Closing Tweezer** with cross-over action, 6½" long, serrated, blunt points	$0.95

(Standard Package: Display card with 10 tweezers . . . Cat. No. 570D)



571—**Heavy-Duty Tweezer** with slide-lock feature. Length 6½", serrated, blunt points $1.20
(Standard Package: Display card with 10 tweezers . . . Cat. No. 571D)

572—**Precision Tweezer** with narrow, pointed ends especially suitable for delicate work. Over-all length 4½" $0.55
(Standard Package: Display card with 20 tweezers . . . Cat. No. 572-D)

575—**Tweezer Kit,** made of durable leatherette, containing one each of the above listed tweezers $3.25
(Standard Package: Display of 12 kits . . . Cat. No. 575D)

§579—**WALSCO EE-ZEE Starting Tool**—A handy tool for starting screws and nuts, inserting springs, etc. Front part of tool is flexible. Will reach into places which are inaccessible with fingers or pliers $0.75

For Bulk Quantity Prices on these items, see WALSCO INDUSTRIAL AND BULK PRICE LIST, pages U-47 to U-50.

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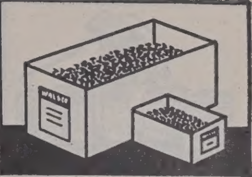
§ Standard Package: Display Card of 12 Tools.
° Standard Package: Display Card of 20 Tools.

WALSCO ELECTRONIC HARDWARE

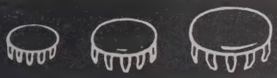


The 99 Line

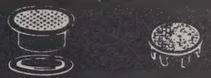
IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS

BULK PACK

PROMPT DELIVERY FOR INDUSTRIAL AND OTHER QUANTITY USERS



HOLE PLUGS



THE "99 LINE" — 99c Net, Ea. Pkg.

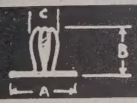
BULK PACK

SNAP-HOLE PLUGS, Steel, Bright Nickel-Plated

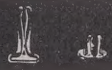
Description	Part No.	Quantity per Package	Bulk Part No.	Net Prices, per Thousand: 250 to 4999	5M and up
Fits ⅛″ hole			3501-1	$14.30	$11.00
Fits 3/16″ hole			3501-1A	15.75	12.10
Fits ¼″ hole	3501-99	50	3501-2	14.30	11.00
Fits ⅜″ hole	3502-99	50	3501-3	14.30	11.00
Fits ½″ hole	3503-99	40	3501-4	15.75	12.10
Fits ⅝″ hole	3504-99	30	3501-5	20.00	15.40
Fits ¾″ hole	3505-99	25	3501-6	20.00	15.40
Fits ⅞″ hole			3501-7	24.30	18.70
Fits 1″ hole	3506-99	20	3501-8	31.45	24.20
Fits 1⅛″ hole			3501-9	33.00	25.00
Fits 1¼″ hole			3501-10	34.30	26.40

VENTILATING HOLE PLUGS

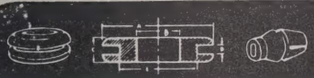
Description	Part No.	Quantity per Package	Bulk Part No.	250 to 4999	5M and up
Snap-fit for 1″ hole			3320-1	Prices quoted on request.	
Eyelet-type for 13/32″ hole			3320-2	18.00	14.50
Eyelet-type for ¾″ hole			3320-3	22.00	17.50



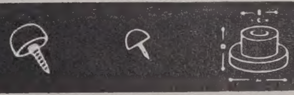
SNAP-IN TRIMOUNTS



Dimensions A	B	C	For Hole	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
9/32″	13/64″	9/64″	⅛″	3462-99	125	3460-2	$4.60	$3.50
23/64″	9/32″	3/16″	5/32″	3464-99	100	3460-4	5.45	4.20
⅜″	⅝″	5/32″	⅛″	3465-99	85	3460-5	7.15	5.50



GROMMETS, CABINET FEET AND CHASSIS MOUNTS



RUBBER GROMMETS

Dimensions, inches A	B	C	D	E	Part No.	Quantity per Package	Bulk Part No.	500 to 9999	10M and up
11/32	⅛	3/16	1/16	¼	3341-99	100	3340-1	$ 5.90	$ 4.55
7/16	3/16	7/32	1/16	5/16	3342-99	75	3340-2	7.20	5.55
9/16	¼	¼	1/16	⅜	3343-99	65	3340-3	9.20	7.05
⅝	⅜	¼	1/16	½	3344-99	50	3340-4	10.50	8.05
13/16	½	9/32	1/16	⅝	3345-99	40	3340-5	14.40	11.10

CORD STRAIN RELIEFS

Description	Part No.	Quantity per Package	Bulk Part No.	500 to 9999	10M and up
For POSJ Wire			3340-9	26.20	20.15

RUBBER FEET

SCREW-TYPE:

Diameter	Height	Part No.	Quantity per Package	Bulk Part No.	500 to 9999	10M and up
⅜″	7/32″	3351-99	50*	3350-1†	6.55	5.05
½″	9/32″	3352-99	50*	3350-2†	7.05	5.45
¾″	⅜″	3353-99	30*	3350-3†	14.10	10.85

(*Wood screws included.)

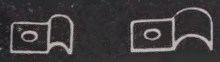
(†No screws included.)

TACK FEET:

Description	Part No.	Quantity per Package	Bulk Part No.	500 to 9999	10M and up
⅜″ diameter	3355-99	50	3350-5	11.15	8.60
½″ diameter	3356-99	50	3350-15	11.50	8.85

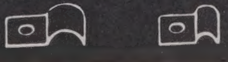
CHASSIS MOUNTS

Dimensions, inches A	B	C	D	Part No.	Quantity per Package	Bulk Part No.	500 to 9999	10M and up
¾	½	¼	⅜	2742-99	30	2740-2	20.95	16.10
1	½	¼	17/32	2744-99	20	2740-4	26.20	20.15



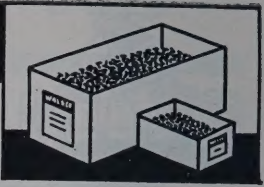
CABLE CLAMPS

Steel, cadmium plated



For Cables	Mounting Hole Size	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
⅛″ to 3/16″ diameter	#6	3331-99	125	3330-1	$4.25	$3.30
3/16″ to ¼″ diameter	#8	3332-99	100	3330-2	4.95	3.80
¼″ to 5/16″ diameter	#8	3333-99	75	3330-3	5.60	4.30

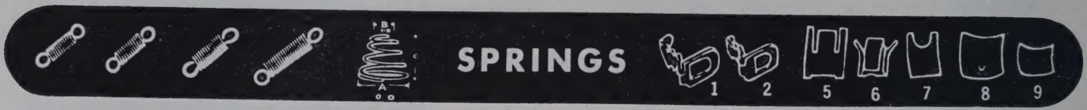
WALSCO ELECTRONIC HARDWARE



The 99 Line
IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS

BULK PACK
PROMPT DELIVERY FOR INDUSTRIAL AND OTHER QUANTITY USERS

SPRINGS



DIAL DRIVE SPRINGS, Steel, Cadmium-Plated

O/L	Diameter	Wire Size	THE "99 LINE" 99c Net, Ea. Pkg. Part No.	Quantity per Package	BULK PACK Bulk Part No.	Net Prices, per Thousand 250 to 4999	5M and up
½"	⅛"	.016"			3410-1	$11.75	$ 8.95
⅝"	5/32"	.018"			3410-2	11.75	8.95
9/16"	3/16"	.020"			3410-3	12.00	9.20
¾"	⅛"	.016"			3410-4	12.00	9.20
¾"	5/32"	.020"			3410-5	12.25	9.35
1"	13/64"	.022"			3400-1	13.50	10.00
1¼"	13/64"	.022"			3400-2	14.00	10.50
Assorted			3400-99	50			

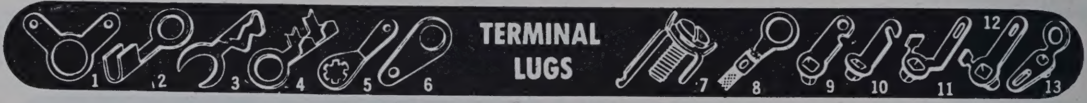
PHONO PANEL MOUNTING SPRINGS, Spring Steel, Cadmium-Plated

Dimensions A	B	C	Wire Thickness	Bulk Part No.	250 to 4999	5M and up
1"	⅜"	⅞"	.075"	3385-1	11.15	8.50
1 3/16"	11/32"	1"	.062"	3385-2	11.75	9.00
¾"	¼"	¾"	.047"	3385-3	11.00	8.30

KNOB SPRINGS

Description	Bulk Part No.	250 to 4999	5M and up
Style 1	3450-1	10.65	8.20
Style 2	3450-2	10.00	7.70
Style 5	3450-5	8.85	6.80
Style 6	3450-6	5.30	4.10
Style 7	3450-7	4.30	3.30
Style 8	3450-8	3.70	2.85
Style 9	3450-9	3.90	3.00

TERMINAL LUGS



SOLDER TYPE

Style	Available for Screw Numbers (Specify)	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
1	#6, #8, #10	3281-99	150	3280-1	$4.15	$3.25
2	#6, #8	3282-99	150	3280-2	3.30	2.50
3	#6, #8	3283-99	150	3280-3	3.85	2.95
4	#6, #8, #10, ¼"	3284-99	150	3280-4	4.75	3.65
5	#6, #8	3285-99	125	3280-5	5.25	4.10
6	#6, #8, #10	3286-99	150	3280-6	2.25	1.75

SCREW TYPE

Description	Bulk Part No.	100 to 999	1M and up
7 with #8-32 x ⅜" Screw	3288-3-1	$38.90	$29.00

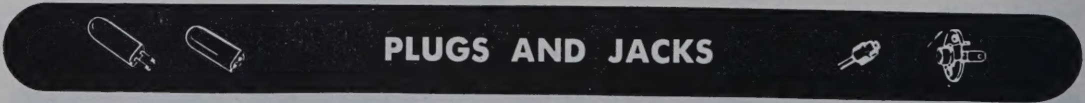
SOLDERLESS TYPE

Style	Fits Screw #	Fits Wire Gauge #	Part No.	Quantity per Package	Bulk Part No.	250 to 4999	5M and up
8	6	16 to 20			3288-1-6	$19.30	$14.85
8	8	16 to 20			3288-1-8	19.30	14.85
8	10	16 to 20			3288-1-10	19.30	14.85
Assorted			3288-99	35			

EYELET TYPE

Style	Bulk Part No.	1000 to 9999	10M and up
9	3288-2-1	$2.85	$2.20
10	3288-2-2	4.00	3.10
11	3288-2-3	3.15	2.40
12	3288-2-4	4.00	3.10
13	3288-2-5	7.45	5.70

PLUGS AND JACKS



MINIATURE PLUGS AND JACKS, Not Assembled

Description	Bulk Part No.	100 to 999	1M and up
2-Conductor Plug (type PL-291)	2590 BU	$235.00	$185.00
2-Conductor Jack (type JK-48)	2591 BU	375.00	285.00

PHONO PLUGS AND JACKS

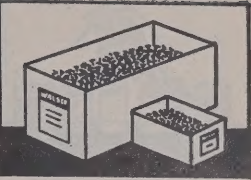
Description	Bulk Part No.	100 to 999	1M and up
Shielded, Single-Conductor Plug	2580-1	39.50	29.75
Shielded, Single-Conductor Jack	2580-6	62.00	47.50

WALSCO ELECTRONIC HARDWARE

The 99 Line

BULK PACK

IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS ● PROMPT DELIVERY FOR INDUSTRIAL AND OTHER QUANTITY USERS



MACHINE SCREWS

ROUND HEAD, Steel, Cadmium-Plated

Description	THE "99 LINE" 99c Net, Ea. Pkg. Part No.	Quantity per Package	BULK PACK Bulk Part No.	Net Prices, per Thousand 1000 to 9999	10M and up
Sizes Assorted	3560-99	200			
#2-56 x 3/16"			3561-2-1A	$2.05	$1.60
#2-56 x 3/8"			3561-2-3	2.15	1.65
#2-56 x 1/2"			3561-2-4	2.25	1.75
#4-40 x 1/4"			3561-4-2	2.20	1.70
#4-40 x 3/8"			3561-4-3	2.25	1.75
#4-40 x 1/2"			3561-4-4	2.40	1.85
#4-40 x 1"			3561-4-8	3.00	2.30
#6-32 x 1/4"	3100-99	225	3561-6-2	2.45	1.90
#6-32 x 3/8"	3110-99	225	3561-6-3	2.65	2.00
#6-32 x 1/2"	3120-99	200	3561-6-4	2.85	2.20
#6-32 x 3/4"	3130-99	175	3561-6-6	3.25	2.50
#6-32 x 1"	3132-99	150	3561-6-8	3.80	2.90
#8-32 x 1/4"	3135-99	200	3561-8-2	3.05	2.35
#8-32 x 3/8"	3140-99	175	3561-8-3	3.40	2.60
#8-32 x 1/2"	3150-99	160	3561-8-4	3.65	2.80
#8-32 x 3/4"	3160-99	140	3561-8-6	4.20	3.25
#8-32 x 1"	3162-99	125	3561-8-8	4.90	3.75
#10-32 x 1/2"	3165-99	150	3561-10-4	4.35	3.35
#10-32 x 3/4"	3167-99	125	3561-10-6	5.15	3.95
#10-32 x 1"	3169-99	100	3561-10-8	5.85	4.50

BINDING HEAD, Brass

Description	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
#6-32 x 1/4"			3565-6-2	4.25	3.25
#6-32 x 3/8"			3565-6-3	4.85	3.75
#6-32 x 1/2"			3565-6-4	5.50	4.25
#8-32 x 1/4"			3565-8-2	6.10	4.70
#8-32 x 3/8"			3565-8-3	6.90	5.35

SHEET METAL AND SELF TAPPING SCREWS

HEX HEAD, Slotted, Type "B" — Blunt Point

Sizes	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
Assorted	3470-99	125			
#6 x 1/4"	2910-99	150	3471-6-2	$3.45	$2.65
#6 x 3/8"	2911-99	150	3471-6-3	3.65	2.80
#6 x 1/2"	2912-99	150	3471-6-4	3.80	2.95
#6 x 3/4"	2914-99	125	3471-6-6	4.30	3.30
#6 x 1"	2916-99	100	3471-6-8	4.70	3.60
#8 x 1/4"	2919-99	125	3471-8-2	4.30	3.30
#8 x 3/8"	2920-99	125	3471-8-3	4.25	3.30
#8 x 1/2"	2922-99	125	3471-8-4	4.55	3.50
#8 x 3/4"	2924-99	100	3471-8-6	5.25	4.05
#8 x 1"	2926-99	100	3471-8-8	6.00	4.60
#10 x 3/8"	2930-99	100	3471-10-3	5.25	4.05
#10 x 1/2"	2932-99	100	3471-10-4	5.50	4.25
#10 x 3/4"	2934-99	100	3471-10-6	6.20	4.75

BINDING HEAD, Type "A" — Pointed

Description	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
#6 x 1/4"			3475-6-2	3.75	2.90
#6 x 3/8"			3475-6-3	4.05	3.10
#6 x 1/2"			3475-6-4	4.25	3.25
#8 x 3/8"			3475-8-3	4.70	3.65
#8 x 1/2"			3475-8-4	5.00	3.85
#8 x 3/4"			3475-8-6	5.80	4.45

ROUND HEAD, THREAD-CUTTING, Steel, Cadmium-Plated

Description	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
#6-32 x 1/4"			3477-6-2	6.50	4.75
#6-32 x 3/8"			3477-6-3	7.00	5.25
#6-32 x 1/2"			3477-6-4	7.90	5.85
#8-32 x 3/8"			3477-8-3	8.00	5.95
#8-32 x 1/2"			3477-8-4	8.50	6.30
#8-32 x 3/4"			3477-8-6	9.30	7.00

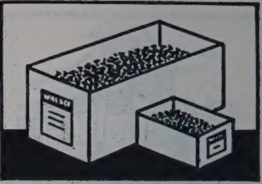
WALSCO ELECTRONIC HARDWARE

The 99 *Line*

IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS

BULK PACK

PROMPT DELIVERY FOR INDUSTRIAL AND OTHER QUANTITY USERS



SET SCREWS

Steel, hardened

Description	THE "99 LINE" 99c Net, Ea. Pkg. Part No.	Quantity per Package	BULK PACK Bulk Part No.	Net Prices, per Thousand	

HEADLESS TYPE, Slotted, Cadmium-Plated

Description	Part No.	Quantity per Package	Bulk Part No.	500 to 9999	10M and up
Assorted	3480-99	75			
#6-32 x ⅛"			3481-6-1	$9.85	$7.55
#6-32 x 3/16"			3481-6-1A	8.55	6.55
#6-32 x ¼"			3481-6-2	8.70	6.70
#8-32 x ⅛"			3481-8-1	9.85	7.55
#8-32 x 3/16"	3220-99	75	3481-8-1A	8.55	6.55
#8-32 x ¼"			3481-8-2	8.70	6.70
#10-32 x 3/16"			3481-10-1A	8.55	6.55
#10-32 x ¼"			3481-10-2	8.70	6.70

HEX — ALLEN-HEAD

Description	Part No.	Quantity per Package	Bulk Part No.	100 to 999	1M and up
#4-40 x ⅛"			3482-4-1	$53.95	$41.50
#5-40 x ⅛"			3480-5-1	54.60	42.00
#6-32 x ⅛"			3480-6-1	55.25	42.50
#6-32 x 3/16"			3480-6-1A	55.90	43.00
#6-32 x ¼"			3480-6-2	55.90	43.00
#8-32 x ⅛"			3480-8-1	55.90	43.00
#8-32 x 3/16"			3480-8-1A	56.55	43.50
#8-32 x ¼"			3480-8-2	57.20	44.00
#10-32 x 3/16"			3480-10-1A	57.20	44.00
#10-32 x ¼"			3480-10-2	57.85	44.50
¼-20 x ¼"			3480-¼-2	59.15	45.50

MISC. SCREWS

WOOD SCREWS

Size	Head	Finish	Bulk Part No.	1000 to 9999	10M and up
#2 x ¼"	Oval Hd.	Statuary Bronze	3550-2-2	$3.70	$2.85
#2 x ⅜"	Oval Hd.	Statuary Bronze	3550-2-3	3.90	3.00
#2 x ½"	Round Hd.	Statuary Bronze	3550-2-4	4.05	3.10
#3 x ⅜"	Round Hd.	Blued	3550-3-3	3.30	2.55
#6 x ½"	Round Hd.	Blued	3550-6-4	3.75	2.90
#6 x ⅞"	Flat Hd.	Cadmium-Plated	3550-6-7	4.75	3.70
#8 x ⅝"	Round Hd.	Blued	3550-8-5	4.40	3.40

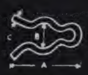
ORNAMENTAL HEAD SCREWS, Steel, Statuary Bronze Finish

Description	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
#6-32 x ¾"	2951-99	125	2951-6-6	3.80	2.90
#6-32 x 1"	2952-99	125	2951-6-8	4.45	3.45
#8-32 x 1¼"	2953-99	80	2951-8-10	6.65	5.10

RACK SCREWS, Oval Head, Steel, Nickel-Plated

Description	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
#6-32 x ⅝"	3543-99	175	3541-6-5	3.05	2.35
#8-32 x ⅝"	3541-99	125	3541-8-5	4.00	3.05
#10-32 x ¾"	3542-99	100	3541-10-6	5.15	3.95
#12-24 x ⅝"			3541-12-5	6.30	4.85

MISC. FASTENERS



SPADE BOLTS, Steel, Cadmium-Plated

Description	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
#6-32 x ⅝" O/L	3271-99	125	3270-1	$5.25	$4.50
#6-32 x ¾" O/L	3272-99	150	3270-2	4.00	3.15

HAIR-PIN COTTERS

Dimensions A	B	C	Bulk Part No.	1000 to 9999	10M and up
⅜"	1/16"	.026"	2650-1	1.90	1.50
⅜"	3/32"	.026"	2650-2	1.90	1.50
½"	9/64"	.032"	2650-3	2.80	2.25

THREADED ROD, Steel

Description	Bulk Part No.	100 to 999	1M and up
#6-32; 8" long	2640-1	$45.25	$34.80
#8-32; 8" long	2640-2	47.60	36.60

WALSCO ELECTRONIC HARDWARE

The 99 *Line*

BULK PACK

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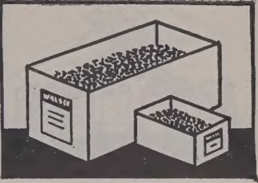


HEX NUTS

SMALL PATTERN, Steel, Cadmium-Plated

Description			THE "99 LINE" 99c Net, Ea. Pkg.		BULK PACK	Net Prices, per Thousand	
Thread Size	Width Across Flats	Thickness	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
Assorted			3520-99	175			
2-56	3/16″	1/16″			3521-2	$3.75	$2.75
4-40	3/16″	1/16″	3175-99	200	3521-4	4.25	3.25
6-32	1/4″	3/32″	3180-99	200	3521-6	3.25	2.50
8-32	5/16″	7/64″	3190-99	200	3521-8	3.50	2.70
10-32	11/32″	1/8″	3195-99	175	3521-10	3.60	2.75

STANDARD PATTERN, Steel, Cadmium-Plated

Thread Size	Width Across Flats	Thickness	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
6-32	5/16″	7/64″			3522-6	3.20	2.45
8-32	11/32″	1/8″			3522-8	3.65	2.80
10-32	3/8″	1/8″			3522-10	3.95	3.05

BRASS NUTS, Nickel-Plated

Thread Size	Width Across Flats	Thickness	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
4-36	1/4″	3/32″			3523-4X†	4.75	3.50
4-40	1/4″	3/32″			3523-4†	4.75	3.50
6-32	1/4″	5/64″	3180-B-99*	150	3523-6†	3.50	2.75
8-32	11/32″	1/8″	3190-B-99*	100	3523-8†	6.50	5.00
10-32	3/8″	1/8″	3195-B-99*	100	3523-10†	6.90	5.35

(*Nickel-Plated)

(†Brass, Add 10% for Nickel Plating)

MOUNTING NUTS

VOLUME CONTROL HEX NUTS, Steel, Cadmium-Plated

Thread Size	Width Across Flats	Thickness	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
3/8-32	1/2″	3/32″	3531-99	85	3530-1	$ 6.65	$ 5.10

VOLUME CONTROL HEX NUTS, Brass

Thread Size	Width Across Flats	Thickness	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
3/8-32	9/16″	3/32″			3530-1B	16.00	12.50

TOGGLE SWITCH HEX NUTS, Steel, Cadmium-Plated

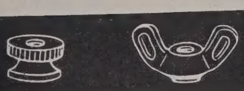
Thread Size	Width Across Flats	Thickness	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
15/32-32	9/16″	3/32″	3532-99	50	3530-2	11.00	8.45

TOGGLE SWITCH RING NUTS, Brass, Nickel-Plated

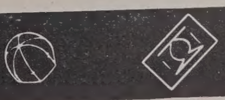
Thread Size	Width Across Flats	Thickness	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
15/32-32	19/32″	5/64″	3533-99	50	3530-3	12.10	9.30

ELECTRIC SWITCH AND FIXTURE NUTS

Thread Size	Width Across Flats	Thickness	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
1/8 P	1/2″	1/8″			3530-4	11.30	8.60



SPECIAL NUTS



KNURLED THUMB NUTS, Brass

Thread Size	Bulk Part No.	1000 to 9999	10M and up
#6-32	2971-6	$ 8.00	$ 6.15
#8-32	2971-8	8.00	6.15
#10-32	2971-10	22.85	17.60

WING NUTS, Zamack Metal, Nickel-Plated

Thread Size	Bulk Part No.	1000 to 9999	10M and up
#6-32	2976-6	6.50	4.95
#8-32	2976-8	10.75	8.30
#10-32	2976-10	12.90	10.00

ACORN NUTS, PAL TYPE, Steel, Nickel-Plated

Thread Size	Bulk Part No.	1000 to 9999	10M and up
#6-32	2961-6	10.65	8.20
#8-32	2961-8	12.25	9.40
#10-32	2961-10	15.25	11.70

SPEED NUTS, Tempered Steel, Parkerized

Thread Size	Bulk Part No.	1000 to 9999	10M and up
#6-32	2981-6	5.15	3.95
#8-32	2981-8	5.15	3.95
#10-24	2981-10	5.65	4.35
1/4-20	2981-1/4	8.20	6.30

WALSCO ELECTRONIC HARDWARE

The 99 *Line*

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BULK PACK

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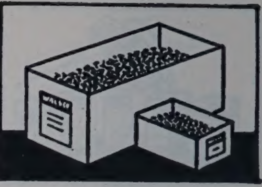
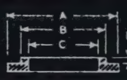


INSULATING WASHERS

Phenolic Fibre



THE "99 LINE" — 99c Net, Ea. Pkg. | BULK PACK

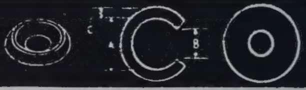
EXTRUDED TYPE

Fits Screw No.	A	B	C	D	Part No.	Quantity per Package	Bulk Part No.	Net Prices, per Thousand 1000 to 9999	10M and up
6	5/16"	3/16"	.136"	1/32"	3431-E-99	100	3432-6	$5.25	$4.05
8	⅜"	¼"	.165"	1/32"	3432-E-99	100	3432-8	5.25	4.05
10	⅜"	.308"	.195"	1/32"	3433-E-99	100	3432-10	5.25	4.05
¼"	½"	11/32"	.255"	1/32"	3434-E-99	75	3432-¼	5.75	4.40
⅜"	⅝"	½"	.380"	1/32"	3435-E-99	75	3432-⅜	7.05	5.40

FLAT TYPE

Fits Screw No.	O.D.	I.D.	Thickness	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
6	5/16"	.136"	1/32"	3431-F-99	250	3431-6	1.50	1.15
8	⅜"	.165"	1/32"	3432-F-99	250	3431-8	1.90	1.45
10	⅜"	.195"	1/32"	3433-F-99	250	3431-10	1.90	1.45
¼"	½"	.255"	1/32"	3434-F-99	200	3431-¼	2.30	1.75
⅜"	⅝"	.380"	1/32"	3435-F-99	200	3431-⅜	2.60	2.00

MISC. WASHERS



FLAT METAL WASHERS, Steel, Cadmium-Plated

Fits Screw No.	O.D.	Thickness	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
4	9/32"	1/32"			3511-4	$ .90	$ .70
6	⅜"	1/32"	3512-99	500	3511-6	.95	.75
8	⅜"	1/32"	3513-99	500	3511-8	.95	.75
10	7/16"	1/32"	3514-99	300	3511-10	1.40	1.05
¼"	½"	1/32"	3515-99	300	3511-¼	1.65	1.25

LOCK WASHERS, Int. Teeth, Steel, Cadmium-Plated

Fits Screw No.	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
4			3591-4	2.35	1.80
6	3592-99	250	3591-6	2.15	1.65
8	3593-99	250	3591-8	2.20	1.70
10	3594-99	250	3591-10	2.20	1.70
¼"	3595-99	200	3591-¼	2.90	2.20
⅜"	3596-99	100	3591-⅜	5.05	3.90

SPRING (FRICTION) WASHERS

I.D.	O.D.	Thickness	Bulk Part No.	1000 to 9999	10M and up
⅛"	5/16"	.010"	3425-1	7.00	5.50
3/16"	⅜"	.008"	3425-2	7.75	6.00
¼"	½"	.012"	3425-3	8.75	6.75

CUP WASHERS, Steel, Nickel-Plated

Fits Screw No.	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
6	3544-99	300	3542-6	1.50	1.15
8	3545-99	250	3542-8	1.80	1.40
10	3546-99	200	3542-10	2.40	1.85
12			3542-12	2.90	2.25

"C" WASHERS, Soft Steel, Cadmium-Plated

Fits Shaft	A	B	C	Thickness	Bulk Part No.	1000 to 9999	10M and up
¼"	.260	5/16"	1/16"	1/32"	3420-2	4.15	3.20
3/16"	5/32"	⅛"	1/16"	1/32"	3420-3	3.60	2.75

KNOB FELT WASHERS, Brown

O.D.	I.D.	Thickness	Part No.	Quantity per Package	Bulk Part No.	1000 to 9999	10M and up
¾"	¼"	1/32"	3490-99	250	3490-1	1.75	1.10

PHONE TIPS

Description	Part No.	Quantity per Package	Bulk Part No.	250 to 4999	5M and up
15/16" O/L	2725-99	60	2725-1	$9.05	$6.95

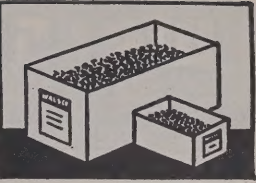
WALSCO ELECTRONIC HARDWARE

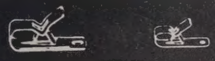
The 99 *Line*

IN PERMANENT *Transparent* PLASTIC STORAGE BOXES with SLIDING TOPS

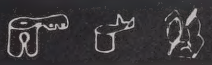
BULK PACK

PROMPT DELIVERY FOR INDUSTRIAL AND OTHER QUANTITY USERS





MISC. CLIPS



THE "99 LINE"

99c Net, Ea. Pkg.

BULK PACK

SPRING CLIPS, Spring Brass, Nickel-Plated

Length	Width	Mtg. Hole Size	Part No.	Quantity per Package	Bulk Part No.	Net Prices, per Thousand 1000 to 9999	10M and up
11/16"	7/32"	4 and 5	2731-99	100	2730-1	$5.65	$4.35
13/16"	5/16"	6	2732-99	75	2730-2	7.65	5.90

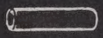
GRID CAPS

Description	Bulk Part No.	250 to 4999	5M and up
For Glass Tubes	2600-1	$17.50	$13.50
For Metal and "GT" Tubes	2600-4	6.00	3.90

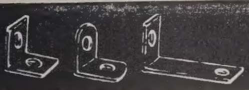
FUSE CLIPS

Description	Bulk Part No.	Net Prices, per Thousand	
For 1/4" Fuses	2720-1	8.00	5.75
For 9/32" Fuses	2720-2	14.00	10.80

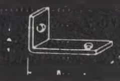
FUSE INSULATORS



Description	Bulk Part No.	1000 to 9999	10M and up
1⅛" long, 1/4" I.D.	2690-1	$3.35	$2.55
⅝" long, 1/4" I.D.	2690-2	2.95	2.30



ANGLE BRACKETS



Material	Dimensions A	Dimensions B	Dimensions C	Bulk Part No.	500 to 9999	10M and up
Brass, cadmium-plated	7/32"	1/4"	1/4"	2610-1	$5.70	$4.65
Steel, cadmium-plated	1/4"	5/8"	5/16"	2610-2	6.50	5.40
Brass (one hole tapped 6-32)	5/32"	5/16"	5/16"	2610-5	9.75	7.50

INSULATING TUBING

FLEXITUBE

Extruded vinyl tubing; dielectric strength: 15,000 v.
Available in Black, Green, Red, and Clear. Please specify color.

Part No.	Size, B & S Gauge No.	Approx. I.D. Inches	MM.	100 to 1999* ft.	2M* ft. and up
R 600	18	.042	1	$15.00/M ft.	$8.82/M ft.
R 601	16	.053	1.4	15.00/M ft.	8.82/M ft.
R 602	14	.066	1.6	15.60/M ft.	10.37/M ft.
R 603	12	.085	2	16.00/M ft.	11.91/M ft.
R 604	10	.106	2.7	18.00/M ft.	12.20/M ft.
R 605	8	.133	3.5	22.20/M ft.	13.30/M ft.
R 606	6	.166	4	26.00/M ft.	16.00/M ft.
R 607	4	.208	5	32.00/M ft.	23.00/M ft.
R 608	2	.263	6.5	45.00/M ft.	30.00/M ft.

RAYOFLEX

Lacquered-rayon tubing, radio grade. Meets A.S.T.M. Specifications B-2.
Available in Black, Blue, Red, and Yellow. Please specify color.

Part No.	Size, B & S Gauge No.	Approx. I.D. Inches	MM.	100 to 1999* ft.	2M* ft. and up
(Following sizes suppled in continuous lengths.)					
R 630	18	.042	1	$ 39.50/M ft.	$ 30.40/M ft.
R 631	15	.059	1.5	43.70/M ft.	33.60/M ft.
R 632	12	.085	2	51.90/M ft.	39.90/M ft.
R 633	9	.118	3	60.00/M ft.	46.20/M ft.
R 634	6	.166	4	67.80/M ft.	52.20/M ft.
(Following sizes supplied in 30-inch lengths.)					
R 635	2	1/4"	6.5	106.80/M ft.	82.20/M ft.
R 636	0	5/16"	8.5	143.20/M ft.	110.20/M ft.
R 637	00	3/8"	9.5	171.80/M ft.	132.20/M ft.
R 638	0000	1/2"	13	236.80/M ft.	182.20/M ft.

*Various sizes and colors, but not less than 100 ft. of any one size or color, may be combined in one order to take advantage of quantity discounts. Sizes other than listed above can be supplied. Prices quoted on request.

WALSCO products
Help The Radio Man
WALTER L. SCHOTT COMPANY, BEVERLY HILLS, CALIFORNIA

BULK PRICE LIST
DIAL CABLE & CORDS — GRILLE CLOTH & SCREENING — CHEMICALS & FINISHES

DIAL CABLE AND CORDS

METAL CABLES

Part No.	Description	3000 to 14,999 ft.	15M ft. and up
R 30	Phosphor bronze cable, twisted, 42-strand, .032″ diameter	$20.00/M ft.	$15.40/M ft.
R 31	Bronze cable, braided, 16-strand, .038″ diameter	10.00/M ft.	8.00/M ft.
R 32	Bronze cable, braided, 8-strand, .026″ diameter	11.00/M ft.	8.50/M ft.

NYLON CORDS

Constructed with impregnated fibreglass core, and black nylon braid. Construction combines minimum stretch, high coefficient of friction, and maximum resistance to abrasion.

Part No.	Description	3000 to 14,999 ft.	15M ft. and up
R 35	"Special-Thin" Cord, approximately .026″ diameter	9.00/M ft.	6.05/M ft.
R 39	Standard Cord, approximately .032″ diameter	12.75/M ft.	9.20/M ft.
R 34	Medium Cord, approximately .040″ diameter	13.50/M ft.	9.90/M ft.
R 33	Heavy-Duty Cord, approximately .060″ diameter	17.50/M ft.	13.50/M ft.

GRILLE CLOTH, SCREENING AND METAL GRILLE

GRILLE CLOTH

Part No.	Description	5 to 49 yd.	50 yd. and up
R 362 BU	Available in a variety of colors and patterns. Average width of material is 52″	$3.45/yd.	$2.30/yd.

FLOCKED GRILLE SCREENING

Part No.	Color	Width, inches	10 to 99 ft.	100 ft. and up
R 374-1 BU	Brown	11	$ .45/lin. ft.	$ .35/lin. ft.
R 374-3 BU	Light Ivory	11	.45/lin. ft.	.35/lin. ft.
R 376-1 BU	Brown	18	.65/lin. ft.	.50/lin. ft.
R 376-3 BU	Light Ivory	18	.65/lin. ft.	.50/lin. ft.
R 378-1 BU	Brown	36	1.30/lin. ft.	1.00/lin. ft.
R 378-3 BU	Light Ivory	36	1.30/lin. ft.	1.00/lin. ft.

Note: Grille Cloth and Flocked Grille Screening also available in "cut-to-order" sizes……Prices Quoted on Request

ORNAMENTAL METAL GRILLE

R 380 Available in a variety of finishes and in any size up to 48″ width……Prices Quoted on Request

CHEMICALS AND FINISHES

INDUSTRIAL ADHESIVES

Part No.	Description	1-gal. Cans	5-gal. Cans
R 21	WALSCO Fabric Cement	$7.50/gal.	$5.80/gal.
R 40	WALSCO Plastic Cement	6.50/gal.	5.00/gal.
R 50	WALSCO Radio Cement	6.50/gal.	5.00/gal.
R 110	WALSCO Rubber Cement	7.50/gal.	5.80/gal.
R 150	WALSCO Polystyrene Cement	7.50/gal.	5.80/gal.

SOLVENTS & THINNERS

Part No.	Description	1-gal. Cans	5-gal. Cans
R 1	For Lacquer No. 120	4.00/gal.	3.10/gal.
R 2	For Cement No. R 110 and Wrinkle Varnish No. R 145	1.25/gal.	.95/gal.
R 60	For Cements Nos. R 20, R 40, and R 50	2.80/gal.	2.15/gal.
R 160	For Cement No. R 150	2.50/gal.	1.95/gal.
R 214	Carbon-Tetrachloride	3.50/gal.	2.70/gal.

SPECIAL CHEMICALS

Part No.	Description		
R 22	WALSCOLUB-B	1-lb. Cans $1.50/lb.	5-lb. Cans $1.20/lb.
R 190	Insulating Varnish	1-gal. Cans $7.90/gal.	5-gal Cans $6.25/gal.

POLISHES

Part No.	Description	1-gal. Cans	5-gal. Cans
R 410	WALSCO Super Polish	2.85/gal.	2.25/gal.
R 414	Scratch-Removing Polish, Dark	2.50/gal.	1.95/gal.
R 430	Scratch-Removing Polish, Light	2.50/gal.	1.95/gal.

LACQUERS AND FINISHES

Part No.	Description	1-gal. Cans	5-gal. Cans
R 120	Crystallizing Lacquer: Black, Green, Grey, Clear, Brown	10.00/gal.	8.15/gal.
R 145	Wrinkle Varnish — Air-Dry: Grey or Black	9.00/gal.	7.90/gal.

ICA INSULINE ICA
RADIO PRODUCTS

ICA Bakelite Double Phone Plug

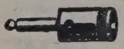
No.	List
24B—Black	$.50
24R—Red	.50
34B—Black barrel only	.20
34R—Red barrel only	.20
34P—Plug only	.40

ICA Midget Phone Plug

Overall length—2¼". Diameter of barrel $\frac{9}{16}$".

No.	List
29B—Black	$.50
29R—Red	.50
29P—Plug only	.40
39B—Black barrel only	.20
39R—Red barrel only	.20

ICA Stubby Shielded Phone Plug



Barrel Measures $\frac{11}{16}$" diameter x 1" long.

No. 27 List $.80

No. 37—Barrel only ....**List $.45**

ICA Midget Shielded Phone Plug

Diameter of Barrel $\frac{9}{16}$". Overall size of Plug 2¼"

No. 30 List $.70

No. 40—Barrel only ......**List $.40**

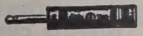
ICA 3-Wire Microphone Plug

Has solder connections for cable or microphone use. Barrel molded of bakelite; brass parts, nickel plated.

No. 1901 ....**List $1.00**

ICA Shielded Double Phone Plug

Nickel Barrel
Brass Shell
Nickel Plated



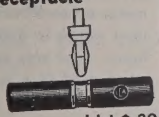
Supplied with fibre insulating tube.

No. 25 ....**List $.90**

No. 35—Barrel only ......**List $.50**

Wire Connector with Banana Plug Receptacle

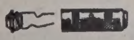
Ideal for quick splicing for testing point.



No. 1933 ....**List $.30**

ICA Shielded 3-Way Portable

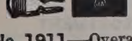
Microphone Jack



For all types of microphones. Sturdily constructed of brass parts with phosphor bronze springs. Nickel plated and thoroughly insulated.

No. 1904 ....**List $1.50**

ICA Bakelite Portable Jacks



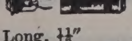
Single Open Circuit

No. 1911—Overall Size 1⅝" Diameter ¾" ....**List $ .70**

No. 1903—Portable Jack, black Bakelite barrel ......**List $1.10**

ICA Shielded Portable Jack

Single Open Circuit



No. 1913—2⅛" Long, $\frac{11}{16}$" Diameter ....**List $1.25**

Phone Plug Adapter

Soldering or wiring not necessary.

No. 33 ....**List $.45**

ICA De Luxe Phone Jacks

New Design

Greater Efficiency

New design. Tension fatigue minimized. — Spring members made of phosphor bronze. Hooked type soldering lugs—Cannot turn or short. For standard ¼" plug.

No.	List
1920—Single Open Circuit	$.75
1921—Single Closed Circuit	.85
1922—Three-Way Microphone Jack	1.10

ICA Phone Jacks

Smaller type precision made jacks for limited space. Complete with nut and metal washer.

No.	List
1870—Single open circuit	$.50
1871—Single closed circuit	.55
1872—3-way mike jack	.60

ICA Panel Mounting Jacks

Small and Compact

No.	List
325—Single Open Circuit	$.50
1905—3-Way Microphone Jack	.75

ICA Insulated Tip Jacks

With receptacle for standard phone tips.

No.	List
889B—Black	$.15
889R—Red	.15

Insulated Banana Jacks

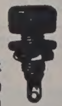
With receptacle for banana plugs.

No. 888B—Black ....**List $.15**

No. 888R—Red ....**List .15**

ICA Bakelite Insulated Tip Jacks

Moulded of Low-Loss Bakelite



No.	List
1889—Black	$.20
1890—Red	.20

Bakelite Banana Type Jacks

No. 1891—Black ....**List $.20**

No. 1892—Red ....**List .20**

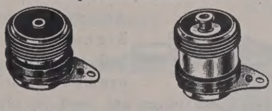
ICA Combination Banana Plug or Phone Tip Jack

Made to take banana plug or standard phone tips interchangeably. Insulated cap in black and red — With washers and nuts.

No. 528R—Red ....**List $.20**

No. 528B—Black ....**List .20**

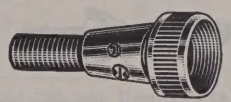
Microphone Connectors



No. 1929—For use on chassis unit or in microphone. Single contact ....**List $.30**

No. 1930—Closed circuit connector. With spring actuated contact ....**List .40**

Microphone Connectors



Shielded cable type. Single contact.

No.	List
1931—Female connection	$.50
1932—Male connection	.40

ICA Insulated Binding Posts with Jack for Banana Type Plug

Length 1⅜" overall when top is up. Extends ⅝" above panel when top is screwed down. Fitted with 8/32 screw $\frac{9}{16}$" long, and two hex nuts.

No.	List
622—Red	$.25
623—Black	.25

ICA All Metal Binding Post

Designed for high amperage use and where low resistance connections are necessary on test equipment, etc. Nickel plated brass. Dimensions same as No. 617 below.

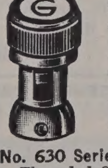
No. 620 ....**List $.20**

ICA Bakelite Binding Posts

$\frac{9}{16}$" Diameter Head with Brass Threaded insert, Nickel Plated Screw and Knurled nut.

No.	List
617—Red	$.18
618—Black	.18

ICA Vise-Grip Binding Post



Engineered on principle of a vise. Can cause no damage to even finest wire strands. Wire hole and designating symbol always in alignment. Two styles.

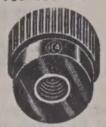
No. 630 Series—Has 6/32 Male Threaded Shank ....**List $.50**

No. 690 Series—Has 6/32 Female Thread ....**List $.50**

No.	Marking	No.	Marking
630	ANT	690	ANT
631	GND	691	GND
632	A	692	A
633	G	693	G
634	+	694	+
635	—	695	—
636	Rec.	696	Rec.
637	PLAIN (No Marking)	697	PLAIN (No Marking)

Bakelite Binding Post Heads

Bakelite Heads only with Brass Threaded Insert for 8/32 Screw.



No. 628—Red ....**List $.10**

No. 629—Black ....**List .10**

Insulated Midget Phone Tip Plug

Fits all standard jacks. Tip is threaded. Overall length 1¼".

No.	List
876R—Red	$.15
876B—Black	.15

ICA Midget Sharp Point Threaded Phone Tip Non-Insulated

No. 365 ....**List $.15**

U. S. Army and Navy Specification Plugs

Manufactured to meet the very exacting specifications of the U. S. Army Signal Corps and U. S. Navy. Will fit all standard jacks.

No. P.L. 55—2 Conductor Plug (long) ....**List $ .85**

No. P.L. 68—3 Conductor Microphone Plug ....**List $1.75**

ICA Insulated Solderless Plug

2" long — fits all standard phone tip jacks.

No. 885B—Black ....**List $.18**

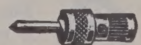
No. 885R—Red ....**List .18**

ICA Sr. Solderless Plugs

1$\frac{11}{16}$" overall length.
No. 358
List $.10

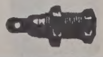
ICA Jr. Solderless Plugs

1$\frac{3}{16}$" overall length.
Tip ½".
No. 359
List $.10



ICA Brass Tip Jacks

Nickel Plated
No. 357
List $.10



ICA Insulated Needle Point Tip Plug

886B — Black
List $.18
886R — Red
List $.18

Above with Insulating Sleeve

No. 341B—Black ....**List $.10**

No. 341R—Red ....**List .10**

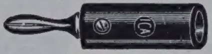
ICA Split Banana Plugs

For positive and durable spring action. Allows spring to fit into jack, cannot bend out of shape — Complete with two nuts.

No. 403 ....**List $.12**

ICA INSULINE ICA
RADIO PRODUCTS

ICA Insulated Solderless Split Banana Plugs



Set screw provided at side of barrel to fasten screw without soldering.

1½″ Long

No. 883B—Black	**List $.20**
No. 883R—Red	**List .20**

2½″ Long

With sleeve covering set screws.

No. 882B—Black	**List $.40**
No. 882R—Red	**List .40**

4″ Long

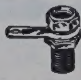
With sleeve covering set screws.

No. 881B—Black	**List $.50**
No. 881R—Red	**List .50**

With Solderless Wire Nut

No. 434B—Black	**List $.20**
No. 434R—Red	**List .20**

ICA Transmitting Banana Jacks

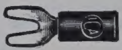


No. 402

Nickel Plated Brass

List $.09

Insulated Spade Lug

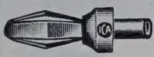


Insulated Spade Lug with banana plug receptacle on lead end.

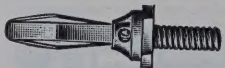
No. 887B—Black	**List $.16**
No. 887R—Red	**List .16**

10 in Standard Carton

Beryllium Banana Plugs



Approved by the Signal Corps and other government agencies. These plugs are used in all government equipment. Made of Beryllium copper and guaranteed for its spring and durability. Threaded plug accommodates 6/32 nuts.

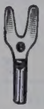


No. 419—Overall size 13/16″ long. Shank length ¼″ long. Diameter of shank ⅛″.

No. 420—Overall size 1⅛″ long. Threaded shank length ⅜″ long threaded for 6/32 nuts.

No.	List
419—Rivet type	$.15
420—Threaded shank—⅜	.25

ICA Spade Lug

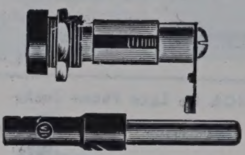


Can be used on any size screw or terminal up to size 10. Receptacle fits all I.C.A. and other make Banana Plugs.

No. 879 .... **List $5.50 C**

100 in Standard Package

Plugs and Jacks



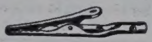
A new line of heavy duty transmitting plugs and jacks. Plug-in type with positive grip contacts. Equipped with heavy insulated threaded heads and handles for safe handling on high R.F. currents. Supplied with large hex nuts for panel mounting.

Handle 1,000 Volts at 10 Amps

No.	List
450—Medium Plug-RED	$ .55
451—Medium Plug-BLACK	.55
452—Medium Jack-RED	.95
453—Medium Jack-BLACK	.95
454—Giant Plug-RED	.75
455—Giant Plug-BLACK	.75
456—Giant Jack-RED	1.15
457—Giant Jack-BLACK	1.15

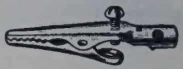
ICA Alligator Clips

Good firm grip. Ideal for work in tight places. Overall length 2″.



No. 364 .... **List $.10**

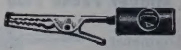
ICA Alligator Clip with Screw Connection



Good firm bite. Convenient screw connection eliminates the necessity for soldering. Overall length 2″.

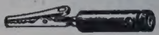
No. 376 .... **List $.12**

ICA Insulated Alligator Clips



No. 884B—Black	**List $.20**
No. 884R—Red	**List .20**

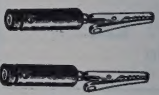
ICA Insulated Alligator Clip with Phone Tip Jack



Has standard phone tip jack in insulated sleeve. Will accommodate phone tip or solderless plug tips.

No. 525R—Red	**List $.45**
No. 525B—Black	**List .45**

ICA Insulated Combination Jack Alligator Clip

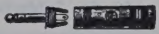


An insulated alligator clip with a dual purpose Jack in catalin sleeve—Equipped with the new combination Jack which takes either solderless phone tip or Banana plug. Overall length—3¼″.

No. 520R—Red	**List $.50**
No. 520B—Black	**List .50**

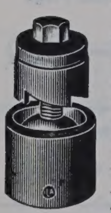
ICA SHIELDED 3-WIRE MICROPHONE PLUG

Shielded Nickel Barrel



No. 1900 .... **List $1.45**

ICA SHEARING PUNCHES



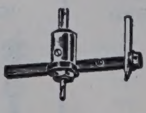
Now! No Hammering Necessary to Punch Chassis Holes

Shearing is accomplished with a wrench which forces shear punch into die. Made of High Grade Steel.

No.	Size of Hole	List
723	⅝″	$4.25
725	¾″	4.25
724	1″	4.75
726	1.170	5.00
727	1⅛″	5.00
728	1 3/16″	5.00
729	1¼″	5.00
730	1⅜″	5.50

ICA IMPROVED ALL-PURPOSE CIRCLE CUTTER

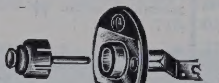
Will Cut Holes from 1½ to 8 Inches



Cutting bar holder is ⅞″ in diameter and also accommodates a centering drill or any size pilot pin. Cutting bar is ⅜″ square and is arranged to hold a 3/16″ high speed cutting bit.

No. 775 .... **List $6.60**

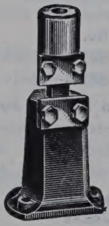
ICA PLUG AND JACK



Used on RCA recording units, receivers and auto sets.

No.	List
2383—Pin Plug	$.10
2385—Socket & Shield	.15

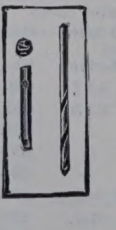
ICA SQUARE HOLE SHEARING PUNCH



This new punch permits the cutting of any size odd-shape hole (square rectangular, hexagon, oblong, etc.) on any size panel or chassis. Good for Enlarging or punching TRANSFORMER Holes.

No. 790 .... **List $16.50**

REPLACEMENT DRILLS AND CUTTERS



Used as replacement on ICA No. 775 and No. 780 circle cutters as well as on other make cutters.

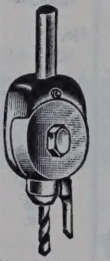
No. 776—Replacement drill for No. 775 Circle Cutter
List $.60

No. 777—Replacement cutter for No. 775 Circle Cutter
List .85

No. 781—Replacement drill for No. 780 Circle Cutter
List .60

No. 782—Replacement cutter for No. 780 Circle Cutter
List .90

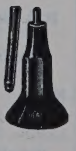
ICA UNIVERSAL MULTI-PURPOSE CUTTING TOOL



This handy tool can be used for counter-sinking, beading, drilling or cutting holes. Equipped with 3/16″ drill for holes from 7/16″ diameter up to 3″ diameter. Can be used either in drill press or hand brace. Also acts as a boring tool when used in a lathe.

No. 780 .... **List $4.00**

ICA RIVET AND EYELET PUNCH SET



A Universal Tool that can be used for either riveting or eyeletting. Holder is made of cast iron with hexagonal sides, thus permitting the tool to be placed in a vise without slipping.

No. 785—Complete with ample assortment of eyelets and rivets.

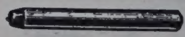
List $4.00

RIVET AND EYELET ASSORTMENT

Additional eyelets and rivets can be purchased separately.

No. 5265—(Assortment of 100)...... **List $.80**

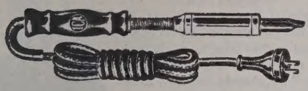
RIVET & EYELET SETTING TOOL



No. 786 .... **List $.90**

ICA INSULINE ICA
RADIO PRODUCTS

ICA SOLDERING IRONS



ICA Highest Quality Soldering Irons are "Best By Test". Each model is submitted to the most severe tests and results prove conclusively that ICA irons are equal, if not superior, to any soldering iron on the market today.

60 WATT IRON

No. 1960-A—105-120 Volts ....**List $5.00**
No. 1963—220 Volts ....**List 5.00**

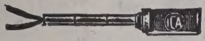
85 WATT IRON

No. 1962-A—105-120 Volts ....**List $6.50**
No. 1964—220 Volts ....**List 6.50**

115 WATT IRON

No. 1961-A—105-120 Volts ....**List $7.50**
No. 1965—220 Volts ....**List 7.50**

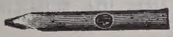
REPLACEMENT ELEMENTS FOR ICA SOLDERING IRONS



Due to the construction of the ICA Soldering Irons, burnt out elements can be easily removed and replaced by anyone.

105-120 Volts			220 Volts		
No.	Watts	List	No.	Watts	List
1985	60	$3.00	1990	60	$3.00
1986	85	3.50	1991	85	3.50
1987	115	3.50	1992	115	3.50

REPLACEMENT TIPS For ICA Soldering Irons

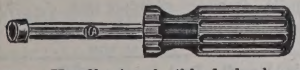


Available in All Sizes

Made of a special copper alloy. Electrolytically pure. For replacement in ICA Soldering Irons. Can also be used in American Beauty and irons of similar construction.

No.	Watts	Tips	Diam.	Length	List
1970	60	Flat	⅜″	3″	$.60
1972	85	Point	⅜″	3½″	.80
1971	115	Point	$\frac{7}{16}$″	3½″	1.00

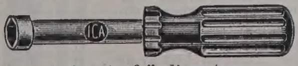
ICA UNBREAKABLE "TURN-TITE" SOCKET WRENCHES



7″ long. Handle is of ribbed shockproof unbreakable material.

No.	Socket	List	No.	Socket	List
940	$\frac{3}{16}$″	$.95	944	⅜″	$.95
941	¼″	.95	945	$\frac{7}{16}$″	.95
942	$\frac{5}{16}$″	.95	946	½″	.95
943	$\frac{11}{32}$″	.95	949	Set of 7 wrenches as above	6.65

ICA UNBREAKABLE VOLUME CONTROL WRENCH

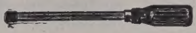


Socket is $\frac{9}{16}$″ diameter.

No. 937 ....**List $1.75**

ICA "TURN-TITE" SOCKET WRENCHES

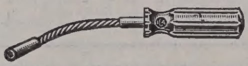
HOLLOW SHAFTS



Made of hardened steel, cadmium plated, with sturdy Black japanned wooden handles.

6 Inches Long		9 Inches Long	
No.	List	No.	List
898—$\frac{3}{16}$″	$.45	900—$\frac{3}{16}$″	$.55
890—¼″	.45	894—¼″	.55
891—$\frac{5}{16}$″	.45	895—$\frac{5}{16}$″	.55
892—⅜″	.45	896—⅜″	.55
893—$\frac{7}{16}$″	.45	897—$\frac{7}{16}$″	.55
899—½″	.45	901—½″	.55
910—Set of 6 Wrenches	2.70	911—Set of 6 Wrenches	3.30

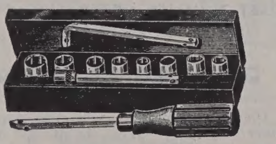
ICA FLEXIBLE SOCKET WRENCH



Especially designed for hard-to-reach spots. Can actually be used around corners or under obstructing objects.

No. 913—¼″ Hex ....**List $1.50**
No. 914—$\frac{5}{16}$″ Hex ....**List 1.50**

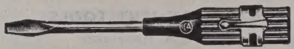
ICA LOCK SOCKET WRENCH AND SCREW DRIVER SET



The all-purpose socket wrench, packed in neat, enameled steel case. Includes sturdy 6½″ Wood Grip Screw Driver—4″ L Handle—3¾″ Extension Adaptor, ¼″, $\frac{5}{16}$″, ⅜″, $\frac{7}{16}$″ and ½″ Hex—⅜″ Round Knurled Socket—¼″ and $\frac{5}{16}$″ Square Sockets.

No. 999 ....**List $2.75**

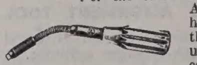
ICA AMBER COLORED UNBREAKABLE MIDGET SCREW DRIVER



Particularly shaped to fit into set screws of knobs. No. 1013 has convenient pocket clip.

No. 1013—4¾″ length ....**List $.25**
No. 1017—7″ length ....**List .75**

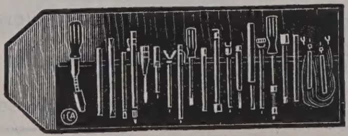
ICA FLEXIBLE SCREW DRIVER
For the Hard to Reach Spots



Allows access to screws in hard to reach and out of the way places. Can go under objects or around corners.

No. 935 ....**List $2.00**

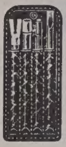
ICA COMPLETE NEUTRALIZING TOOL KIT



The kit consists of one of each of the following ICA tools, described herein:—Nos. 382, 1008, 987, 1015, 977, 996, 992, 985, 990, 1024, 1019, 1026, 1022, 1002, 1013, 1028, 1039, 1029, 1033, 935, 937.

No. 995—Kit, Complete with Carrying Case **List $20.00**

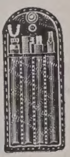
ICA UTILITY NEUTRALIZING AND ALIGNING TOOL KIT



A handy Service Man's Kit containing carefully selected tools suitable for varied uses. Packed in vest pocket leatherette case.

No. 997 ....**List $3.00**

ICA NEUTRALIZING AND ALIGNING TOOL KIT

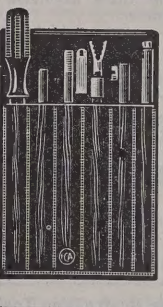


The Kit consists of twelve separate and distinct parts, some of which can be employed for several operations. These units telescope into each other, forming four separate tools when assembled.

No. 998 ....**List $6.50**

Complete with Carrying Case

ICA DE LUXE NEUTRALIZING AND ALIGNING TOOL KIT



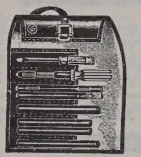
Complete for Every Service Need

Consists of fourteen tools, most of which telescope into one another, forming six units when assembled into the attractive black leatherette case.
The complete kit in carrying case can be kept in the pocket. Tools complete with carrying case.

No.	List
994	$7.50

ICA NEUTRALIZING AND ALIGNMENT TOOL KIT — SIGNAL CORPS No. TE45-A

ICA Catalog No. 993

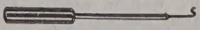


This versatile kit, designed for and used by the Signal Corps, is also strongly recommended for general service use. Compact, and contained in a handsome leatherette case, this kit consists of the following:

- 1—No. 935 Screw Driver
- 1—5″ Screw Driver
- 1—Insulated Screw Driver
- 1—Bone Fibre No. 1015 Neutralizing Tool
- 2—No. 980—Hex Tools, ¼″ I.D.
- 2—No. 981—Hex Tools, $\frac{5}{16}$″ I.D.

No. 993 ....**List $6.75**

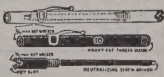
ICA DIAL CABLE ADJUSTER



Handy aid to replacing slipped-off dial cable over drive drum. Permits easy manipulation in cramped places.

No. 437 ....**List $.75**

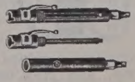
ICA 4-in-1 NEUTRALIZING TOOLS, SCREW DRIVER AND WRENCH



Made of Fenoline Fully Insulated

No. 1019—Complete ....**List $.85**

ICA 5-IN-1 NEUTRALIZING AND COMPENSATING TOOL

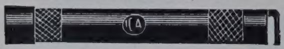


Same features as the 4-in-1 tool described above with an additional all metal screw driver.

No. 1022..**List $1.35**

ICA INSULINE ICA
RADIO PRODUCTS

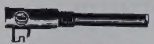
ICA ALIGNMENT WRENCH
For RCA, Philco, etc.



Used on all makes Air Trimmer. Made of ½" Fenoline Rod—8½" long—one end has hollow shaft hexagon wrench—other end has an especially shaped hook.

No. 1008..**List $1.50**

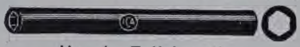
ICA BALANCING TOOL



Fits into No. 1019 Neutralizing Tool.

No. 1026..**List $.50**

INSULATED NEUTRALIZING WRENCHES

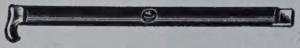


Hexed—Full Length

For Philco, Majestic and Other Receivers
⅜" Diameter

No. 985—6" long........................**List $.25**
No. 986—8" long........................**List .35**
No. 980—5" long........................**List .25**
No. 981—5" long, 7/16" dia..............**List .30**

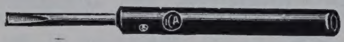
ICA Alignment Tool for Philco Receivers
For Air Trimmer Sets



Has specially designed metal clip for air trimmers. Made of narrow fibre rod, 7/32" diam. by 6" long.

No. 1033..**List $.60**

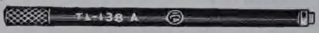
ICA Insulated Adjustable Neutralizing Tools



Absolutely no metal parts. Screw driver slides into inside of neutralizing wrench.

No. 990—Extending from 6 to 10"..**List $.90**
No. 991—Extending from 12 to 16"..**List 1.00**

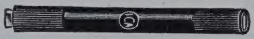
ICA NEUTRALIZING AND ALIGNING TOOL



U. S. Army No. TL138A — ICA No. 1011
Used for general radio tuning and aligning. Approved by U. S. Army and Navy.

No. 1011..**List $1.00**

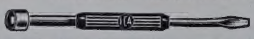
ICA NEUTRALIZING AND ALIGNING TOOL



Machined of bakelite rod 9/32 inch diameter. Designed for Western Electric Co. Approved by U. S. Army and Navy.

No. 1006..**List $1.25**

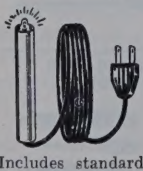
ICA ALL PURPOSE ALIGNING TOOL



Handle is of ⅜" Fenoline. End has Socket Screw Driver for neutralizing all iron core tuning systems.

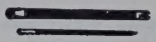
No. 1002..**List $.75**

ICA TEST-LITE



Provides a steady, bright light—without annoying flickering—for dark, narrow spaces around chassis, cabinets, etc. Plugs into any AC-DC socket, 105-125 volt.. 4½ ft. cord. Includes standard 6 volt lamp, No. 47, .15 amp., and plug complete.

No. 938..**List $1.50**

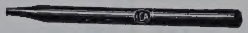


ICA Neutralizing Tools with Metal Nibs

Patent No. U.S. 83,321. Sturdy, unbreakable, will outlast all other type neutralizing tools.

No. 996..**List $1.50**

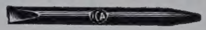
ICA BONE FIBRE SCREW DRIVER



Of 5/16" bone fibre rod with a sturdy blade.

No. 1029..**List $.70**

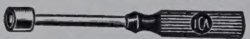
ICA BONE FIBRE SCREW DRIVER



Double Edged—No Metal—Fully Insulated
Made of ¼" Bone Fibre Rod

No. 1039..**List $.40**

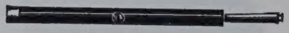
ICA NEUTRALIZING TOOL
For Push Button Tuners



The Socket is 9/64" in diameter, and contains a screw driver blade.

No. 1003..**List $.75**

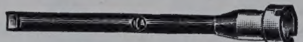
ICA SET TRIMMER NEUTRALIZING TOOLS
For Philco, Zenith, RCA, etc.



Fits the smallest size trimmer condensers. Trimmer end is 7/32" diam. to fit ¼" hole.

No. 992— 6" long........................**List $1.00**
No. 933—10" long........................**List 1.25**

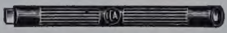
ICA NARROW SHAFT ALIGNMENT TOOL



RCA—Zenith—etc. 7/32" Bakelite Shaft

No. 987..**List $.85**

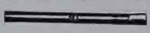
ICA ALIGNMENT TOOLS
For RCA Receivers



Narrow shaft Neutralizing Tools made of Bone Fibre—7/32" wide. Has screw nib inserted in Brass Collar on end.

No. 1015..**List $.75**

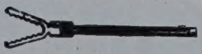
ICA MAGIC TUNING ALIGNMENT TOOL



Consists of a Bakelite rod with a Brass cylinder at one end, and a special finely divided iron core at the other end.

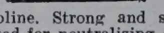
No. 977..**List $1.00**

ICA FORK TYPE NEUTRALIZING WRENCH and SCREW DRIVER
For RCA and Other Sets



No. 1024..**List $.50**

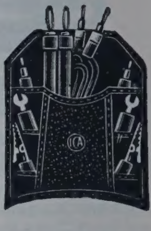
ICA Fenoline Neutralizing Screw Drivers



Made of Fenoline. Strong and sturdy, completely insulated for neutralizing and aligning coils, condensers, receivers, etc.

No. 1028..**List $.40**

ICA ALL-PURPOSE TEST LEAD KIT
Complete For Every Testing Need



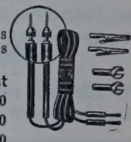
Equipped with one pair of test leads which have 48" of red and black kinkless live rubber wire. One end has insulated removable banana-type plugs.

Included in this test kit:

1 pr. test leads.
1 pr. insulated alligator clips—red and black.
1 pr. insulated spade lugs—red and black.
1 pr. insulated needle points—red and black.

No. 1005—Kit, complete **List $3.50**

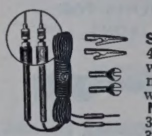
ICA PHONO-NEEDLE POINT TEST LEADS
With Slim Handles and Flexible Wire



Flexible rubber-covered, kinkless wire, 48" long. Tenite handles 4" long.

No.	List
382—With Phone Tips	$.90
381—With Spade Terminals	.90
379—With Alligator Clips	1.10

ICA DE LUXE EXTRA-FLEXIBLE TEST LEADS

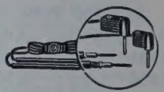


Slim Handles & Solderless Plugs

48" Extra-Flexible Test Leads with 4" Tenite handles. New non-kinking, rubber insulated wire.

No.	List
355—With Phone Tips	$.90
356—With Spade Terminals	.90

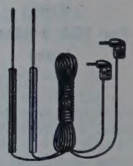
ICA PENCIL TYPE TEST LEADS
Finger-Grip Molded Tips



All connections are properly soldered providing low resistance connections vital in all precision tests. The Molded Finger Grip Tips are provided with rivets for easy removal of wire. Length of test leads is 48". Handles are 5" long.

No. 373..............................**List $1.75**

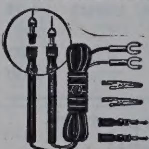
NEW ICA SLIM-LINE TEST LEADS



Long vinyl-insulated shaft permits probing in closely wired circuits without fear of shorting. Black and red Tenite handles. 48" wire lead. With molded phone tip plug.

No. 438........**List $1.50 Pr.**

ICA HEAVY DUTY LABORATORY TEST LEADS

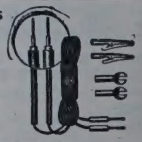


Long Slim Handles and Removable Phono Needle Chuck

Extra long slim red and black handles knurled at end for finger grip ease. Handles 6" long. 50" of heavy duty kinkless, flexible rubber wire.

No.	List
400—With knurled grip handle. Insulated solderless plug	$1.65
388—With alligator clip	1.50
391—With spade lugs	1.40
392—With non insulated phone tips	1.40

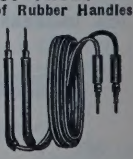
ICA Slim Handle Test Leads



Made of sturdy Tenite Handles. 50" of Kinkless Live Rubber wire. Handles 6" Long—Overall Length 7". Prods have pointed large phone tip plugs.

No.	List
313—Phone Tips on end	$1.25
314—Spade Lugs on end	1.25
315—Alligator Clips on end	1.40

ICA UNBREAKABLE TEST PRODS
Long Metal Prod with Shock-proof Rubber Handles

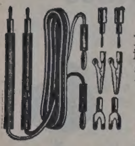


One end has standard needle point Tips. Other end has Insulated Solderless Plugs. Supplied with 50" Kinkless Rubber Wire.

No. 332—With Phone Tips Non Insulated. **List $1.00**
No. 331—Insulated Solderless Plug Ends.... **List $1.15**

ICA INSULINE ICA
RADIO PRODUCTS

ICA ALL PURPOSE TEST LEADS

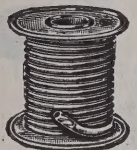


Made of sturdy Tenite Tubing. Slim handles, 6″ long. Overall length 7¼″. Rubber covered wire 50″ long.

With Interchangeable Tips

No.	List
312—Complete Kit	$2.50

NON-KINK FLEXIBLE TEST LEAD WIRE

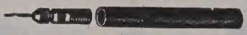


Flexible rubber covered wire that will not kink or wear down in service. Consists of very fine tinned stranded copper wire with a heavy wall of live rubber insulation.

No. 307—100 ft. spool, Black.........List $4.00
No. 309—100 ft. spool, Red..........List 4.00

ICA FENOLINE PHONO. NEEDLE POINT TEST PRODS

With Removable Chuck



5 Inch Test Prod

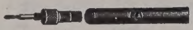
No. 389R—Red ....List $.40
No. 389B—Black ....List .40

7 Inch Test Prod

No. 334R—Red ....List .40
No. 334B—Black ....List .40

ICA SOLDERLESS PLUG TEST PRODS

With Solderless Plug Chuck



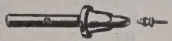
5¼ Inch Long Prods

No. 390R—Red ....List $.40
No. 390B—Black ....List .40

7¼ Inch Long Prods

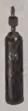
No. 335R—Red ....List .50
No. 335B—Black ....List .50

HIGH VOLTAGE ICA HEAVY-DUTY BAKELITE TEST PROD HANDLES



No. 480—Black Bakelite ....List $1.15

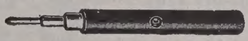
HIGH VOLTAGE HEAVY-DUTY BAKELITE TEST PRODS



Measures 2″ overall

No.	List
485—Black Bakelite	$.55

ICA HEAVY-DUTY TEST PRODS

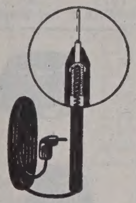


Slim tapped Tenite handle fitted with threaded heavy-duty phone tip. Length 5″.

No. 387R—Red ....List $.50
No. 387B—Black ....List .50

Latest Television Servicing Tools

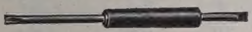
ICA SAFE-T-TESTER



A new, unique, non-shorting prod that makes contact only when pressure is applied to barrel. Ideal for cramped spaces where probing is necessary. Specially applicable to television needs.

No. 446..List $1.50

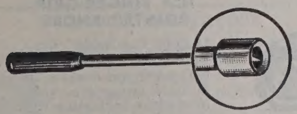
TRAN-ALIGNER



Newly designed all-insulated aligning tool for standard IF and RF and "K-Tran" midget transformers. Trim fiber; milled at one end, screw driver at other end. 2½″ length blade; 6″ overall.

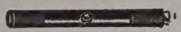
No. 978....................................List $.75 each

SLIM-ALIGNER



Alignment tool with extra thin recessed blade and slim metal shaft for cramped probing in television receivers. Fiber handle. Especially suitable for "Admiral" and similar make television sets.

No. 6161..................................List $1.00 each

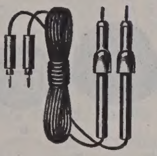


STUB ALIGNER

Ideal when cramped space demands short insulated tuning tool. Exposed nib for screw driver type controls not carrying high voltages. Tough fibre. Length: 2½″ x ¼″ diameter.

No. 6155...................................List $.40 each

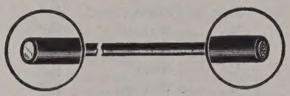
HEAVY DUTY TEST LEADS



Engineered for TV's high voltage measurements. Insulated to withstand 15,000 volts D.C. Thick-walled bakelite handles with finger guards. 48″ heavy duty cable.

No. 4317......................$3 per pair Dealer Net

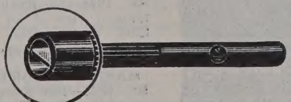
TUNING WAND



Extra thin diameter to fit small coil openings in television sets. Flexible vinylite. Brass insert in one end; molded powdered iron core in other end. Lowers or increases inductance. Suitable for "Zenith," etc., TV sets.

No. 6163.................................List $1.00 each

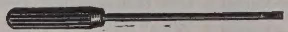
DEEP-NIB ALIGNER



Tough fibre. Metal nib entirely insulated and set within barrel end. For tuning IF and RF shielded coils and trimmers. Small enough to fit under television tubes without removing. Length: 2½″ x ¼″ diameter.

No. 6156...................................List $.50 each

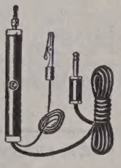
TELEVISION "CHANNEL TUNER"



A narrow all-insulated screw driver of machined fiber. Ideal for deep, inaccessible tuning. Overall: 7″ Length. ⅛″ blade on 4½″ shaft.

No. 6157...................................List $.75 each

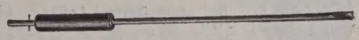
RF AND SIGNAL TRACER PROBE



Germanium Crystal Circuit. Assures accurate analysis of circuit defects. May be used with audio amplifier for audible tracing or with V.T.V.M. for RF and AF measurements. Low input capacitance. The ideal probe for the audio section of television circuits. The sturdy bakelite barrel has sealed tenite ends with solderless phone tip and includes 48″ RG59/U coaxial cable with phone plug and 18″ rubber covered ground lead with alligator clip.

No. 4310.............................$7.50 Dealer Net

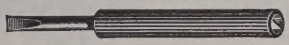
"BIG STRETCH" ALIGNER



Extra thin, extra long (9″), bone fibre aligning tool, 6½″ blade. Specially designed for adjustment of nested iron cores of "Admiral," "Zenith" and similar make TV sets. Permits use on RCA front ends and normally inaccessible areas.

No. 6162.................................List $1.00 each

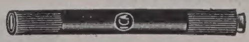
TUNING WRENCH



Insulated fibre tuning wrench with extra thin recessed blade. Extra thin screw driver blade on other end (4¾″ L.). Tenite handle. Especially designed for "Zenith" TV sets, etc.

No. 6164...................................List $.75 each

DUAL ALIGNER

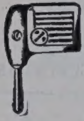


Dual purpose narrow shaft, fibre alignment tool for trimmers, IF transformers, etc. Recessed screw nib on one end; metal screw driver on other end.

No. 6166...................................List $.75 each

ICA INSULINE ICA RADIO PRODUCTS

ICA GRIP-RITE MOLDED PHONE TIP PLUG



Replacement for ICA and Weston — as well as other make Test Leads.

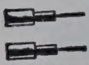
No.	List
868—Red	$.50
869—Black	.50

ICA PHONO NEEDLE CHUCKS

Push on type can be forced into handles — Threaded type can be screwed into handles. Machined of brass, nickel plated with needle point.

No.	List
508—Push-on Type, Overall size 1"	$.15
509—Threaded Type, Overall size 1"	.18

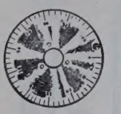
HEAVY-DUTY PHONE TIP



Made of high quality heavy brass with nickel plated finish. Used on test leads, prods, etc. (Overall length is 1½".)

No. 361—Heavy-Duty	List $ .13
No. 360—Standard	List 2.00C

ICA CHROME SILVER DIAL PLATES

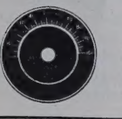


2¾" and 4" diameter. Two types, calibrated 180 degrees 0-100 and 325 degrees, 0-100.

No.	Degrees	Dia. Dial	Calib.	List
2196	325	2¾"	0-100	$1.15
2197	180	2¾"	0-100	1.15
2194	325	4"	0-100	1.40
2195	180	4"	0-100	1.40

ICA BRASS BLACK SATIN FINISH DIAL PLATES

With Etched Silver Numerals



No.	Degrees	Dia. Dial	Calib.	List
2230	325	3⅛"	0-100	$.60
2232	180	3½"	0-100	.60
2233	180	2"	100-0	.45
2234	325	2"	0-100	.45
2236	180	2"	0-100	.45

ICA CHROME SILVER DIALS

With Finger Grip Flange Knobs

Beautiful dial plates accurately Etcho-engraved with black numerals and calibrations.

No	Size	Degrees	Calibr.	List
2170	2¾"	325	0-100	$2.10
2171	2¾"	180	0-100	2.10
2168	4"	325	0-100	2.75
2169	4"	180	0-100	2.75

10
9
8
7
6
5
4
3
2
1
0

ICA MINIATURE DIALS

Beautiful Chrome Silver dials with black etched numerals. Finger grip black knob. Only 1⅝" diameter. Fit ¼" shafts.

No.	List
2164—10-0-180	$.85
2165—10-0-270	.85

ICA CHROME SILVER DIAL PLATES

Attractive grain satin finish. Black Etcho Engraving on Chrome Silver Background Plates.

No.	Degrees	Dia. Dial	Calib.	List
2294	180	2"	0-100	$ .80
2295	325	2"	0-100	.80
2296	180	3½"	0-100	1.25
2297	325	3½"	0-100	1.25
2298	180	4"	0-100	1.40
2299	325	4"	0-100	1.40

ICA ETCHED DIAL PLATES

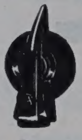
RECTANGULAR TYPES

0
1
2
3
4
5
6
7
8
9
10
·RECORD·

Made of brass—finished in black with etched silver markings. Calibrated for 300 degree rotation. Marked 0 to 10. Will fit on ⅜" bushing. Size 2¼" x 1-11/16".

No.	Marking	List
2244	Record	$.30
2745	Microphone	.30
2246	Gain	.30
2247	Tone	.30
2248	Plain (Calibrated but not worded)	.30

RADIO REPLACEMENT AND INSTRUMENT KNOBS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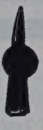
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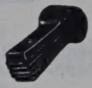
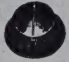

E

No.	Type	Color	Size	List
1125	A	Black	1¼"	$.15
1127	A	Red	1¼"	.20
1126	B	Black	2¼"	.20
1128	B	Red	2"	.24
1153	E	Black	1¾"	.30
1154	E	Walnut	1¾"	.30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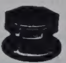
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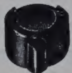
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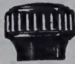
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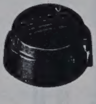
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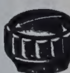
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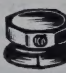
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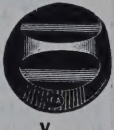

V

No.	Type	Color	Size	List
248	J	Black	1⅛"	$.20
249	J	Black	1½"	.22
1076	K	Walnut	¾"	.18
1049	L	Walnut	13/16"	.16
1050	L	Walnut	1"	.18
1174	M	Black	15/16"	.20
1089	N	Walnut	15/16"	.18
1090	N	Walnut	1⅛"	.20
1147	U	Black	⅞"	.18
1148	U	Walnut	⅞"	.18
1077	T	Walnut	¾"	.15
1078	T	Walnut	⅞"	.18
1272	V	Black	¾"	.20
1273	V	Walnut	¾"	.20

ICA KNOB ASSORTMENTS

ASSORTED
ICA
KNOBS

Walnut Bakelite

JUNIOR ASSORTMENT

No. 1048—50 Knobs. Contains 5 each of 10 popular type knobs listed above.

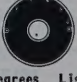
List $8.90

MASTER ASSORTMENT

No. 1043—100 Knobs. Contains 12 different type popular knobs including pointer knobs.

List $17.50

ICA INDICATING PLATES



Made of heavy brass with black satin background. Silvered "Etcho Gravured" numerals and lettering. 7/16" center mounting hole. 1 9/16" Diameter.

No.	Degrees	List
2259—Marked 1 to 6	180	$.35
2450—Marked 1 to 5 (Volume)	325	.35
2451—Marked 1 to 5 (Tone)	325	.35
2452—Marked 1 to 10	325	.35
2453—Marked Off-On—with arrow	325	.35

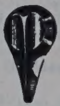
ICA NAME PLATES

I-INCH ROUND

MICROPHONE

No. 2237—For "Microphone"
No. 2238—For "Phono"
No. 2239—For "On Off"

List $.20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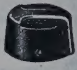
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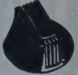
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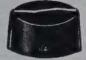
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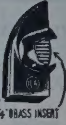
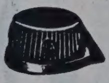


S

No.	Type	Color	Size	List
1270	F	Black	1⅝"	$.25
1271	F	Black	2½"	.30
1137	G	Walnut	⅝"x¾"	.18
1138	G	Walnut	¾"x½"	.16
1139	G	Walnut	1"x½"	.18
1087	H	Walnut	1"	.20
1088	H	Black	1"	.20
1133	I	Walnut	¾"x½"	.16
1134	I	Walnut	1"x⅝"	.18
1274	S	Black	1¼"x⅝"	.25
1274-S*	S	Black	1¼"x⅝"	.32
1275	S	Black	2"x⅝"	.28

*With 2 Set Screws.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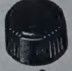
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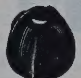
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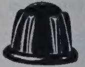
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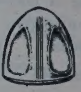

X

No.	Type	Color	Size	List
1081	P	Black	⅞"	$.12
1082	P	Red	⅞"	.12
1084	P	Brown	⅞"	.12
1085	P	White	⅞"	.13
1116	Q	Walnut	⅞"	.18
1117	Q	Walnut	1"	.20
1135	R	Walnut	¾"	.15
1136	R	Walnut	⅞"	.18
1310	W	Black	¾"	.12
1311	W	Walnut	¾"	.13
1312	W	Ivory	¾"	.14
1320	W	Black	15/16"	.14
1321	W	Walnut	15/16"	.15
1322	W	Ivory	15/16"	.16
1330	X	Black	¾"	.14
1331	X	Walnut	¾"	.15
1332	X	Ivory	¾"	.16

ICA FINGER-GRIP POINTER KNOBS

A

B

Moulded of black bakelite with ¼" hole. Pointer type knobs have white indicators, flange type knobs have white indicating line.

With ¼" Brass Inserts

TYPE A—WITH POINTER

No. 1166—1⅛"	List $.60
No. 1168—1⅝"	List .75
No. 1170—2⅜"	List .95

TYPE A—LESS POINTER

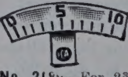
No. 1165—1⅛"	List $.45
No. 1167—1⅝"	List .55
No. 1169—2⅜"	List .75

TYPE B—WITH FLANGE

No. 1171—2 1/16"	List $.75
No. 1172—3"	List .90

NOTE: Above Knobs also furnished with 2 set screws. Order by adding "S" to each number.

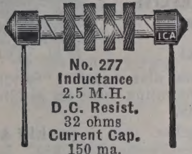
ICA VERNIER DIAL MARKER



Complete with self-tapping screws for mounting on metal, wood, bakelite or brass panels.

No. 2189—For 2¾"—325° Dials	List $.50
No. 2190—For 2¾"—180° Dials	List .50
No. 2191—For 4" —325° Dials	List .50
No. 2192—For 4" —180° Dials	List .50

ICA INSULINE ICA
RADIO PRODUCTS



No. 277
Inductance
2.5 M.H.
D.C. Resist.
32 ohms
Current Cap.
150 ma.
List $.50

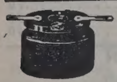
ICA "Insulex" R.F. CHOKE COIL

Silk Wire Wound

Supplied with wire leads for mounting.

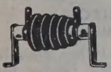
ICA "INSULEX" R.F. CHOKES

Cat. No.	Inductance	D.C. Resis.	Current Cap.	List
1777	2.5	30	150	$ .60
1775	5.5	57	150	.75
1774	10	73	150	.80
1772	30	136	125	.90
1773	60	196	125	1.15
1771	80	222	125	1.25



IRON CORE HIGH "Q" R.F. CHOKES

No.	Ind. M.H.	D.C. Res. ohms	List
6200	2.5	17	$1.20
6201	3.5	22	1.30
6202	5.5	28	1.35
6203	10	55	1.35
6204	30	83	1.60
6205	60	142	1.95
6206	80	168	2.10
6207	125	214	2.60



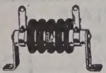
ICA TRANSMITTING R.F. CHOKES

Tapered Sections

Wound on Insulex low-loss core. Has a continuous universal winding in five tapered sections. Designed for maximum impedance in amateur bands from 160 meters downward.

No.	Ind. M.H.	Cur. Ma.	Res. Ohms	List
266	2.8	1000	5	$2.75
267	5.3	600	12.5	2.50

HEAVY DUTY TRANSMITTING CHOKES



No.	Ind. M.H.	Cur. Cap. Ma.	D.C. Res. Ohms	List
280	2.5	1000	5	$2.50
278	5.6	600	12	2.25

INSULEX INSULATORS

Made of WHITE Glazed Insulex. This new line of insulators meets the demand for a perfect, non-porous low loss product. Used by broadcasters, amateurs, experimenters and set-builders. All feed-thru have cork washers.

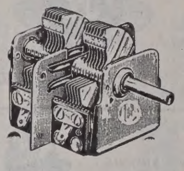
STAND OFF INSULATORS

No.	Description	Height	Base Size	List
2300	Little Pete	1″	½″ x ⅞″	$.12
2301	Junior Pete	1⅜″	¾″ x 1¼″	.15
2302	Big Pete	1⅞″	1″ x 1½″	.18
2303	Beehive	2⅜″	2″ Diam.	.25
2304	Jack Type	1½″	1″ x 1½″	.25

FEED-THRU INSULATORS

No.	Description	Ht.	Base Diam.	Mtg. Hole	List
2305	Sub-Panel	1¾″	⅝″	5/16″	$.20
2306	Sub-Panel	2″	¾″	⅜″	.25
2307	Sub-Panel	2¾″	⅞″	7/16″	.28
2334	Large Sub-Panel	4″	1½″	⅝″	.70
2320	Jack Type	1 3/16″	¾″	7/16″	.35
2321	Jack Type	2 3/16″	⅞″	7/16″	.40

ICA MIDGET PRECISION CONDENSERS



Better mechanical design insures constancy of calibration and uniformity between units. Ball-bearings on both ends of shaft insure long life without wear or side play. Heavy brass springs make direct contact with rotor shaft, insuring a clean wiping contact at all times.

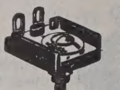
No.		List
Single Gang Condenser		
533	135 mmfd.	$3.00
542	365 mmfd.	3.00
Two Gang Condenser		
538	135 mmfd.	3.50
534	365 mmfd.	3.50
Three Gang Condenser		
532	135 mmfd.	4.50
531	365 mmfd.	4.50

SUPERHETERODYNE TYPE

Designed for 455KC IF. RF section is 27 plates; 435 Mmfd. Oscillator Section is 19 plates; 173 Mmfd. Measurements similar to two gang condensers shown above.

No. 545 .... **List $3.50**

ICA CERAMIC PADDING CONDENSERS



Compact, yet rugged Padding Condensers. Designed for aligning tandem condensers, short wave band switch coils, antenna trimmers, etc. Uses high grade Mica and Phosphor Bronze Spring contacts.

No.	Min. Cap.	Max. Cap.	List
611	4.0 mmfd.	40 mmfd.	$.50
612	12.0 mmfd.	100 mmfd.	.50
613	70.0 mmfd.	350 mmfd.	.55
614	160.0 mmfd.	500 mmfd.	.55

GIANT INSULEX INSULATORS

Heavy Huty—Will Withstand 10,000 Volts

No.	Description	Ht.	Base Diam.	Mtg. Hole	List
*2330	Stand Off	4½″	3½″	¼″	$.95
**2331	Stand Off	4½″	3½″	¼″	.90
*2332	Feed thru	4″	2″	⅞″	.95
**2333	Feed thru	4″	2″	⅞″	.90

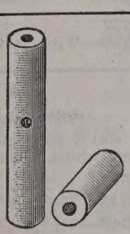
*With Wing Nuts **With Screws and Nuts

ICA AIRCRAFT TYPE INSULATOR

A strain insulator made of Insulex. Particularly adaptable for aircraft, automobile and boat installation. Two ¼″ mounting holes. Distance between holes ¾″.

No. 2325 .... **List $.12**

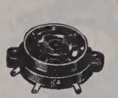
CERAMIC RODS



Made of Alsimag. Suitable for mounting insulators, condensers, coils, etc.

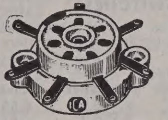
Available in two lengths.

No.	Lgth.	Dia.	Tap.	List
2310	1¼″	½″	6-32	$.28
2311	3¼″	½″	6-32	.40



ICA BASE-MOUNTING BAKELITE SOCKETS

No.		List
2480	4 Prong	$.45
2481	5 Prong	.50
2482	6 Prong	.55
2483	7 Prong comb. large and small	.60
2489	8 Prong OCTAL	.65
2490	Contact for above Sockets	$2.50C

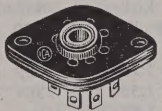


ICA "INSULEX" BASE MOUNTING SOCKETS

Especially adapted for ultra short-wave work and transmitters.

No.		List
290	4 Prong	$ .90
291	5 Prong	.90
292	6 Prong	1.00
294	Comb. 7 Prong, large and small	1.00
300	8 Prong OCTAL	1.00

BAKELITE WAFER SOCKETS



Wafer socket of punched bakelite for miniature seven pin button base tubes. Phosphor bronze contacts. Standard mounting centers.

No. 1122 .... **List $.15**

BAKELITE WAFER SOCKET

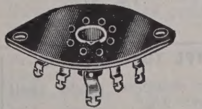
Similar to No. 1122 above but with grounding strap.

No. 1124 .... **List $.17**

ICA "INSULEX" WAFER SOCKETS

An ideal low loss socket designed for ultra high frequency reception.

No.		List
2600	4 Prong	$.50
2601	5 Prong	.50
2602	6 Prong	.55
2603	7 Prong, large	.60
2604	7 Prong, small	.60
2605	8 Prong OCTAL for new metal tubes	.65
2636	Contact for above Sockets	$5.00C



ICA BAKELITE WAFER SOCKETS

No.		List
1118	4 Prong	$.13
1096	5 Prong	.13
1095	6 Prong	.13
1119	7 Prong, small	.15
1120	7 Prong, large	.15
1121	8 Prong OCTAL	.16
1123	Loktal Wafer	.16

CERAMIC BEAD INSULATORS

⅜″ Diam.

Used for construction of short concentric link lines.

No. 2315—(100 beads) .... **List $1.25**

ICA INSULINE ICA
RADIO PRODUCTS

ACORN TUBE WAFER SOCKET

Of Navy approved ceramic with silver plated contacts. Can be easily inserted and removed and no amount of vibration will cause the tube to become loose.

No. 961..**List $1.00**
No. 2466—Contact only **$2.50C**

ICA ROTARY SWITCHES

Rated 3 Amps. at 125 Volts. Overall Length of shafts 1½". Made by H & H for ICA. Underwriters Approved.

No.	Threaded Shank	Description	List
1228*	⅜"	S.P.S.T.	$.55
1229*	1"	S.P.S.T.	.65
1286	⅜"	S.P.D.T.	.75
1287	1"	S.P.D.T.	.90
1288	⅜"	D.P.D.T.	1.30
1289	1"	D.P.D.T.	1.45

*Rated 30 Amps. at 250 V.

MOLDED BAKELITE SOCKET
For Miniature Tubes

Black molded general purpose bakelite with mounting saddle.

Standard mounting centers. Phosphor bronze contacts.

No. 2475..**List $.20**
Same as above but mica filled.

ICA TOGGLE SWITCHES

Furnished in Nickel or Antique Bronze. Capacity 1 Amp. 250 Volts. 3 Amps. 125 Volts. Mfd. by H & H for ICA.

No.	Shank Length	Description	Finish	Net
1230	⅜"	S.P.S.T.	Nickel	$.50
1232	⅜"	S.P.S.T.	Bronze	.55
1233	¾"	S.P.S.T.	Bronze	.60
1235	¾"	S.P.S.T.	Nickel	.55
1236	⅜"	S.P.D.T.	Nickel	.65
1237	¾"	S.P.D.T.	Nickel	.75
1238	⅜"	D.P.S.T.	Nickel	.95
1365	⅜"	D.P.D.T.	Nickel	1.10
1366	¾"	D.P.D.T.	Nickel	1.15

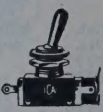
ICA MOLDED BAKELITE SNAP-ON SOCKETS

Octal—Loktal

Mounted in cadmium plated steel "Saddle." Equipped with 4 grounding lugs on saddle—Positive grip contacts.

No. 2470—Octal Socket ....**List $.15**
Mtg Center 1½"—Chassis Hole 1⅛"
No. 2471—Loktal Socket ....**List $.20**
Mtg Center 1$\frac{5}{16}$"—Chassis Hole 1"

BAT-HANDLE TOGGLE SWITCH

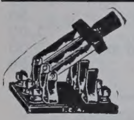


Made by H & H. Identical to toggle switches listed above, except that handle is longer and shaped like a baseball bat.

Less on and off plate.
Nickel plated only—7/16" shank.
Packed 5 in a standard carton.

No.	Description	List
1296	S.P.S.T.	$.50
1297	S.P.D.T.	.70
1298	D.P.S.T.	.95
1299	D.P.D.T.	1.10

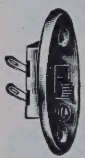
ICA BAKELITE KNIFE SWITCHES



Hardware of brass, heavily nickel-plated. Mounted on highly polished bases of black BAKELITE. Firm contact assured.

No.	Description	List	No.	Description	List
1216	S.P.S.T.	$ .85	1220	3 P.D.T.	$2.00
1217	S.P.D.T.	1.00	1221	4 P.S.T.	2.50
1218	D.P.S.T.	1.15	1222	4 P.D.T.	3.00
1219	D.P.D.T.	1.35	1364	5 P.D.T.	3.50
1360	3 P.S.T.	1.85			

ICA SLIDER SWITCHES

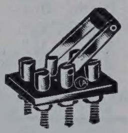


SMALL . . . COMPACT. Switch dimensions: 1½" x ½" x ¼". S.P.S.T. includes chrome mounting plate.

No.	Description	List
1255	S.P.S.T.	$ .35
1259	S.P.D.T.	.40
1260	D.P.D.T.	.50
1264	D.P.S.T.	.45

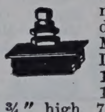
MINIATURE BAKELITE SWITCHES

Can be mounted on panel or base. Black Bakelite base—highly nickel-plated brass parts with insulated handles.



No.	Description	Base Size	List
2223	S.P.S.T.	1¼"x½"	$.35
2224	S.P.D.T.	1¼"x½"	.60
2225	D.P.D.T.	1¼"x1"	.75
2226	D.P.S.T.	1¼"x1"	.70

ICA HI-POWER SWITCH
Push Button Type



Designed to break primary circuit when rack door is open. D.P.S.T. Made by H & H for ICA. Capacity 12 Amp. 125 Volt. Overall size 1¾" long, ¾" wide, ¾" high, 7/16" shank.

No. 1280........................**List $2.25**

ICA PUSH BUTTON SWITCH

Single pole 2 circuit momentary switch. One circuit is "ON"; other normally "OFF." One Amp., 125 Volt, made by H & H for ICA. Shank ⅝" long.

No. 1282..........................**List $.95**

ICA EXTRA HEAVY DUTY SWITCH
D.P.D.T. With Neutral Center

An extra large heavy duty, Double Pole, Double Throw Switch with neutral position in the center for use in heavy current circuits such as transmitters, power amplifiers, motors, etc. Contacts have fast "break" which reduces the tendency to arc. Rated at 10 Amps., 125 Volts. Size of switch case, 2⅛" long, 1" high, 1¼" wide. Mounting sleeve diameter ¾".

No. 1283..**List $5.50**

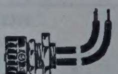
"ON-OFF" PLATE
For Toggle Switch

Nickel Plated
No. 1300 **List $.04**
Antique Bronze
No. 1300BR **List $.05**

ICA POWER SWITCH
(Toggle Type)

Characteristics and dimensions same as No. 1280 described above.
No. 1281
List $1.50

ICA ROTARY CANOPY SWITCH



Single pole switch ¼" shank with brown bakelite knob and 6" leads—1 ampere—250 volts.

No. 1257..**List $.50**

GT AND GT/G TYPE TUBE SHIELDS

Latest type seamless, drawn shell type. Length 2¼".

No.	For Tube Diam.	List
1744—Open top*	1.218"	$.15
1745—Closed top*	1.218"	.15
1746—Open top**	1.165"	.15
1747—Closed top**†	1.165"	.15

*For GT and GT/G tubes with large metal base.
**For GT tubes with small metal base.
†For Loktal tubes.

ICA 807 TUBE SHIELD

For use with Transmitter Pentodes, and Tetrodes, to prevent oscillation. Can also be used on RK 20, RK 39 and 804 tubes.

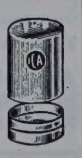
No.	List
1545	$.60

ICA GRID CAP SHIELDS
(For Metal Tubes)

Fits firmly over grid cap, affording complete shielding. Slotted cap permits passage of grid wire.

No.	List
1552	$0.10
1558—With Bakelite Insert	.20

ICA COIL SHIELDS
With Detachable Base



A sturdy coil shield made of aluminum with a detachable base.

No.	List
1539—2⅛" x 3" High	$.60
1540—2½" x 3½" High	.70
1549—3" x 3½" High	.75

FORM FIT TUBE SHIELDS

A tube shield that assures a snug, positive fit. Vertical grooves provide flexibility. Includes ground clip as illustrated. Protects tubes against excessive vibration.

No. 1727B—For GT; GT/G and Loktal tubes. Length 2½" ....**List $.15**

No. 1729B—For GT and GT/G tubes. Length 2¾" ....**List $.15**

ICA ALUMINUM TUBE SHIELD

For 55, 57, 68, etc. type tubes

No.	List
1708—1$\frac{11}{16}$" mounting centers	$.40
1709—1½" mounting centers	.40

ICA INSULINE ICA
RADIO PRODUCTS

ICA SHAFT COUPLINGS AND EXTENSION RODS

Brass Couplings and Reducers

No.	Length	Hole	O.D.	List
2105	¾"	¼" coupler	½"	$.20
2106	¾"	⅜" coupler	9/16"	.20
2107	¾"	⅜" to ¼" coupler	9/16"	.20
2111	1⅛"	¼" to ¼" shaft	½"	.20
2112	1⅛"	¼" to ⅜" shaft	9/16"	.20
2113	1⅛"	⅜" to ¼" shaft	½"	.20

ICA Fenoline Couplings and Reducers

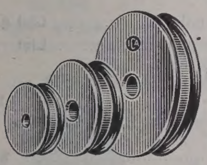
No.	Length	Hole	O.D.	List
2116	¾"	¼" coupler	½"	$.20
2109	¾"	⅜" to ¼" coupler	9/16"	.20
2110	1⅛"	¼" to ¼" shaft	½"	.20

Long Extension Couplings

Made of Brass with extra long extension

No.	Length	I.D.	O.D.	List
2123	1¾"	¼"	½"	$.25

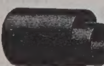
ALUMINUM IDLER PULLEYS



Precision made. Distortion free non-warping. Permits closer tolerances. Supplied in any quantity in any type — with or without shoulders. Listed are typical sizes without shoulders, hole diam. .128".

No.	O.D.	Cord Diam.	List
601	⅜	¼	$2.00C
602	7/16	5/16	2.20C
603	½	⅜	2.30C
604	⅝	½	2.50C
605	¾	⅝	3.00C

BAKELITE AND FENOLINE TUBING



ICA tubing is strong mechanically, has extremely low electrical absorption and is highly resistant to moisture. Absolute perfection in winding of coils is assured by the use of ICA tubing—thus affording relief from complaints or failure in performance.

Finished in Natural and Black Colors
Small sizes up to one inch in Black only.
1/16" Wall Thickness, Full Lengths.
Approximately 36 to 48"

BAKELITE			FENOLINE		
No.	O.D.	Per Ft.	No.	O.D.	Per Ft.
100	¼"	$.95	161	¼"	$.85
101	⅜"	1.15	162	⅜"	.90
102	7/16"	1.20	163	7/16"	1.00
103	½"	1.30	164	½"	1.05
104	⅝"	1.40	165	⅝"	1.10
105	¾"	1.55	166	¾"	1.15
106	⅞"	1.65	167	⅞"	1.25
147	1"	1.75	134	1"	1.15
148	1¼"	1.95	135	1¼"	1.35
149	1½"	2.05	136	1½"	1.40
150	1¾"	2.25	137	1¾"	1.55
151	2"	2.50	138	2"	1.70
152	2¼"	2.70	139	2¼"	1.85
153	2½"	3.15	140	2½"	2.05
154	2¾"	3.50	141	2¾"	2.45
155	3"	4.00	142	3"	2.65
156	3¼"	4.20	143	3¼"	2.85
157	3½"	4.50	144	3½"	3.35
158	3¾"	4.50			
159	4"	5.50			

ICA LARGE LOW-LOSS RIBBED COIL FORMS

AMBER BAKELITE
1⅝" Diameter
3⅝" High

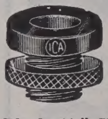
No.	List
1051—4 Prong	$.60
1052—5 Prong	.60
1053—6 Prong	.65

ICA SMALL RIBBED COIL FORMS

Made of Amber Color Bakelite
1⅜" diam., 2¼" high

No.	List
2158—4 Prong	$.45
2159—5 Prong	.50
2160—6 Prong	.50

ICA INSULATED BUSHINGS



No. 670—Black ⅛" Hole ⅜" Diam. ⅜" Long....List $.15
No. 671—Red ⅛" Hole ⅜" Diam. ⅜" Long....List .15
No. 672—Black ¼" Hole ½" Diam. 7/16" Long....List .20
No. 673—Red ¼" Hole ½" Diam. 7/16" Long....List .20

ICA BRASS EXTENSION RODS

No. 2117 6" Length ¼" O.D. List $.20
No. 2118 12" L. ¼" O.D. List .40

FENOLINE EXTENSION RODS

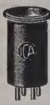
No. 2120 6" Length ¼" O.D. List $.30

ICA TRANSMITTING COIL FORMS

Made of Low - Loss RX-47 Dielectric. Rugged and durable. Amber color. Size of body affords 3¼" of winding space.

No. 2670—4 Prong......List $1.00
No. 2671—5 Prong......List 1.05
No. 2672—6 Prong......List 1.10

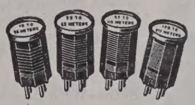
ICA SMALL BAKELITE COIL FORMS



1¼" diam., 2¼" high

No.	List
1108B—4 Prong	$.45
1113B—5 Prong	.45
1114B—6 Prong	.45

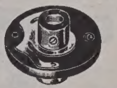
ICA SHORT WAVE AND BROADCAST PLUG-IN COILS



Wound on Low-Loss Bakelite Forms

No.	4 PRONG—2 WINDINGS	List
1471	Set of 4 short wave coils —covering 9½ to 174 Meters	$3.15
1473	Set of 2 Broadcast coils covering 160 to 550 Meters	2.50

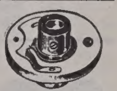
ICA BAKELITE FLEXIBLE SHAFT COUPLING



Flexible phosphor bronze spring contact mounted on a round bakelite disc. 1⅛" diam. Has ¼" bushnig.

No. 2142....................List $.65

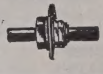
ICA INSULEX FLEXIBLE SHAFT COUPLING



Flexible phosphor bronze spring contact. Mounted on Insulex disc for efficient low-loss coupling. 1⅛" diam. ¼" bushing.

No. 2143....................List $.75

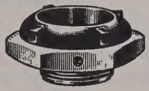
ICA PANEL BEARING ASSEMBLY



Will fit on panels up to 5/16" thickness.

No. 1248—Overall length 3"..........List $.40
No. 1249—Overall length 6"..........List .50
No. 1250—Bearings only..........List .18

BAKELITE BUSHINGS



Molded Bakelite Bushings for complete insulation. Strong seamless threads. Heat resisting to 300 F. Complete with stamped lock nuts.

No.	Hole Size	List
606	17/64	$.10
607	5/16	.12
608	13/32	.13
609	9/16	.14
610 (2 holes)	7/32	.15

STOCK SIZES OF BLACK AND BROWN FENOLINE TUBING

Individual lengths tubing in following diam.: 1"; 1¼"; 1½"; 1¾"; 2"; 2¼"; 2¾"; 3"; Wall thickness 1/16".

No.		List
2131	3" long—1" O.D. to 3" O.D.	$.65
2132	4" long—1" O.D. to 3" O.D.	.80
2133	6" long—1" O.D. to 3" O.D.	1.15

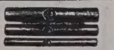
When ordering, specify exact diameter.

SPECIAL LENGTH BAKELITE TUBING

Cut to Order — Wall Thickness to 1/16"

Outside diameters range from 1" to 4". Prices on request. Other diameters and thicknesses quoted on request.

ICA "INSULOID" RODS



No.	Color	Size	List
2175	Black	12" x ¼"	$.45
2176	Black	24" x ¼"	.80
2179	Black	12" x ⅜"	.60
2180	Black	24" x ⅜"	1.20
2183	Black	12" x ½"	.80
2184	Black	24" x ½"	1.60

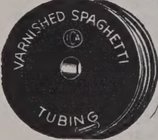
BAKELITE RODS / FENOLINE RODS

Lengths of 18" to 24"

BAKELITE RODS			FENOLINE RODS		
No.	Diam.	List	No.	Diam.	List
175	¼"	$1.30 ft.	168	¼"	$ .80 ft.
178	5/16"	1.50 ft.	169	⅜"	1.10 ft.
176	⅜"	1.80 ft.	170	½"	1.40 ft.
177	½"	2.50 ft.			

ICA FLEXIBLE SPAGHETTI TUBING

20 Foot Lengths



A flexible tubing, heavily varnished, in attractive colors. Average dielectric strength, 5000 volts. Will accommodate from No. 10 to No. 18 wires

Furnished in one length—20 feet long on handy spools.

No.	Color		List
210	Red	Per Spool	$1.25
211	Yellow	Per Spool	1.25
212	Brown	Per Spool	1.25
213	Green	Per Spool	1.25
214	Black	Per Spool	1.25

500 Foot Spools, spaghetti tubing, same grade and colors as above. Specify color per spool.

No. 197....................List $28.50

ICA SPAGHETTI TUBING

For No. 10 to No. 18 gauge wire. Guaranteed not to crack. Furnished in 30" lengths.

No.	Color	List per length
182	Red	$.15
183	Yellow	.15
184	Brown	.15
185	Green	.15
186	Black	.15

SMALL SIZE SPAGHETTI TUBING

No.	Color	List
200	Red	$.15
201	Yellow	.15
202	Black	.15

LARGE SIZE SPAGHETTI TUBING

Supplied in 36" lengths. Diameter 9/64" I.D. x 3/16" O.D.

No. 196—Supplied in black only
List—per length $.50

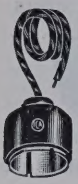
ICA GIANT SLEEVING

Made of high voltage insulation saturated cambric material. Inside diameter ⅜". For Insulating Resistors, Small Condensers, Wire Cables, Leads, etc. 36" lengths.

No. 198....................List $.50

INSULINE
RADIO PRODUCTS

RUBBER INSULATED GRID CAPS
For Transmitting Tubes

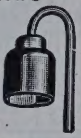


New improved type. Insulation made of special soft rubber over spring bronze.

For 866 Type Tubes

No.	List
870—With Leads	$.30
For Receiving Tubes	
872—With 12″ Lead	.20
For New Metal Tubes	
874—With 12″ Lead	.20

FENOLINE INSULATED GRID CAPS



Improved type for standard and transmitting tubes. Sturdy cadmium plated brass clip. Furnished with 12″ wire.

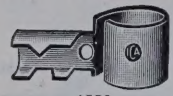
For 866 Transmitting Tubes

No. 683—Black ....List $.50

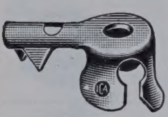
For Standard Glass Receiving Tubes with small caps

No. 680—Red ....List $.25
No. 681—Black ....List .25

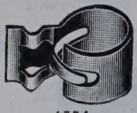
SPRING ACTION GRID CAPS



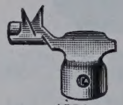
1553



1550



1554



1551

For all types of tubes. Positive contact. All grid caps are hot tinned ready for soldering.

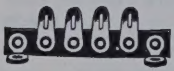
No.	List
1550—For standard glass receiving tubes with small caps (.360 dia.)	$12.50M
1551—For tubes with miniature caps (.250 dia.)	12.50M
1553—For glass tubes	1.50C
1554—For glass tubes	1.50C

ICA TERMINAL STRIPS

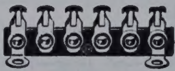
Made of 3/32″ heavy black Bakelite, engraved in white. Terminals are brass cadmium plated.

No.	Terminals	Marking	Mtg. Ctrs.	Size	List
2420	2	Plain	1½	⅞ x 2¼	$.18
2419	2	A & G	1½		.18
2418	2	Output	1½		.18
2417	2	Input	1½		.18
2414	3	Plain	2	⅞ x 2¾	.27
2415	3	1, 2, 3	2		.30
2413	4	Plain	2½	⅞ x 3⅜	.36
2408	4	1, 2, 3, 4	2½		.40
2405	5	Plain	3	⅞ x 4	.45
2406	5	1, 2, 3, 4, 5	3		.50
2404	6	Plain	3½	⅞ x 4⅝	.54
2402	6	1, 2, 3, 4, 5, 6	3½		.60
2412	7	Plain	4	⅞ x 5¼	.63
2411	7	1, 2, 3, 4, 5, 6, 7	4		.70
2410	8	Plain	4½	⅞ x 5¾	.72
2409	8	1, 2, 3, 4, 5, 6, 7, 8	4½		.80
2424	9	Plain	5	⅞ x 6⅜	.81
2423	9	1, 2, 3, 4, 5, 6, 7, 8, 9	5		.90
2422	10	Plain	5½	⅞ x 7	.90
2421	10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	5½		1.00

BAKELITE TERMINAL MOUNTING STRIPS



Type A



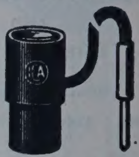
Type B

Mounting tie strips for fastening Resistors, Condensers, etc. Mounting Lug hole diameter .140″. Type A shows non-ground mounting lug. Type B shows combination grounding-mounting lug:

No.	Type	Terminals	Mtg. Centers	Mounting Lugs	List
2434	A	1	One Hole	1	$3.00C
2455	B	1		1	3.00C
2435	A	2		1	4.00C
2456	B	2		1	4.00C
2436	A	3	1½	2	7.00C
2457	B	3	1½	2	7.00C
2437	A	4	1⅞	2	8.50C
2458	B	4	1⅞	2	8.50C
2438	A	5	2¼	2	10.00C
2459	B	5	2¼	2	10.00C
2439	A	6	1⅞	2	12.00C
2460	B	6	1½	2	12.00C
2440	A	7	1½	2	13.50C
2461	B	7	1½	2	13.50C
2441	A	8	1⅞	2	15.00C
2462	B	8	1⅞	2	15.00C

No. 2425—Terminal Lugs only (less screws)..............List $6.00C
No. 2426—Terminal Screws, ⅜″ long..............List 1.50C

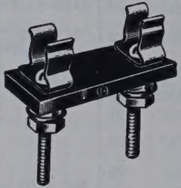
INSULATED DUAL GRID CAPS

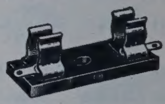


Designed for metal and glass tubes. Equipped with 12″ insulated lead.

No. 877—Black..List $.40

FUSE MOUNTINGS
Flush Type Mounting





Bakelite base. For standard radio or automotive fuses. Countersunk center hole for mounting. Equipped with two soldering lugs.

No. 2340—Single pole ....List $.20
No. 7201—Double pole ....List .35

Panel Type

Takes standard type radio—automotive fuse. Equipped with 6/32 screws for mounting on panels.

No. 2341—Single pole ....List $.25
No. 7203—Double pole ....List .40

For AG 1″ Long Type Fuse

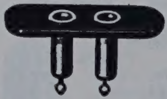
No.	List
7202—For smaller type fuse. Bakelite base. 1 3/16″ x ½″ x ⅛″ Flush Mount	$.20
7204—Double pole. 1 3/16″ x 1″ x ⅛″ Flush Mount	.35
7205—Same as 7202. Panel Mount	.25
7206—Same as 7204. Panel Mount	.25

BAKELITE TERMINAL STRIPS

Brown bakelite 1/16″ thick. Suitable light duty radio work, experimental purposes, etc.

No.	Terminals	Mtg. Ctrs.	List
2520	2	1 5/16	$.10
2521	3	1¾	.14
2522	4	2 3/16	.18
2523	5	2⅝	.22
2524	6	3 1/16	.26
2528	Terminal Lug & Screw only		3.50 C

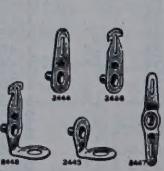
TWIN JACK STRIP



With two terminals. Takes standard phone tips. Base width 11/16″. 1 11/16″ between Mounting holes.

No. 2443..............List $.20

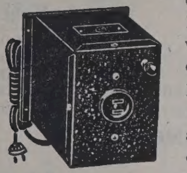
TERMINAL LUGS



No.	List
2444	$.65C
2445 # 6 Hole	1.25C
2446	.75C
2447	1.25C
2463	1.85C
2448 # 6 Hole—Combination	1.25C
2638 # 8 Hole—Combination	1.25C

ICA INSULINE ICA
RADIO PRODUCTS

FILTERVOLT NOISE FILTER



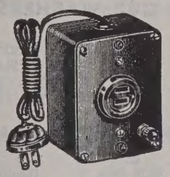
An efficient filter for disturbances caused by electrical appliances. For use with any all-wave or broadcast receiver.

Rated conservatively at 250 watts for 32, 110 and 220 volt AC or DC circuits. Can be installed either at the radio or at the source of disturbance.

Contains heavy duty R.F. chokes, large filter capacitor, and has a "PI" Filter circuit arrangement.

No. 338..List $7.50

ICA FILTERVOLT



Improves extremely noisy radio reception due to interruptions in power line caused by electrical appliances, lights, etc.

No. 394
List $4.50

DUPLEX FILTERVOLT

Eliminates Radio Noises Caused By—

- Electric Shavers
- Refrigerators
- Fans
- Elevators
- Motors, etc.

Unit is equipped with Dual outlet, both sides being filtered for noise elimination.

Packed 25 to a standard carton.

No. 90..List $1.50

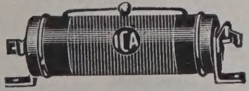
UNIVERSAL VOLTAGE REGULATOR

REGULATOR
ICA
UNIVERSAL VOLTAGE

Voltage fluctuation often occurs not gradually but suddenly, thus bringing a tremendous strain on the tubes. This regulator protects tubes through scientific regulation of current fluctuations. Housing body and end rings are neatly constructed and of perforated japanned metal. For all Radio Sets, AC, DC.

No. 92..List $1.50

ICA 3-IN-1 RADIO TUNER

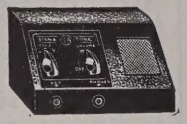


Functions as either an Antenna Tuner, Wave Trap, or Aerial Eliminator. Operates on any make or model radio set.

As an Antenna Tuner, it will improve the reception of a weak station. As a Wave Trap, it will separate interfering stations and improve selectivity. As an Aerial Eliminator, it makes unnecessary the outdoor aerial. Easily installed within a few minutes.

No. 93—Complete with instructions List $1.00

ICA DELUXE SIGNA-TONE
AUDIO OSCILLATOR — CODE PRACTICE SET — KEYING MONITOR



No. 4300

No. 4301

The ICA Signatone is a perfected Audio Oscillator, having 3 different output frequencies and a continuously variable volume control. The Audio notes are similar to those of high quality commercial CW stations.

1. CODE PRACTICE SET—A number of phones and keys may be connected for intercommunication or for classroom or radio club instruction in code.
2. KEYING MONITOR—An invaluable aid in improving any ham's "fist". Will follow the "bug" at all speeds. No well-equipped station should be without this keying monitor.
3. MODULATION SIGNAL—The steady note of the Signatone is ideal for adjusting both the Modulator and modulated stages of your transmitter for a maximum modulation percentage of not over 100.
4. SIGNAL TRACER—By feeding the output of the Signatone into each stage of your modulator and listening to the output of that stage, defects and "bugs" can easily be located. Complete with tube and self-contained speaker, for 110 V AC-DC.

No. 4300—*Dealer Net Cost $12.00
No. 4301—Classroom Model (No Speaker)—Dealer Net Cost 9.00

ICA EAR PHONES

Complete With Head Bands

Made of molded Bakelite and light-weight nickel-plated metal. 2000 ohms.

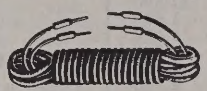
No. 23—Double Head Phone...........List $4.50

EAR CUSHIONS

Made of soft rubber. Ideal for the amateur wireless operator, etc. Used by all leading air lines.

No. 195....................................List $1.10 pr.

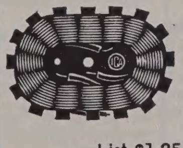
DOUBLE PHONE CORDS



No.	List
192—Tips on both ends	$.85
193—Spades on one end, tips on other	.85

ICA TENNA-SCOPE LOOP

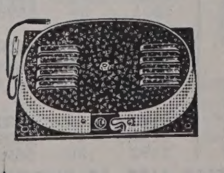
For Midgets or Portables



Eliminates necessity of outdoor or indoor antenna. Replaces the antenna coil in portable or midget sets. Easily assembled.

No. 4385..List $1.25

ICA TENNA-SCOPE



A new style built-in tuned radio antenna. Easily connected. Eliminates use of outside aerial and ground. Features: Better selectivity — Higher signal to noise ratio —Easily connected, no soldering.

No. 4380..List $3.00

ICA MORSE CODE RECORDS

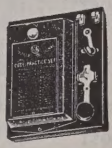
INTERNATIONAL MORSE CODE
MORSE CODE

Learn the International Morse Code Quickly, Easily — Uses EYE - EAR Method. The Complete Linguaphone Code Equipment consists of 5 Double - faced, electrically transcribed records in durable album. Contents: 3 Tables, 10 Lessons.

No. 1800—Complete..........Dealer Net $10.00
No. 1800R—Records only..Dealer Net Ea. 1.95
No. 1800B—Booklet only..Dealer Net Ea. .90

ICA "TRIPLEX"

Radio & Telegraph Code
Practice Set
Blinker Light
Radio Signal—Telegraph



No.	List
70—Single Unit (less batteries)	$3.25
71—Double Unit (50 ft. wire)	6.85

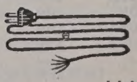
ICA RECORD-PLAYER SWITCH

Replacement for RCA Switch 9824A

Recommended for quickly connecting Record Players, F.M. attachments, Television attachments, Microphones and similar devices into the audio amplifier of existing radio receivers.

No. 1740..List $2.25

RESISTOR CORDS



A series of replacement resistor cords for practically all AC-DC requirements.

No.	Resistance-Ohms	List
513	135	$1.15
514	160	1.15
515	190	1.15
516	220	1.15
517	290	1.15
518	340	1.15
519	540	1.25

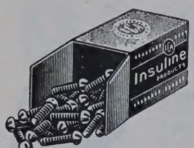
UNIVERSAL RESISTOR CORD

Replacement Resistor Cord for all makes receivers. From 22 to 330 ohms on one cord. Instructions with each cord.

No. 205..List $1.70

ICA INSULINE ICA
RADIO PRODUCTS

RADIO HARDWARE



ICA offers a wide variety of radio hardware items suitable for practically any use in the radio-electronic and allied fields. ICA hardware is offered in standard package quantities or in handsome glass display jars for convenient storing.

ROUND HEAD MACHINE SCREWS NICKEL-PLATED

Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk List
—	—	5504	1000	2-56 x ¼" long	$4.00M
5000	100	5500	1000	4-36 x ¼" long	5.00M
5001	100	5501	1000	4-36 x ½" long	5.50M
5002	75	5502	1000	4-36 x ¾" long	5.75M
5007	90	5507	1000	6-32 x ¼" long	5.00M
—	—	5511	1000	6-32 x ⅜" long	5.00M
5008	80	5508	1000	6-32 x ½" long	5.50M
5009	70	5509	1000	6-32 x ¾" long	6.50M
5010	50	5510	1000	6-32 x 1" long	8.50M
5014	75	5514	1000	8-32 x ⅜" long	6.00M
5015	70	5515	1000	8-32 x ½" long	7.00M
5017	40	5517	1000	8-32 x 1" long	9.00M
5022	60	5521	1000	10-32 x ½" long	9.00M

BINDING HEAD MACHINE SCREWS

Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk List
—	—	5546	100	6-32 x 3/16" long	$1.25C
5030	80	5547	100	6-32 x ¼" long	1.25C
5031	75	5548	100	6-32 x ⅜" long	1.25C

OVAL HEAD MACHINE SCREWS NICKEL PLATED

Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk List
5042†	40	5710†	100	10-32 x ⅝" long	$1.00C-8.50M

†For Transmitting Racks.

PARKER-KALON SELF-TAPPING SCREWS

Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk List
—	—	5562	1000	No. 3 x 3/16" long	$1.50C
5051	50	5555	1000	No. 4 x ½" long	1.60C
5052	50	5556	1000	No. 6 x ¼" long	1.60C
5053	45	5557	1000	No. 6 x ⅜" long	2.00C
5054	40	5558	1000	No. 7 x ½" long	2.25C
5055	35	5559	1000	No. 10 x ¾" long	2.75C

ESCUTCHEON PLATE SCREWS

Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk List
5182	100	5677	100	No. 1 x ¼" long	$15.00M

FLAT STEEL PLATED WASHERS

Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk List
5090	100	5595	1000	For No. 6 Screw	$2.50M
5091	100	5596	1000	For No. 8 Screw	2.50M
5092	100	5597	1000	For No. 10 Screw	2.50M
5093	100	5603	1000	For ¼" Screw	4.50M
—	—	5607	1000	For ⅜" Screw	5.00M

EVERLOCK LOCK WASHERS

Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk List
5085	100	5592	1000	For No. 6 Screw	$.55C-3.75M
5086	90	5593	1000	For No. 8 Screw	.60C-4.00M
5087	80	5594	1000	For No. 10 Screw	.65C-4.50M

KANTLINK SPLIT TYPE LOCKWASHERS

Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk List
5080	125	5589	1000	For 6-32 Screw-1/32" thick	$3.50M
5081	125	5590	1000	For 8-32 Screw-1/32" thick	3.50M
5082	100	5591	1000	For 10-32 Screw-3/64" thick	3.50M
5083	75	5602	1000	For ¼-32 Screw-1/16" thick	5.50M

FLAT FIBRE WASHERS

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description Diam.	Thick.	Hole	Bulk List
5100	125	5601	1000	5/16	1/16	3/32	$6.25M
—	—	5612	1000	⅜	1/16	⅛	7.25M
5102	90	5609	1000	½	1/32	5/32	8.00M
—	—	5626	1000	⅜	1/16	5/32	7.50M
5101	100	5605	1000	⅜	1/16	7/32	7.50M
5104	50	5610	1000	½	.020	5/16	8.00M
5105	50	5611	1000	⅝	1/32	⅜	9.75M

FIBRE SHOULDER WASHERS

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description Overall Diam.	Shoulder Diam.	Overall Hgt.	Bulk List
—	—	5618	100	5/16	3/16	3/32	$1.25C
5111	50	5620	100	7/16	7/32	3/32	1.25C
5110	50	5615	100	⅜	¼	5/64	1.25C
5114	50	5619	100	7/16	5/16	⅛	1.25C
5115	40	5616	100	½	5/16	1/16	1.35C
5112	50	5624	100	½	⅜	3/64	1.35C
5113	50	5628	100	⅝	½	3/32	1.50C

CUP WASHERS

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description Hole Size	Bulk List
5212	45	5712	100	No. 8	$.75C-5.50M
5213	20	5713	100	No. 10	.80C-5.50M

STEEL HEXAGON NUTS — NICKEL PLATED

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk List
5070	100	5572	1000	4-36 x ¼	$4.00M
—	—	5573	1000	4-36 x 3/16	3.25M
5074	80	5577	1000	6-32 x 5/16	5.00M
5071	90	5576	1000	6-32 x ¼	4.50M
5072	80	5580	1000	8-32 x 5/16	5.00M
5073	50	5584	1000	10-32 x ⅜	7.50M
5075	12	5583	1000	¼-20 x 7/16	1.20C
—	—	5579	1000	¼-32 x ⅜	1.00C
5076	10	5575	1000	⅜-32 x ½	2.00C

BRASS HEXAGON NUTS — NICKEL PLATED

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description	Bulk List
—	—	5564	100	4-36 x 3/16	$ .75C-6.00M
—	—	5566	100	6-32 x ¼	.75C-6.00M
—	—	5567	100	6-32 x 5/16	.85C-6.50M
—	—	5570	100	8-32 x 5/16	1.00C-7.50M
—	—	5574	100	⅜-32 x ½	1.75C

RACK SCREW AND WASHER ASSORTMENT

Packed in ICA handy jars. Includes 20 Oval Head Screws (10-32 x ⅝") and 20 Cup Washers (10-32).

No. 5210 List $.65

BRASS EYELETS

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Diam. Shank	Length	Bulk List
5172	80	5672	1000	.115	5/16	$10.00M
5171	90	5671	1000	.125	5/16	9.50M
5170	100	5670	1000	.132	3/16	8.50M

NICKEL PLATED TUBULAR STEEL RIVETS

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Diam. Shank	Length	Bulk List
—	—	5730	1000	⅛	5/32	$ 8.00M
5160	100	5663	1000	⅛	3/16	8.00M
5161	80	5664	1000	⅛	¼	10.00M
5162	70	5665	1000	⅛	5/16	10.50M

STEEL CABLE CLAMPS, PLATED

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description Length	Diam. Bend	Bulk List
5200	35	5697	1000	¾	5/16	$1.25C
5201	30	5698	1000	15/16	9/16	1.50C

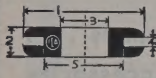
NICKEL PLATED SPRING CLIP

Jar* Cat. No.	Qty* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Description Width	Length	Bulk List
5190	40	5691	100	3/16	11/16	$1.65C
5191	40	5692	100	5/16	13/16	1.75C
5192	30	5693	100	⅜	1	2.00C

ALL JARS LIST AT $.65 PER JAR. BULK QUANTITIES LIST AS SHOWN. ORDER BY CATALOG NUMBER.

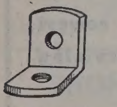
ICA INSULINE ICA RADIO PRODUCTS

ICA RADIO HARDWARE



ICA FLEXIBLE RUBBER GROMMETS

Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	(3) Hole Size	(1) O.D.	(2) Thick-ness	(4) Slot	(5) Mtg. Width	Bulk List
5120	15	5633	100	7/64	½	9/32	3/32	19/64	$3.85C
5121	12	5634	100	⅜	21/32	¼	1/16	7/16	4.30C
5122	15	5635	100	¼	½	5/16	5/32	11/32	3.90C
5123	12	5639	100	7/32	7/16	3/16	1/16	11/32	3.00C
5125	10	5637	100	¼	⅝	⅜	1/16	13/32	3.50C
—	—	5641	100	5/16	1	17/32	⅛	¾	7.00C
—	—	5642	100	5/16	11/16	¼	1/16	½	3.90C
5127	12	5687	100	5/16	⅝	¼	1/16	⅜	3.75C

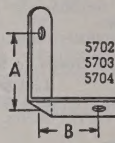


5705

ANGLE BRACKETS

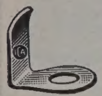
†One Hole Tapped — One Plain.

‡One Slot — One Hole.



Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	A	B	Width	Bulk List Price
5205	16	5702	100	9/32	9/32	5/16	$2.50C
5206	15	5703	100	⅜	¾	⅜	2.50C
5207	25	5704	100	9/32	1⅛	⅜	4.00C
—	—	5705	100	5/16	5/16	½†	4.50C
—	—	5706	100	⅜	9/16	⅜‡	2.00C
—	—	5707	100	⅝	13/16	⅜‡	3.00C

PILOT LIGHT CONTACT



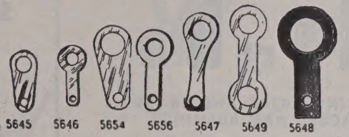
For making center connection inside pilot light socket.

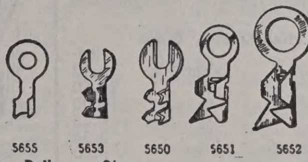
No. 2465
List $5.00M

ICA UTILITY GLASS JARS

For use on service bench to store hardware, etc. 2½″ high x 1½″ deep.
No. 5400—List $.12

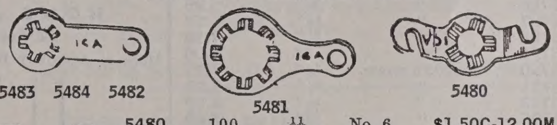
BRASS TINNED TERMINAL LUGS





Jar* Cat. No.	Qty.* Each Jar	Bulk Cat. No.	Qty. Bulk Pkge.	Length	Hole Size	Bulk List
—	—	5645	100	17/32	No. 8	$.75C- 6.00M
—	—	5654	100	⅞	¼	.80C- 6.00M
5135	125	5646	100	½	No. 6	.60C- 4.00M
—	—	5656	100	11/16	No. 6	5.00M
5136	100	5647	100	⅞	No. 10	.65C- 5.00M
5137	75	5649	100	15/16	No. 8	1.00C- 8.00M
5141	75	5648	100	1	5/16	1.00C- 8.00M
—	—	5655	100	11/16	No. 8	.80C- 6.50M
—	—	5653	100	9/16	No. 6	.85C- 7.00M
5138	100	5650	100	¾	No. 8	1.00C- 8.00M
5139	75	5651	100	13/16	No. 10	1.75C-11.00M
5140	50	5652	100	1 1/16	¼	2.50C-16.00M

EVERLOCK TERMINAL LUGS



—	—	5480	100	11/16	No. 6	$1.50C-12.00M
5145	50	5481	100	13/16	¼	1.50C-12.00M
5146	60	5482	100	¾	No. 4	1.40C-11.00M
5147	55	5483	100	¾	No. 6	1.40C-11.00M
5148	50	5484	100	⅞	No. 8	1.40C-11.00M

DISPLAY "SALESMAN" MERCHANDISER OF HARDWARE AND RADIO ESSENTIALS

HARDWARE
ASSORTMENT

With this ICA display assortment you can now sell hardware in a packaged form. This assortment includes — all sizes Round Head Machine Screws — Nickel plated nuts to match — Parker-Kalon self-tapping screws — Kant-Link lock washers — Shake-Proof washers — plain washers — flat fibre washers — flexible grommets — lugs — eyelets — rivets — escutcheon plate screws — midget fuse clips — spade bolts — spring clips — clamps — angles — rack screws — and washers, etc.

EACH ITEM INDIVIDUALLY PACKED IN A GLASS DISPLAY JAR. Each jar contains an ample quantity of individual type and size hardware used by dealers, servicemen and amateurs. A complete radio hardware assortment, beautifully put up in these jars and stacked in a handsome durable metal rack which holds 36 jars.

No. 5275—DISPLAY RACK—Contains 36 jars. A representative assortment of radio hardware, such as screws — nuts — bolts — washers — grommets, etc.......................**List $23.40**

No. 5276—DISPLAY RACK—Contains 36 jars. A representative assortment of radio hardware and essentials such as fibre washers — lugs — metal washers — grommets — spring clips — fuse clips — angle brackets, etc.......................**List $23.40**

No. 5405—METAL DISPLAY AND UTILITY RACK—Consists of 4 shelves for storing 36 hardware jars — small parts and miscellaneous items. Measures 12″ high by 17¾″ wide by 8″ deep. ....**List $5.50**

EVERYMAN'S 1000-PIECE RADIO HARDWARE ASSORTMENT

An assortment of hardware commonly used by dealers, servicemen, amateurs, experimenters, etc. Contains 1000 pieces of assorted machine screws — wood screws — nuts — bolts — rivets — eyelets — lugs — lock washers — rubber grommets, etc.

No. 5250..........List $3.00

ICA ALL-PURPOSE RADIO HARDWARE AND ESSENTIAL EQUIPMENT

Packed in a handy indestructible metal utility case.

This De Luxe assortment includes such items as knob set screws — escutcheon screws — Parker-Kalon self-tapping screws — rubber grommets — screws — nuts, etc.

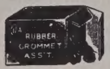
No. 5251..List $4.75

ANGLE
BRACKET
ASST

ICA ANGLE AND BRACKET ASSORTMENT

A complete assortment of 30 popular angles and brackets, nickel plated finish.

No. 5800..List $.75

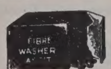


ICA RUBBER GROMMET ASSORTMENT

Assortment contains popular sizes used in Radio and Electrical Work.

No. 5810...List $ .75
Contains 28 Rubber Grommets

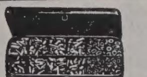
No. 5811...List $1.50
Contains 60 Rubber Grommets



ICA FIBRE WASHER ASSORTMENT

A representative assortment of fibre washers both plain and shoulder, to fit all popular size screws and bolts.

No. 5805...List $.75
Contains 100 assorted washers



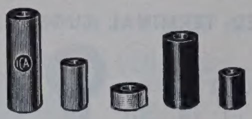
ICA MASTER SCREW AND NUT ASSORTMENT

Contains a substantial quantity of all the popular sizes machine screws, wood screws, Parker-Kalon self-tapping screws and nuts to match.

No. 5252.......................................List $5.50

ALL JARS LIST AT $.65 PER JAR. BULK QUANTITIES LIST AS SHOWN. ORDER BY CATALOG NUMBER.

ICA INSULINE ICA
RADIO PRODUCTS



ICA INSULATED AND BRASS SPACERS AND BUSHINGS

Used for raising sub panels, chassis, condensers, etc. For manufacturers, experimenters and laboratory use.

No.	Diameter	Length	List per C
Made of High Quality Brass			
5760	¼″	¼″	$3.50
5761	¼″	⅜″	4.00
5762	¼″	½″	4.25
5763	¼″	¾″	5.00
5767	¼″	1″	5.50
5764	⅜″	¼″	4.25
5765	⅜″	½″	5.00
5766	⅜″	¾″	5.50
5768	⅜″	1″	5.75
Made of Fenoline Insulation			
5775	¼″	¼″	3.75
5776	¼″	⅜″	4.50
5777	¼″	½″	5.00
5778	¼″	¾″	5.50
5782	¼″	1″	7.00
5779	⅜″	¼″	5.00
5780	⅜″	½″	6.00
5781	⅜″	¾″	6.50
5783	⅜″	1″	5.75
Threaded Brass Bushings—¼″ Diameter			
5785	for 6/32 screw	¼″	4.25
5786	"	⅜″	5.25
5787	"	½″	6.50
5788	"	¾″	7.50
5794	"	1″	8.00
5790	for 8/32 screw	¼″	4.25
5791	"	⅜″	5.25
5792	"	½″	6.50
5795	"	1″	8.00

Molded Bakelite Spacer Bushing

No.		List
2365	Suitable for either spacer or bushing. With brass eyelet....	$2.50C
2366	Same as above—without eyelet	2.00C

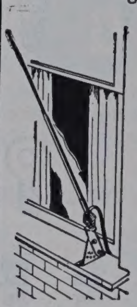
SPACER AND BUSHING ASSORTMENTS
Brass and Insulated

Assortment of 25 spacers and bushings in ¼ & ⅜. Diameters from ¼″ to ¾″ long. Ideal for raising sub panels, chassis, etc.

No.		List
5260	Insulated Assortment	$1.25
5261	Brass Assortment	1.25
Threaded Brass Bushing Assortments		
5262	16 Assorted Brass bushings. Threaded for 6/32 from ¼″ to ¾″ lengths	1.25
5263	16 Assorted Brass bushings. Threaded for 8/32 from ¼″ to ¾″ lengths	1.25

MAST ANTENNAS FOR STANDARD RECEPTION

DE LUXE WINDOW ANTENNAS
8 Feet—12 Feet



Made of Admiralty Brass with Beautiful Nickel-Plated Finish

- For Homes, Apartments, Hotels, Office Buildings, and places where it is inconvenient to install outdoor aerials or to improve reception on indoor installations.
- Quickly and easily installed.
- Adjustable Bracket at base, permits the antenna to be focused in any position for best reception.
- Furnished completely assembled with mounting flange, insulator and lead-in strip.

Individually boxed.

3 Section Telescopic Antenna Opens to 96″

No. 4527B....................................List $4.45
No. 4529—3 Sec., Opens to 75″......List $3.25
10 to a Standard Carton—Weight 14 lbs.

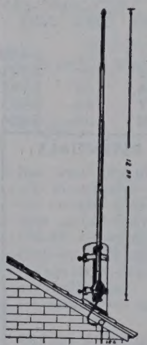
4 Section Extra Long Window Antenna
12 Feet Long

Ideal for DX Reception and Rural Sections where extra length is needed for best results.

No. 4513...List $6.75

HOME ANTENNAS
12 Feet—4 Sections

Made of Admiralty Brass—Guaranteed Rust Proof



- The Latest Type Home Antenna suggested by leading Radio Set Manufacturers for best results.
- Eliminates unsightly and dangerous wires.
- Clear, noise-free reception with no power line interference.
- Very sturdy construction—made of Admiralty Brass with Beautiful Nickel-Plated Finish.
- Guaranteed Rust-proof for the Life of Antenna.
- Universal Bracket allows permanent and convenient installation on soil pipe, window pipe, chimney, roof, gables, cornices, wall copings, etc.
- Individually boxed.

Vertical Mast with all accessories for Universal Mounting — including Lead-in Wire, Ground Wire, Brackets, Lightning Arrester, Screws, Insulators, etc.

No. 4516...List $6.95
10 to a Standard Carton—Weight 33 lbs.

Television Antennas . . . Television Accessories

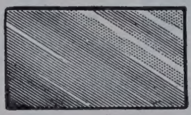
Since 1927, Insuline Corporation of America has been pioneering in the development of Television accessories. ICA now boasts of a complete line of television antennas of all types as well as the newest accessories and servicing tools.

Consult other pages for ICA's latest.

- **Antennas—outdoor types**
- **Antennas—indoor types**
- **Servicing Tools**
- **Servicing Kits**
- **Accessories**
  - **—Filters**
  - **—Installation Kits**
  - **—Mounting Brackets**
  - **—Guy Wire, etc.**

Send for latest complete Television Catalog

ICA BAKELITE RADIO PANELS
Black, Polished Mirror Finish



⅛″ Thickness			$\frac{3}{16}$″ Thickness		
No.	Size	List	No.	Size	List
832	7 x 10	$1.55	842	7 x 10	$2.25
833	7 x 12	1.85	843	7 x 12	2.75
834	7 x 14	2.00	844	7 x 14	3.25
835	7 x 18	3.00	845	7 x 18	4.10
836	7 x 21	3.10	846	7 x 21	4.65
837	7 x 24	3.50	847	7 x 24	5.50
840	7 x 30	4.50	850	7 x 30	6.75
860	10 x 12	2.75	863	10 x 12	4.15
861	10 x 18	3.65	864	10 x 18	5.65

ICA FULL SIZE BAKELITE SHEETS
Black Glossy Finish

No.	Size	Thickness	App. Wt.	List
852	38″ x 49″	$\frac{1}{16}$″	6 lbs.	$21.50
853	38″ x 49″	$\frac{3}{32}$″	8 lbs.	27.00
854	38″ x 49″	⅛″	12 lbs.	44.00
857	38″ x 49″	$\frac{3}{16}$″	16 lbs.	55.00
858	38″ x 49″	¼″	20 lbs.	66.00

Prices on other sizes or thicknesses quoted on request

ICA ALUMINUM PANELS

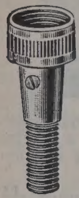
ICA Aluminum panels and sheets have a bright silver finish and are supplied in the following sizes:

No.	Size	List	No.	Size	List
1194	7 x 10	$1.35	1200	7 x 24	$3.50
1195	7 x 12	1.60	3157	10 x 12	2.75
1196	7 x 14	1.75	3158	10 x 18	3.15
1198	7 x 18	2.35	3159	10 x 24	5.50
1199	7 x 21	2.85			

SEE OTHER PAGES FOR ICA'S COMPLETE LINE OF RELAY RACK PANELS AND CHASSIS BASES (STEEL OR ALUMINUM), RACK CABINETS, AMPLIFIER CHASSIS, SPEAKER CABINETS, ETC. SPECIAL SIZE CABINETS AND CHASSIS MADE TO SPECIFICATIONS.

PLUGS—MICROPHONE CONNECTORS

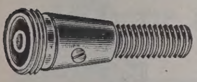
Single Contact Female Microphone Connector



This microphone connector assures a completely shielded connection. All metal parts are chrome plated brass except spring. Used extensively for making connections from microphone to amplifier. When used with our part No. 505 and 500, any combination of connection can be arranged. Equipped with coupling ring.

No. 506 **LIST PRICE 50c**

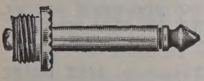
Single Contact Male Microphone Connector



Similar to microphone connector No. 506 above except that it has a male thread ⅝-27 and no coupling ring.

No. 505 **LIST PRICE 40c**

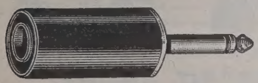
PHONE PLUG ADAPTER



For use with the connector 506 shown at the top. Fits any standard phone jacks. No wiring or soldering necessary to make connection. Made of nickel plated brass.

No. 223 **LIST PRICE 45c**

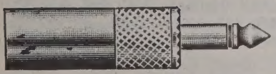
DOUBLE PHONE PLUG



A two way phone plug. Will accommodate 2 sets headphone tips or lugs. Fits all standard jacks. Handle is molded bakelite. Metal parts are nickel plated brass. Available in red and black.

No. 211 **LIST PRICE 50c**
No. 224—Barrel only **LIST PRICE 20c**

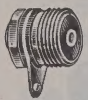
SHIELDED TWO-WAY PHONE PLUG



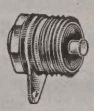
Identical to our part No. 211 phone plug except that barrel is made of nickel plated brass for shielding purposes.

No. 221—Plug **LIST PRICE 85c**
No. 222—Barrel only **LIST PRICE 50c**

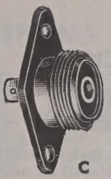
MALE CHASSIS CONNECTORS



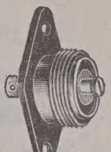
A



B



C



D

No. 500. This mike connector is used on the chassis or in the mike. It is the open circuit type. Mounts in a ⅜″ hole. Supplied with insulating washers, solderless lug and nut. Fits ⅝-27 connections.

No. 501. Similar to above, except for shortening feature when disconnected. Ideal for use with multiple mixer amplifier. Supplied with insulating washers, lug and nuts.

No. 502. Is an open circuit pressure connector, similar to No. 500 except the spring contact protrudes to make pressure contact. Supplied with insulating washers, solderless lug and nuts.

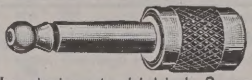
No. 507. Similar to No. 500 except equipped with a linen base bakelite plate for mounting centers, 1-5/32″.

No. 508. Similar to No. 500 except equipped with mounting plate for mounting centers 1-5/32″.

No. 509. Similar to No. 502 except equipped with mounting plate for mounting centers 1-5/32″.

No.	Contact Action	Mounting	Fig.	List Price
500	Open	Locknut	A	30c
501	Shorting	Locknut	B	40c
502	Pressure	Locknut	B	40c
507	Open	Bakelite Plate	C	30c
508	Shorting	Bakelite Plate	D	40c
509	Pressure	Bakelite Plate	D	40c

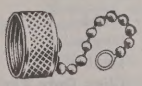
SHIELDED PHONE PLUG



A newly designed shielded 2 conductor miniature phone plug that fits all standard jacks. One conductor is brought through the entire plug to the tip where the connection is soldered to a tinned insert. The other conductor is connected to a lug under the shell. The ¼ inch shank is ground to very exacting tolerances. Supplied with an internal rubber cord grip.

No. 231 **LIST PRICE 55c**

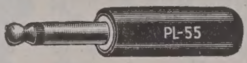
SHIELDED CAP



Used with our No. 500, 505 and 507 for shielding purposes. Equipped with ball chain to prevent loss.

No. 504 **LIST PRICE 55c**

SIGNAL CORP PLUGS



PL-55 PLUG

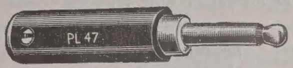
PL-55 plug is a standard 2 conductor phone plug used by the U. S. Army, Signal Corps and U. S. Navy. It fits the standard Signal Corps JK-34A and JK-24 jacks. Supplied with solderless lugs.

LIST PRICE **$1.35**

PL-68 PLUG

PL-68 plug is a 3 conductor microphone plug. It is designed for use with the JK-33 Signal Corps and Navy type jacks. Supplied with soldeerless lugs.

LIST PRICE **$1.75**



PL-47 PLUG

PL-47 is a 2 conductor Signal Corps phone plug that fits all standard jacks and Signal Corps jacks numbers JK-24 and JK-34A. Generally used in switchboard work with braided cords. For strain relief the cord is threaded into the plug. Black handle.

LIST PRICE **$2.00**

PL-48 PLUG

Identical to the PL-47 except for the red handle.

LIST PRICE **$2.00**

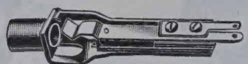
TELEGRAPH Apparatus Co.

412 SOUTH GREEN ST. **CHICAGO 7, ILLINOIS**

PLUGS • JACKS • CLIPS • SWITCHES • KNOBS

TELEGRAPH APPARATUS CO.

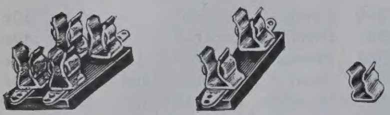
JK-24 JACK



JK-24 jack is a Signal Corps jack of distinctive design. Its construction assures an unvarying distance from the front of the sleeve to the jack springs. This jack is used generally in switch board work. The Signal Corps PL-55, PL-47 and PL-48 plugs are used in conjunction with this jack.

LIST PRICE **$1.75**

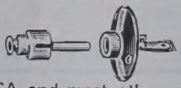
3AG FUSE MOUNTINGS



Very sturdily constructed on 3/16" black bakelite. Bottom rivets are recessed to permit mounting on metal. Clips are made of spring tempered nickel plated brass. Have center holes for mounting.

No.	Type	LIST PRICE
700	**Single**	**20c**
701	**Double**	**30c**
702	**Clips Only Per C**	**$1.75**

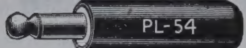
RCA TYPE PIN PLUG AND JACK



Used on RCA and most other receivers for a shielded phono connection. Can also be used as a shielded auto antenna connection.

No.	Des.	LIST PRICE
400	**Pin Plug**	**9c**
401	**Shielded Jack**	**15c**

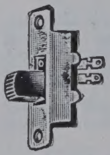
PL-54 PLUG



PL-54 plug is designed to fit only the Signal Corps and Navy type JK-26 jack. Supplied with solderless lugs.

LIST PRICE **$1.35**

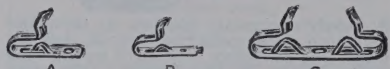
SLIDE SNAP SWITCH



A very popular switch used in many radio circuits—tone — B.F.O. — phono, etc. Ribbed black bakelite handle. Housing is cadmium plated steel. High quality insulating material. Mounting centers 1⅛".

No.	Type	LIST PRICE
601	**SPST**	**26c**
602	**SPDT**	**33c**
603	**DPST**	**38c**
604	**DPDT**	**49c**

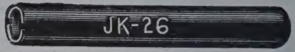
FAHNESTOCK CLIPS



Millions of these spring binding posts clips have already been used. Grips wire with just enough pressure for good electrical contact. Made of spring tempered brass. *Bronze

No.	Fig.	Length	Width	Max. Wire	Mtg. Hole	List Price Per C
3	A	1 1/16	⅜	10	8	**$2.00**
10	A	¾	5/16	14	6	**1.65**
***15**	B	½	7/32	16	4	**1.55**
9	C	2 1/16	⅜	10	8	**10.00**
18	C	1½	5/16	14	6	**9.00**

JK-26 JACK



JK-26 jack is a Signal Corps cable type jack. It is used on the end of a cord as a 2 conductor connection and is used only in connection with the PL-54 plug.

LIST PRICE **$1.25**

BANTAM OPEN AND CLOSED CIRCUIT JACKS

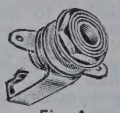


Fig. A

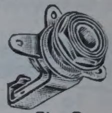
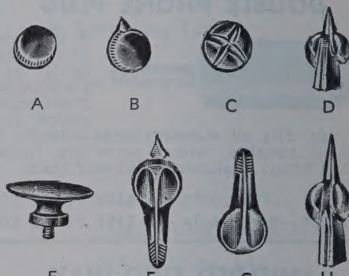


Fig. B

Small sized jacks that fit all standard phone plugs. The contact material is spring tempered nickel silver which will retain its resiliency permanently assuring good contact. Fits ⅜" hole in panels up to 3/16" thick. Supplied with nut and metal washer. Solder terminals tinned for easy soldering. Available in open and closed circuit.

No.	Fig.	Type	LIST PRICE
102	**A**	**Open**	**40c**
103	**B**	**Closed**	**45c**

BAKELITE KNOBS

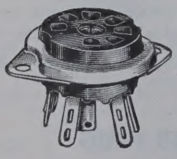


These knobs are all made of a very high grade bakelite and are available in various colors as listed below. All are for ¼" shafts and are set screw type, except for telegraph knob.

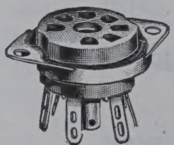
No.	Fig.	Color	Length	Dia.	List Price
1500	A	Black	13/32"	11/16"	**12c**
1501	A	Walnut	13/32"	11/16"	**12c**
1502	A	Red	13/32"	11/16"	**12c**
1503	A	Ivory	13/32"	11/16"	**13c**
1504	B	Black	13/32"	11/16"	**12c**
1505	B	Walnut	13/32"	11/16"	**12c**
1506	B	Red	13/32"	11/16"	**12c**
1507	B	Ivory	13/32"	11/16"	**13c**
1508	C	Black	¾"	¾"	**12c**
1509	C	Walnut	¾"	¾"	**12c**
1510	C	Red	¾"	¾"	**13c**
1512	D	Black	1¼"		**15c**
1513	D	Walnut	1¼"		**15c**
1514	D	Red	1¼"		**21c**
1515	D	Ivory	1¼"		**21c**
1516	E	Black	Telegraph Knob		**40c**
1517	F	Black	2"		**22c**
1518	F	Walnut	2"		**22c**
1519	G	Black	1⅝"	¾"	**15c**
1520	G	Walnut	1⅝"	¾"	**15c**
1521	H	Black	2"		**19c**
1522	H	Walnut	2"		**19c**
1523	H	Red	2"		**24c**
1524	H	Ivory	2"		**24c**

MINIATURE BAKELITE 7 PIN TUBE SOCKETS

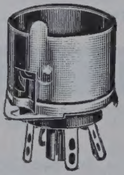
SADDLE MOUNTING



Bottom Mount With Center Shield



Top Mount With Center Shield



Top Mount Base and Center Shield

No.	Insulation	Mounting	List Price
1100	Black Bakelite	Bottom	**$0.20**
1105	Mica Filled Bakelite	Bottom	**.25**
1107	Black Bakelite	Top	**.20**
1108	Mica Filled Bakelite	Top	**.25**
1150	Black Bakelite	Top	**.30**
1151	Mica Filled Bakelite	Top	**.40**

BLANK WALL PLATES

SINGLE WALL PLATE made of chrome plated steel. Supplied with two oval mounting screws.
No. 1201 ....List Price **30c**

2 GANG WALL PLATE identical to above except mounted with four mounting screws. Fits larger outlet box.
No. 1202 ....List Price **60c**

PLUGS · JACKS · CONNECTORS

TELEGRAPH APPARATUS CO.

INSULATED SOLDERLESS PHONE TIP PLUG

A standard insulated solderless phone tip plug which fits our parts 101, 106, 108 phone tip jacks. Metal parts are nickel plated brass. Overall length 2-3/16". The high lustre insulated handle is 1" long. Available in red, black, green and yellow.

No. 202................LIST PRICE 18c

SOLDERLESS PHONE TIP PLUG

A standard solderless phone tip plug. Identical to No. 202 above, except for insulated handle.

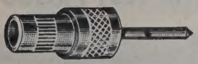
No. 203 LIST PRICE 10c

INSULATED SOLDERLESS JR. PHONE TIP PLUG

A standard insulated solderless junior phone tip plug made to fit our parts #101 and 106 phone tip jacks. Metal parts are nickel plated brass. The high lustre insulated handle is 1" long. Available in black, red, green and yellow. Overall length 1⅞".

No. 204................LIST PRICE 18c

SOLDERLESS JR. PHONE TIP PLUG



A standard solderless junior phone tip plug identical to No. 204 above except for insulated handle.

No. 205 LIST PRICE 10c

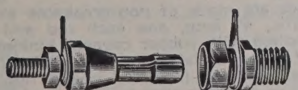
Insulated Solderless SPRING BANANA PLUG

This insulated non-collapsible solderless spring banana plug is designed to give the greatest area of contact. Connection is made by a side set screw.

Metal parts are nickel plated brass except the four leaf banana spring which is nickel plated phosphor bronze. The high lustre insulated handle is 1" long. Available in red, black, green and yellow. Overall length 1-11/16".

No. 208 LIST PRICE 20c

Giant Banana Plug & Jack



Designed to handle heavy high frequency currents. Made of nickel plated spring brass.

No.	LIST PRICE
225—Jack	30c
226—Plug with threaded shank	35c
227—Plug with 10-32 hole with screw	35c

SPRING BANANA PLUG INSULATED

In this spring banana plug no metal parts are exposed around the insulated handle. Connection is made by soldering to special type tubular lug which is an integral part of metal body. Non-collapsible four leaf banana spring gives maximum area of contact. Metal parts are nickel plated brass except banana spring which is nickel plated phosphor bronze. The high lustre insulated handle is 1" long. Available in red, black, green and yellow.

No. 209..............................LIST PRICE 18c

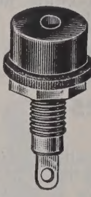
INSULATED SOLDERLESS SPRING BANANA PLUG

(INTERNAL SOLDERLESS FASTENER)

An insulated spring banana plug identical in appearance to our part No. 209 except that connection is made to an internal solderless fastener. The high lustre insulated handle is available in red, black, green and yellow.

No. 210................LIST PRICE 20c

Insulated Phone Tip Jack



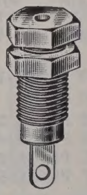
An insulated phone tip jack which makes very positive contact. Contact springs are made of phosphor bronze. Metal parts are nickel plated brass. The high lustre insulated head is ⅜" in diameter. Available in red, black, green and yellow.

Fits ¼" hole in panels up to ¼" thick.

Supplied with nut and insulating washer.

No. 101 LIST PRICE 15c

.. PHONE TIP JACK

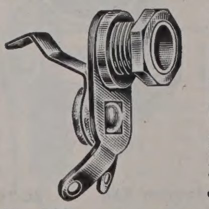


A phone tip jack identical to our part No. 101 above except that it has a non-insulated 5/16" hex head. Metal parts are nickel plated brass.

Fits ¼" hole in panels up to ⅜" thick.

No. 106 LIST PRICE 10c

Open Circuit Phone Jack



Made to fit all standphone plugs. Contact spring made of nickel plated phosphor bronze and body made of nickel plated brass. Highest quality insulating material used. Fits ⅜" hole in panels up to 3/16" thick. Supplied with one metal washer.

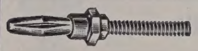
No. 100 LIST PRICE 30c

SPRING BANANA PLUG

This spring banana plug is used extensively for plug-in coils, etc. Greater surface contact gives low RF resistance. Threaded shank is 6-32 thread, ⅜" long. Overall length 1-3/16". All metal parts are nickel plated brass except the four leaf banana spring which is nickel plated phosphor bronze. Supplied with soldering lug.

No. 206................LIST PRICE 11c

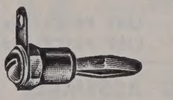
SPRING BANANA PLUG



Identical to our part No. 206 above except that threaded shank is ¾" long.

No. 207................................LIST PRICE 12c

SPRING BANANA PLUG



Identical to No. 206 spring banana plug except that instead of threaded shank it has a female 6-32 thread. Supplied with soldering lug and 6-32 screw.

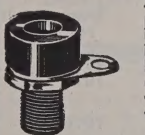
No. 212...............................LIST PRICE 12c

BANANA JACK

A standard banana jack made of nickel plated brass. Overall length ⅝". Fits ¼" hole in panel. Supplied with solder lug and nut.

No. 105............LIST PRICE 9c

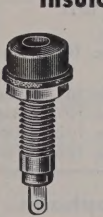
INSULATED BANANA JACK



All metal parts are nickel plated brass. The high lustre insulated head is available in red, black, green and yellow. Fits ¼" hole in panels up to ⅜" thick. Supplied with solder lug, insulated washer and nut.

No. 107....LIST PRICE 15c

Insulated Combination Banana Plug & Phone Tip Jack



An insulated combination banana plug and phone tip jack made to fit our parts Nos. 206, 207, 202, 203, 208, 209, 210, 212, and 220. The phosphor bronze contact springs assure positive contact. Fits ¼" hole in panels up to ⅝" thick. The high lustre insulated head is available in red, black, green and yellow.

No. 108 LIST PRICE 20c

STANDARD PHONE TIP

A standard phone tip made of nickel plated brass. Used extensively for connections on head phone cords.

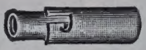
No. 220.........LIST PRICE, PER 100 $2.00

TEST PRODS • SHAFT COUPLINGS • CLIPS

TELEGRAPH APPARATUS CO.

AUTO ANTENNA CONNECTOR

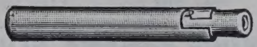
Instantly Detachable



Comes apart by slight twist. Makes an ideal single contact shielded connector.

No. 402 **LIST PRICE 10c**

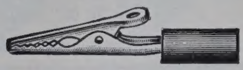
AUTO FUSE CONNECTOR



Used in the battery lead of auto radio for protection. Fits a 3AG type fuse.

No. 403 **LIST PRICE 14c**

Insulated Alligator Clips

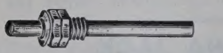


Sturdy clips made with thin jaws, fine meshing teeth and strong spring to assure hard bite. Handles 1" long.

No. 333—Red **LIST PRICE 20c**

No. 334—Black **LIST PRICE 20c**

PANEL BEARING ASSEMBLY

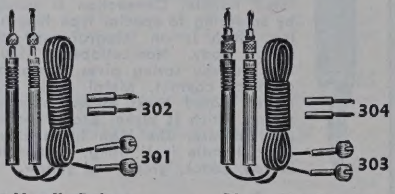


The accurately reamed hole in bearing assures smooth, non-binding operation. Equipped with bowed spring washer which eliminates sliding forward and backward. Shaft is ¼" in diameter. Fits ⅜" hole in panels up to 5/16" thick. Made of brass.

No. 1022—3" Shaft **LIST PRICE 35c**

No. 1023—6" Shaft **LIST PRICE 50c**

DE LUXE FINGER GRIP PHONO-NEEDLE AND PHONE TIP TEST LEADS

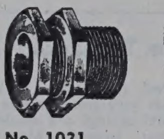


Needle Point **Phone Tip Point**

A deluxe test lead set with a ribbed finger grip will eliminate fatigue and slipping. Made of high quality insulating material 6½" long, one each red and black. Supplied with a good grade of true kinkless wire 48" long. Available with phone tips or spade lugs on end as illustrated.

No.	Type	LIST PRICE PER SET
301	Spade lugs	$1.20
302	Phone tips	1.20
303	Spade lugs	1.20
304	Phone tips	1.20

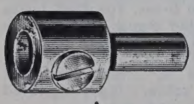
PANEL BEARING



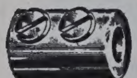
Accurately machined bearing made to fit ¼" shafts. Fits ⅜" hole in panels up to 5/16" thick. Supplied with one mounting nut. Body made of brass.

No. 1021 **LIST PRICE 15c**

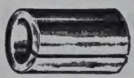
SHAFT EXTENDERS, COUPLINGS AND REDUCERS



A



B



C

EXTENDER FIG. A

Brass No.	Insulated No.	Hole Dia.	Shaft Dia.	Overall Length	List Price
1014	914	⅜	¼	1⅛	18c
1015	915	¼	¼	1⅛	18c
1017	917	¼	⅜	1⅛	18c

EXTRA LENGTH EXTENDER

Brass No.	Insulated No.	Hole Dia.	Shaft Dia.	Overall Length	List Price
1016		¼	¼	1¾	25c

COUPLING FIG. B

Brass No.	Insulated No.	Hole Dia.		Hole Dia.	Overall Length	List Price
1011	911	¼	to	⅜	¾	18c
1012	912	¼	to	¼	¾	18c

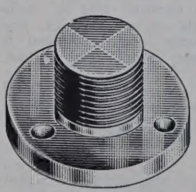
REDUCER FIG C.

No. 1009—Reduces a ⅜" hole to ¼" hole **LIST PRICE 10c**

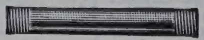
BRASS AND FIBRE ¼" SHAFTING

No. 1018—Brass	6" Long	¼" Dia.	**LIST PRICE**	**20c**
No. 1019—Brass	12" Long	¼" Dia.	**LIST PRICE**	**40c**
No. 1024—Fibre	6" Long	¼" Dia.	**LIST PRICE**	**25c**
No. 1025—Fibre	12" Long	¼" Dia.	**LIST PRICE**	**50c**

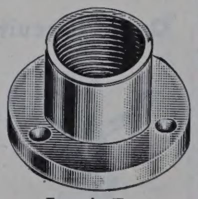
Microphone Base Flanges & Extension Rods



Male Type



New mike stand items for which there has long been a demand. With the male type Base Flange the microphone can be attached directly to the desk, table, pulpit, etc.



Female Type

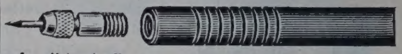
	List Price
No. 515—Male Flange	$0.75
No. 516—Female Flange	.75

No. 517—6" Extension Rod $0.75

No. 518—12" Extension Rod 1.00

DE LUXE FINGER GRIP PHONO-TIP TEST PROD

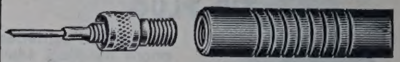
REMOVABLE PHONO-NEEDLE CHUCK



A ribbed finger grip phono-tip test prod identical to the prod used in the De Luxe test lead at the left.

No.	Color	Length	LIST PRICE
311	Red	4½"	45c
312	Red	6½"	50c
313	Black	4½"	45c
314	Black	6½"	50c

DE LUXE FINGER GRIP SOLDERLESS TIP TEST PROD

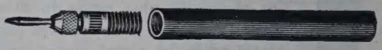


Indentical to the above except prods are equipped with solderless phone tips.

No.	Color	Length	LIST PRICE
319	Red	4½"	45c
320	Red	6½"	50c
321	Black	4½"	45c
322	Black	6½"	50c

NEEDLE POINT TEST PRODS

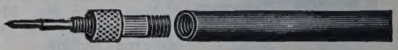
REMOVABLE PHONO-NEEDLE CHUCK



Test prods are made of non-breakable extruded plastic and available in red and black. Chuck can be removed from prod as well as phono-needle from chuck. All brass parts are nickel plated.

No.	Color	Length	List Price
315	Red	4"	35c
316	Red	6"	40c
317	Black	4"	35c
318	Black	6"	40c

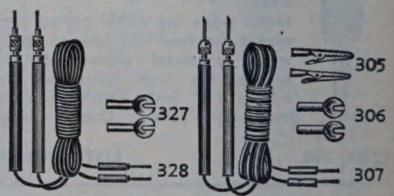
SOLDERLESS TIP TEST PRODS



Identical to above except that test prods are equipped with solderless phone tips.

No.	Color	Length	List Price
323	Red	4"	35c
324	Red	6"	40c
325	Black	4"	35c
326	Black	6"	40c

PHONO-NEEDLE AND PHONE TIP TEST LEADS



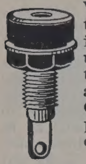
Solderless Tip Type **Phono Tip Type**

Prods are made of non-breakable extruded plastic, 4" long, one each red and black. Supplied with rubber covered kinkless wire 48" long. Insulated for high voltage. Available with non-insulated phone tips, spade lugs or alligator clips as illustrated.

No.	Type	List Price
305	Alligator Clips	$1.10
306	Spade Lugs	1.00
307	Phone Tips	1.00
327	Spade Lugs	1.00
328	Phone Tips	1.00

SMITH *Electronic Components*
HERMAN H. SMITH, INC.

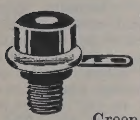
INSULATED PHONE TIP JACK



Will accommodate all standard phone tip plugs, of the insulated and non-insulated types. Recommended for use with our Nos. 200 and 201 phone tip plugs. Insulated head ⅜″ dia. available in Black, Red, Yellow and Green. Mounts in a ¼″ hole. Supplied complete with insulating shoulder washer and nut. Specify color.

No. 202..................................$15.00 per C

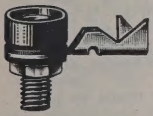
INSULATED BANANA JACK



Will accommodate all standard banana type plugs. Mounts in a ¼″ hole in panels up to ⅜″ thick. Insulated head ⅜″ dia. available in Black, Red, Yellow and Green. Supplied complete with insulated shoulder washer, soldering lug, and nut. Specify color.

No. 205..................................$15.00 per C

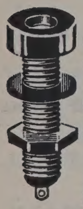
INSTRUMENT BANANA JACK



Made of brass, nickel plated. Jack receptacle is countersunk and will accept all standard Banana type plugs for a snug and positive contact. Insulated head is ½″ diameter and supplied complete with insulating washer, lock washer, heavy duty soldering lug and nut. Available in Black, Red, Yellow and Green. Specify color.

No. 219..................................$19.00 per C

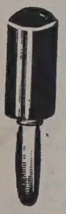
INSULATED COMBINATION JACK



This combination jack will accommodate all standard plugs, of the phone tip type or banana type construction. Mounts in a ¼″ hole in panels up to ½″ thick. Over-all length 1⅜″. Supplied complete with insulating shoulder washer and nut. Insulated head available in Black, Red, Yellow and Green. Specify color.

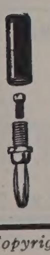
No. 206..................................$20.00 per C

INSULATED SOLDERLESS BANANA PLUGS



Spring type construction, and will fit all standard banana jacks. Tapped hole is provided in rear of plug and small screw machine stud is provided so that wire can be wrapped around and tightened without the need of soldering. Insulated handle is ¾″ long and available in Black, Red, Yellow and Green. Specify color.

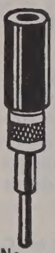
No. 211......................$20.00 per C



This plug constructed the same as No. 211 described above, but the plug portion is made of hexagon brass. Plug is also supplied with screw machine stud. Insulated handle 1″ long and available in Black, Red, Yellow and Green colors. Specify color.

No. 212..........................$25.00 per C

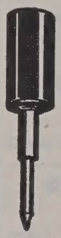
INSULATED SOLDERLESS PHONE TIP PLUGS



Insulated sleeve ¾″ long, and available in Black, Red, Yellow and Green. Will fit all standard phone tip jacks and specially recommended for use with our No. 202 insulated jack. The wire fits through the sleeve of plug, and is wrapped around the screw portion, and then tightened with the knurled nut provided, making soldering unnecessary. Specify color.

No.	Type	Per C
200	Plug with No. 105 Tip	$18.00
201	Plug with No. 106 Tip	17.00

INSULATED PHONE TIP PLUG

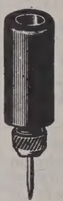


Insulated sleeve ¾″ long, available in Black, Red, Yellow and Green. The phone tip will plug into all standard phone tip jacks, and the insulated sleeve is so designed to accommodate all standard banana type plugs.

No. 215........................$15.00 per C

Phone tip only — less insulated sleeve.
No. 125..$8.00 per C

INSULATED PHONO NEEDLE TIP PLUG

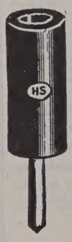


Insulated sleeve ¾″ long, available in Black, Red, Yellow and Green. The body of the plug will accommodate all standard banana type plugs. The sharp needle point phone tip will pierce through corrosion for positive contact.

No. 216......................$20.00 per C

Needle tip only — less insulated sleeve.
No. 217....................................$12.00 per C

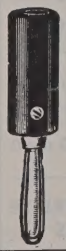
INSULATED SHORT PHONE TIP



Will fit all standard phone tip jacks of the insulated or non-insulated types. Insulated sleeve ¾″ long, and available in Black, Red, Yellow and Green. Specify colors.

No. 203........................$15.00 per C

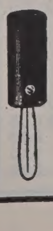
INSULATED BANANA PLUG
Spring Type



Will fit all standard banana type jacks. A set screw is provided in the side of the plug to secure the wire to the plug without soldering. Insulated sleeves ⅞″ long available in Black, Red, Yellow and Green colors. Over-all length 1⅝″. Specify color.

No. 204........................$20.00 per C

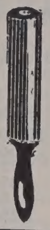
INSULATED BANANA PLUG
Split Type



The banana plug is of the split type construction. Insulated handle ⅞″ long. A set screw is provided in the side of the plug, to secure the wire to the plug without soldering. Available in Black, Red, Yellow and Green colors. Specify colors.

No. 213.......................$20.00 per C

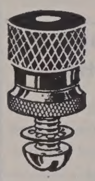
BANANA PLUG AND PHONE TIP JACK COMBINATION



Insulated banana type plug of the spring type construction will fit all standard banana type jacks, and the top of the insulated sleeve of the plug will accommodate all standard phone tips. Insulated handle 1″ long. Available in Black, Red, Yellow and Green. Specify color.

No. 214.........................$45.00 per C

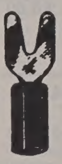
INSULATED BINDING POSTS



Knurled Insulated Head threaded eliminating the necessity for using a brass bushing. Each Binding Post complete with 6-32 x ⅜″ screw and lockwasher. Available in Black and Red Colors. Specify Colors.

No.	Head Diameter	Per C
207	⅜″	$15.00
208	½″	15.00
	Head Only	
209	⅜″	$ 6.50
210	½″	7.00

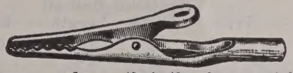
INSULATED SPADE LUG



Insulated sleeve ⅜″ diameter, ¾″ long and available in Red and Black colors. The barrel of the insulated sleeve will accommodate all standard type banana plugs.

No.	Type	Per C
218	Insulated Lug	$15.00
129	Lug only	2.00

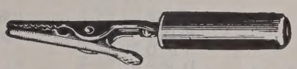
ALLIGATOR CLIP



Clips are made so that the jaws match accurately, permitting them to grip all sizes wire accurately. The barrel of clip will accommodate all standard banana type plugs. Made of steel, cadmium plated. Over-all length 2″.

No. 300....................................$10.00 per C

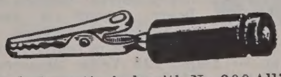
INSULATED ALLIGATOR CLIP



Embodies our No. 300 Alligator Clip. Insulated handle ¾″ long and will accommodate all standard banana type plugs. Insulated handle available in Black and Red colors. Specify color required.

No. 301....................................$20.00 per C

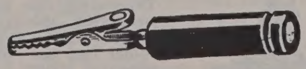
ALLIGATOR CLIP PHONE TIP JACK



Insulated phone tip jack with No. 300 Alligator Clip. The jack portion will accommodate all standard phone tip plugs. Insulated handle 1″ long available in Black and Red colors. Over-all length 2⅝″. Specify color.

No. 304....................................$45.00 per C

ALLIGATOR CLIP COMBINATION JACK



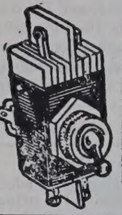
The insulated jack portion will accommodate all standard phone tip or banana type plugs. Insulated handle 1¼″ long available in Black and Red colors. Over-all length 3″. Specify color.

No. 305....................................$50.00 per C

SMITH *Electronic Components*
HERMAN H. SMITH, INC.

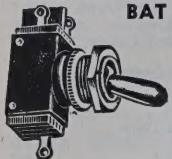
H AND H TOGGLE SWITCHES

Rated 1 Amp. 250 Volts, 3 Amps. 125 Volts. Switches are nickel plated and supplied with mounting nut.



No.	Type	Shaft	Each
500	SPST	15/32″	$0.60
501	SPST	1″	.66
502	SPDT	15/32″	.75
503	SPDT	1″	.85
504	DPST	15/32″	1.15
505	DPST	1″	1.25
506	DPDT	15/32″	1.30
507	DPDT	1″	1.40
508	On & Off Name Plate		.05

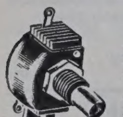
BAT HANDLE TOGGLE SWITCHES



These switches are the same as described above with bat shaped handle. Shaft length 15/32″.

No.	Type	Each
510	SPST	$0.60
511	SPDT	.75
512	DPST	1.15
513	DPDT	1.30

ROTARY TOGGLE SWITCHES



Made by H & H, rated at 1 Amp. 250 Volts, 3 Amps. 125 Volts. Switches are nickel plated and supplied with mounting nut.

No.	Type	Threaded Shank	Over-all Length	Each
570	SPST	⅜″	1½″	$0.80
571	SPDT	⅜″	1½″	.90
572	DPST	⅜″	1½″	1.40
573	DPDT	⅜″	1½″	1.70

SLIDE LEVER SWITCHES

Rated 1½″ Amps. 110 Volts. Size 1⅜″ x ½″. Mounting centers 1⅛″.

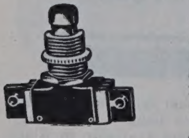
No.	Type	Each
515	SPST	$0.30
516	SPDT	.35
517	DPST	.45
518	DPDT	.50

HEAVY DUTY POWER SWITCHES

These Heavy Duty Power Switches are made by H & H and are specially recommended for use in amplifiers, transmitters, motors and all heavy current circuits where heavy current is carried. Available in 3 types with neutral off in center position. Rated at 10 Amps. 125 Volts. Measures 2″ long, 1″ high, 1¼″ wide, mounting sleeve diameter ⅝″.

No.	Type	Each
574	DPDT	$6.00
575	TPDT	9.00
576	4PDT	13.25

PUSH BUTTON MOMENTARY SWITCH



Two-circuit slow make and break Momentary Switch made by H & H. Solder lug, one circuit normally "ON", one circuit normally "OFF". ⅝″ slotted sleeve, rated at 75 Watts, 125 Volts.

No. 580..**$1.05 each**

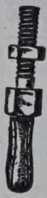
Casein buttons in Black and Red colors can be obtained for the above switch........**$.40 each**

BANANA TYPE PLUG

This plug is hexed brass, nickel plated. The spring is made of phosphor bronze assuring positive and lasting contact. Plug is constructed with a 6-32 female thread inside and is supplied with a 6-32 screw and soldering lug.

No. 100..................**$12.00 per C**

SPLIT TYPE BANANA PLUG



Made of hexed brass, heavily nickel plated over-all. Will fit all standard banana type jacks. Over-all length 1¼″. Threaded portion 6-32 x ½″ long. Supplied with two 6-32 hexagon nuts.

No. 104........................**$12.00 per C**

BANANA TYPE PLUG
Spring Type

Plug and spring are made of brass, nickel plated. The spring type of construction assures positive and lasting contact. Plug is threaded 6-32 and the threaded portion is ½″ long. Supplied with two 6-32 hexagon nuts.

No. 103........................**$12.00 per C**

MIDGET PLUGS AND JACKS
Banana Type

Midget banana type plugs and jacks, for use where a minimum amount of space is available. Both plugs and jacks made of brass, nickel plated. A hexagon nut is provided with each plug and jack.

No.	Item	Per C
111	Plug	$9.00
112	Jack	9.00

PHONE TIP JACK

Will accommodate all standard phone tip plugs of insulated and non-insulated types. Made of brass, nickel plated. Mounts in a ¼″ dia. hole in panels up to ⅜″ thick, and is supplied with hexagon nut.

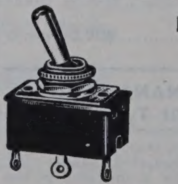
No. 107..................**$10.00 per C**

METAL BINDING POST

Made of brass, heavily nickel plated over-all. Supplied complete with screw and washer.

No. 110..................**$25.00 per C**

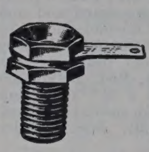
MOLDED BAKELITE SWITCHES



Made by H & H, rated at 3 Amps. 250 Volts, 6 Amps. 125 Volts. Bat Lever type with silver plated contacts. 15/32″ slotted sleeve.

No.	Type	Shaft	Each
520	SPST	15/32″	$1.05
521	SPDT	15/32″	1.20
522	DPST	15/32″	1.40
523	DPDT	15/32″	1.70

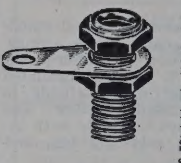
BANANA PLUG JACK



Recommended as the mate for the No. 100 Banana type plug, but will accommodate all standard banana type plugs. Jack is made of brass, heavily nickel plated over-all. Mounts in a ¼″ hole and will fit in panels up to 7/16″ thick. Jack is furnished with ¼-32 nut and soldering lug.

No. 101..**$12.00 per C**

BANANA PLUG JACK



Will accommodate all standard banana type plugs and specially recommeneded as the mate for Nos. 103 and 104 banana plugs. Made of brass, nickel plated, and mounts in ¼″ hole in panels up to ⅜″ thick. Supplied with nut and soldering lug.

No. 109..**$10.00 per C**

MIDGET PHONE JACK

Signal Corps type J 670 — Single open circuit midget phone jack. It mounts in ⅜″ hole in panels up to ¼″ thick. Bushing is brass, nickel plated. Springs made of phosphor bronze, and the springs are insulated from the frame by heavy duty bakelite washers.

No. 122..**$35.00 per C**

SOLDERLESS PHONE TIPS

These tips are constructed so that the wire fits through the body of the tip, and is wrapped around the screw portion, and tightened with the knurled nut provided, making soldering unnecessary.

No.	Length	Per C
105	1⅝″	$10.00
106	1⅛″	10.00

SOLDER TYPE PHONE TIPS

Made of brass, nickel plated. Over-all length 1″. Dia. of tip will fit all standard phone tip jacks.

No. 108........................**$20.00 per M**

LARGE DIAMETER PHONE TIP

Material of Brass and Nickel plated finish. The barrel is drilled extra large to accommodate heavy wire. Diameter of hole ⅛″ — length of barrel ½″ and over-all length 1″.

No. 123..**$30.00 per M**

THREADED PHONE TIPS

Available in either the Solderless Phone Tip type, or the Phono Needle Point type. The chuck is threaded ¼-32.

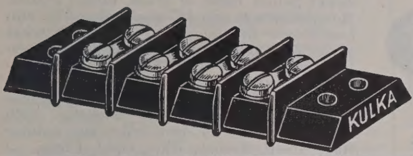
No.	Type	Per C
124	Solderless Tip	$15.00
128	Needle Point	15.00

MINI-MAX CONNECTING STRIP

This fastening connecting strip is spaced so that it will snap into all 67½-Volt Mini-Max "B" batteries such as Eveready Nos. 455, 466 and Burgess Nos. XX30, XX45.

No. 1205..**$25.00 per C**

HEAVY DUTY BAKELITE BARRIER TERMINAL STRIPS

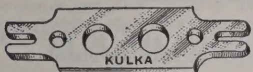


This latest type of construction of bakelite strip is made of molded bakelite of very high tensile strength. The barriers between each terminal prevent any possibility of short circuits and leakage between terminals. The terminals and screws are brass, nickel plated. These strips are manufactured by the KULKA ELECTRIC MFG. CO. INC., Design Patent No. 136,762 and are exclusively distributed by us to the Radio Parts Distributors.

COLUMN A

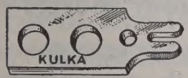
All the Barrier Terminal Strips enumerated in Column A for the 1500, 1600 and 1700 series are made with screw type terminals exactly as shown in the illustration at top of page.

COLUMN B



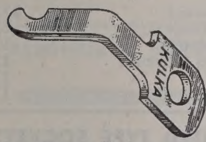
All the Barrier Strips enumerated in Column B for the 1500, 1600 and 1700 series are supplied with the two-solder connection lug illustrated above.

COLUMN C



All the Barrier Strips enumerated in Column C for the 1500, 1600 and 1700 series are supplied with the one-solder connection lug illustrated above.

COLUMN D



All the Barrier Strips enumerated in Column D for the 1500, 1600 and 1700 series are supplied with the bottom type connection lug illustrated above.

No. 1500 SERIES

Height 11/32″, Width ⅞″, Thickness ¼″. Terminals are ⅜″ on centers. Screws 5-40x¼″ long, Binding Head.

Col. A			Col. B			Col. C			Col. D		
No.	Terminals	Each	No.	Terminals	Each	No.	Terminals	Each	No.	Terminals	Each
1501	1	$0.14	1511	1	$0.17	1521	1	$0.17	1531	1	$0.17
1502	2	.22	1512	2	.29	1522	2	.29	1532	2	.29
1503	3	.30	1513	3	.40	1523	3	.40	1533	3	.40
1504	4	.38	1514	4	.52	1524	4	.52	1534	4	.52
1505	5	.46	1515	5	.63	1525	5	.63	1535	5	.63
1506	6	.54	1516	6	.75	1526	6	.75	1536	6	.75
1507	7	.62	1517	7	.86	1527	7	.86	1537	7	.86
1508	8	.70	1518	8	.98	1528	8	.98	1538	8	.98
1509	9	.78	1519	9	1.09	1529	9	1.09	1539	9	1.09
1510	10	.86	1520	10	1.21	1530	10	1.21	1540	10	1.21

No. 1600 SERIES

Height ½″, Width 1⅛″, Thickness 5/16″. Terminal sare 7/16″ on centers. Screws 6-32x¼″ long, Binding Head.

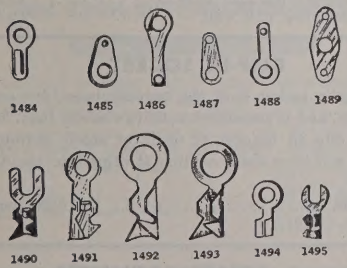
No.	Terminals	Each	No.	Terminals	Each	No.	Terminals	Each	No.	Terminals	Each
1601	1	$0.18	1611	1	$0.22	1621	1	$0.22	1631	1	$0.22
1602	2	.28	1612	2	.37	1622	2	.37	1632	2	.37
1603	3	.38	1613	3	.52	1623	3	.52	1633	3	.52
1604	4	.49	1614	4	.67	1624	4	.67	1634	4	.67
1605	5	.59	1615	5	.82	1625	5	.82	1635	5	.82
1606	6	.69	1616	6	.97	1626	6	.97	1636	6	.97
1607	7	.80	1617	7	1.12	1627	7	1.12	1637	7	1.12
1608	8	.90	1618	8	1.27	1628	8	1.27	1638	8	1.27
1609	9	1.00	1619	9	1.42	1629	9	1.42	1639	9	1.42
1610	10	1.11	1620	10	1.57	1630	10	1.57	1640	10	1.57
1611P	11	1.21	1641	11	1.72	1644	11	1.72	1647	11	1.72
1612P	12	1.31	1642	12	1.87	1645	12	1.87	1648	12	1.87
1613P	13	1.42	1643	13	2.02	1646	13	2.02	1649	13	2.02

No. 1700 SERIES

Height ⅝″, Width 1 5/16″, Thickness ⅜″. Terminals are 9/16″ on centers. Screws 8-32x5/16″ long, Binding Head.

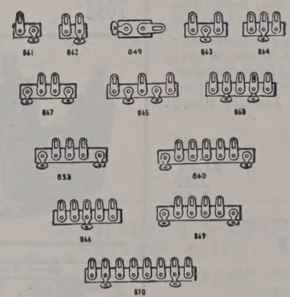
No.	Terminals	Each	No.	Terminals	Each	No.	Terminals	Each	No.	Terminals	Each
1701	1	$0.21	1711	1	$0.27	1721	1	$0.27	1731	1	$0.27
1702	2	.33	1712	2	.45	1722	2	.45	1732	2	.45
1703	3	.46	1713	3	.64	1723	3	.64	1733	3	.64
1704	4	.59	1714	4	.82	1724	4	.82	1734	4	.82
1705	5	.71	1715	5	1.01	1725	5	1.01	1735	5	1.01
1706	6	.84	1716	6	1.19	1726	6	1.19	1736	6	1.19
1707	7	.97	1717	7	1.38	1727	7	1.38	1737	7	1.38
1708	8	1.09	1718	8	1.56	1728	8	1.56	1738	8	1.56
1709	9	1.22	1719	9	1.75	1729	9	1.75	1739	9	1.75
1710	10	1.35	1720	10	1.93	1730	10	1.93	1740	10	1.93
1711P	11	1.47	1751	11	2.12	1754	11	2.12	1757	11	2.12
1712P	12	1.60	1752	12	2.30	1755	12	2.30	1758	12	2.30
1713P	13	1.73	1753	13	2.49	1756	13	2.49	1759	13	2.49

SOLDER TYPE LUGS
Brass Hot Tinned

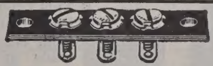


No.	Length	Hole	Per M
1484	⅝″	No. 6	$ 7.00
1485	⅝″	No. 6	6.00
1486	⅞″	No. 6 & No. 8	6.00
1487	⅝″	No. 6	4.00
1488	¾″	No. 6	8.00
1489	⅞″	No. 8	8.00
1490	1″		10.00
1491	15/16″	No. 8	12.00
1493	1″	¼″	20.00
1492	1⅛″	¼″	20.00
1494	⅝″	No. 6 & No. 8	7.50
1495	⅝″	No. 8	7.00

TIE DOWN TERMINAL STRIPS



No.	Per C	No.	Per C
849	$2.75	865	$5.50
853	5.50	866	5.80
860	9.00	867	4.60
861	2.75	868	6.25
862	3.25	869	6.40
863	3.65	870	8.30
864	4.20		

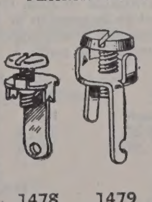


TERMINAL BOARDS
Screw Type

Brass, hot tinned lugs mounted on 1/16″ bakelite. Lugs are spaced 7/16″ center to center.

No.	Terminals	Mounting Center	Per C
872	2	1 5/16″	$10.00
873	3	1¾″	15.00
874	4	2 3/16″	25.00
875	5	2⅝″	30.00
876	6	3 1/16″	35.00
877	7	3½″	40.00

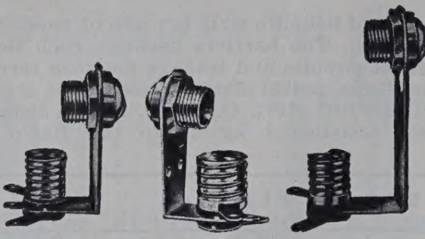
TERMINAL LUGS AND SCREWS



Recommended for heavy duty terminal strips. Lugs are tapped with screw inserted. No. 1478 lug, brass, cadmium plated and No. 1479 lug, brass, hot tinned.

No. 1478........$3.50 per C
No. 1479........ 6.00 per C

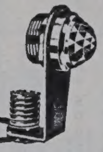
PANEL INDICATOR ½ INCH JEWEL



These panel indicator assemblies are available in the candelabra, miniature screw, or bayonet base type sockets. Jewel holder is made of brass, nickel plated. Jewel mounts in a single 7/16" dia. hole. Candelabra and bayonet base types can also be secured with a universal adjustable bracket for use where more accurate focus of the jewel to lamp filament is required. Facetted jewel available in Red, Green, Amber, Blue, Opal and Clear colors.

No.	Type	Each
1900	Miniature Screw Socket	$0.34
1901	Candelabra 110 Volt	.34
1902	Candelabra 110 Volt with Universal Bracket	.42
1903	Bayonet Base	.34
1904	Bayonet Base with Universal Bracket	.38

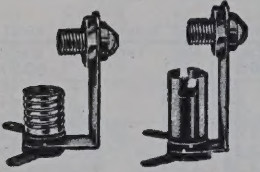
PANEL INDICATOR ¾ INCH JEWEL



Available with candelabra 110 Volt, miniature bayonet base, and miniature screw type sockets. Jewel holder is made of brass, nickel plated. Jewel mounts in a single 11/16" dia. hole. Facetted jewels available in Red, Green, Amber, Blue, Opal and Clear colors.

No.	Type	Each
1905	Miniature Screw Socket	$0.73
1906	Miniature Bayonet Base	.80
1907	Candelabra Socket	.73

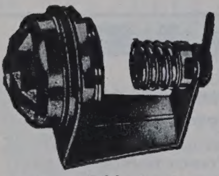
PANEL INDICATOR ⅜ INCH JEWEL



Available with miniature screw type socket, min. bayonet base, or candelabra type sockets. Jewel holder made of brass, nickel plated. Jewel mounts in a single 5/16" dia. hole. Facetted jewels available in Red, Green, Amber, Blue, Opal and Clear colors.

No.	Type	Each
1908	Miniature Screw Socket	$0.38
1909	Miniature Bayonet Base	.42

1 INCH OPEN TYPE PANEL INDICATOR



Jewel Removable from Front of Panel

This type of panel indicator has the added feature of being able to remove the bulb from the front of the panel. Jewel holder made of brass, chromium plated finish. Jewel mounts in a single 1" dia. hole. The embossed rib in the center of the bracket supplies additional strength, assuring perfect alignment. Available in three types: Miniature screw socket, Miniature bayonet socket and Candelabra type socket. Facetted jewels available in the following colors: Red, Green, Amber, Blue, Opal, Clear.

No.	Type	Each
1917	Miniature Screw Socket	$1.22
1918	Miniature Bayonet Base	1.25
1919	Candelabra	1.28

GLASS JEWELS

Jewels are available in Red, Green, Amber, Blue, Opal and Clear colors in smooth or facetted types.
Jewel holders are brass, nickel plated, and are supplied with mounting nut.

⅜ Inch Jewel
MOUNTS IN 5/16" HOLE

No.	Type	Each
1940	Smooth	$0.20
1941	Facetted	.20

½ Inch Jewel
MOUNTS IN 7/16" HOLE

No.	Type	Each
1911	Smooth	$0.23
1912	Facetted	.23

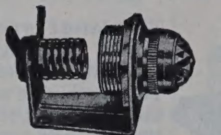
¾ Inch Jewel
MOUNTS IN 11/16" HOLE

No.	Type	Each
1913	Smooth	$0.55
1914	Facetted	.55

1 Inch Jewel
MOUNTS IN 1" HOLE

No.	Type	Each
1915	Smooth	$1.07
1916	Facetted	1.07

½ INCH OPEN TYPE PANEL INDICATOR



Jewel Removable from Front of Panel

Jewel holder made of brass, nickel plated. Mounts in a single 11/16" dia. hole. The embossed rib in the center of the bracket gives additional strength and assures perfect alignment. The bulb is easily removable from the front of the panel. Available with Miniature screw type or Miniature bayonet base type sockets, with facetted jewels in the following colors: Red, Green, Amber, Blue, Opal, Clear.

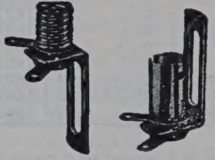
No.	Type	Each
1920	Miniature Screw Socket	$0.50
1921	Miniature Bayonet Base Socket	.55

CLIP-ON TYPE PILOT LIGHT SOCKETS

This type of socket is available with the clip up or down, and can be used by clipping on to the variable condenser or the chassis. This design socket is made with the miniature screw base, miniature bayonet base, or candelabra 110 Volt types. All brackets are cadmium plated.

No.	Type	Per C
1922	Miniature Screw Up Clip	$13.00
1923	Miniature Screw Down Clip	13.00
1924	Miniature Bayonet Up Clip	15.00
1925	Miniature Bayonet Down Clip	15.00
1926	Candelabra Up Clip	17.00
1927	Candelabra Down Clip	17.00

BRACKET TYPE PILOT LIGHT SOCKETS



Available with an up or down type of bracket for the miniature screw type, miniature bayonet base, and for the candelabra 110 Volt type sockets. Brackets are made of steel, cadmium plated.

No.	Type	Per C
1928	Miniature Screw Up Bracket	$13.00
1929	Miniature Screw Down Bracket	13.00
1930	Miniature Bayonet Up Bracket	15.00
1931	Miniature Bayonet Down Bracket	15.00
1932	Candelabra Up Bracket	17.00
1933	Candelabra Down Bracket	17.00

UNMOUNTED TYPE SOCKETS

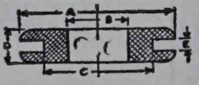
These unmounted sockets can be secured for the miniature screw shell, miniature bayonet base or for the candelabra 110 Volt types of sockets.

No.	Type	Per C
1934	Miniature Screw Base	$10.50
1935	Miniature Bayonet Base	11.50
1936	Candelabra 110 Volt	13.50

CLIP-IN SOCKET

This clip-in socket is of the bayonet base type construction, and is assembled with two solder lugs. The special clip in bracket is made of steel, cadmium plated, and is so designed that it clips into the dial directly.

No. 1938..**$14.00 per C**



RUBBER GROMMETS

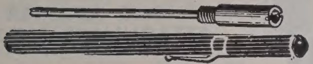
A: Outside Dia.; B: Inside Dia.; C: Panel Hole; D: Thickness Over-all; E: Panel Thickness.

No.	A	B	C	D	E	Per C
2185	5/16"	⅛"	¼"	3/16"	1/16"	$2.00
2171	⅜"	11/64"	5/16"	¼"	1/16"	2.50
2172	7/16"	3/16"	5/16"	3/16"	1/16"	3.00
2176	½"	7/32"	⅜"	3/16"	1/16"	3.00
2170	⅝"	¼"	⅜"	⅜"	1/16"	3.50
2173	9/16"	9/32"	11/32"	¼"	1/16"	3.00
2174	⅝"	5/16"	7/16"	¼"	1/16"	3.25
2175	11/16"	5/16"	½"	¼"	1/16"	3.50
2177	¾"	7/16"	9/16"	¼"	1/16"	3.25

SMITH *Electronic Components*

HERMAN H. SMITH, INC.

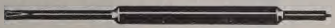
NEUTRALIZING AND ALIGNMENT TOOL



A complete, fully insulated neutralizing tool, screw driver and wrench combination. The fibre wrench portion has a ¼″ hexed socket on one end and a $\frac{5}{16}$″ hexed socket on the other end. A ¼″ metal screw driver nib on the inside portion of the tool fits into the fibre tube itself.

No. 320.......................................**$0.85 each**
No. 700—Display of 12 No. 320 Tools, **$10.20 each**

ALIGNING TOOL

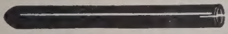


For Peanut I.F.'s • For RCA Front End For "K" Tran. Transformers

Slender, yet sturdy, this tool is specially adapted for aligning peanut I.F.'s and the difficult-to-get-at front end of some receivers. Available in bulk or on attractive display card.

No. 326.......................................**$0.75 each**
No. 778—Display of 24 No. 326 Tools, **$18.00 each**

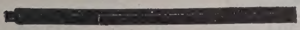
MIDGET ALIGNING TOOL WITH RECESSED NIB



This recessed nib aligning tool is another essential for television servicing. Constructed from fibre with thin recessed nib for slug tuning. Only 2½″ long, it makes those hard-to-get-at slugs accessible while chassis is still in cabinet. Available in bulk or on attractive display card.

No. 327.......................................**$0.50 each**
No. 779—Display of 48 No. 327 Tools, **$24.00 each**

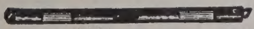
ALIGNMENT SCREW DRIVER



Fibre handle $\frac{7}{32}$″ dia. x 6″ long, and fitted with a screw driver nib for aligning of coils, padding condensers, etc.

No. 321.......................................**$0.40 each**
No. 776—Display of 24 No. 321 Drivers, **$9.60 each**

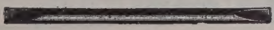
ALIGNMENT TOOL FOR PUSH-BUTTON RECEIVERS



This tool is especially designed for aligning push-button receivers and for adjusting iron core I.F. transformers and R.F. coils. There is a recessed screw driver nib on one end and a screw driver blade on the other. Both ends knurled for easy grip.

No. 325.......................................**$0.75 each**
No. 777—Display of 24 No. 325 Tools, **$18.00 each**

FIBRE ALIGNMENT SCREW DRIVERS

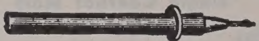


Made of bone hard fibre and supplied in three sizes.

No.	O.D.	Length	Each
307	$\frac{7}{32}$″	7″	$0.40
308	$\frac{5}{16}$″	6″	.50
328	⅛″	7″	.35

701—Display of 24 No. 307 Drivers...... 9.60
702—Display of 18 No. 308 Drivers...... 9.00
782—Display of 36 No. 328 Drivers......12.60

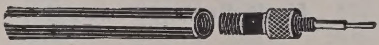
TEST PROD
"MAKE YOUR OWN R. F. PROBE"



An exceptionally sturdy fibre prod with rear of prod designed to accommodate IN-34 crystal and condensers, necessary for use as an R.F. Probe. Heavy duty removable screw type tip for easy soldering.

No. 630.......................................**$1.00 each**
No. 781—Display of 12 No. 630 Prods, **$12.00 each**

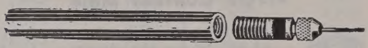
SOLDERLESS TEST PROD HANDLES



Insulated handles, available in Black and Red colors. The wire is fed through the insulated handle and is wrapped around the screw portion of the plug and then tightened with the knurled nut provided, making soldering unnecessary. Specify color.

No.	Over-all Length	Each
302	5¼″	$0.40
303	6¾″	.50

PHONO NEEDLE TEST PROD HANDLES



Insulated handles available in Black and Red colors. Wires can be assembled to the metal chuck by unscrewing the chuck from the prod handle. Specify color.

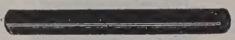
No.	Over-all Length	Each
317	5″	$0.40
318	6⅜″	.50

FIBRE TEST PROD HANDLES

Handles are made of fibre and can be obtained with either solderless tips or phono needle tips. Constructed same as our numbers 302 and 317. Handles available in Black and Red colors. Specify color.

No.	Type	Length	Each
323	Solderless Tip	5⅛″	$0.30
324	Needle Point	5⅛″	.30

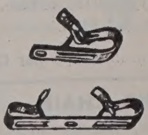
HEXED FIBRE TUBES



Made of bone hard fibre, and constructed so that if the hex wears out, it can be cut off and the balance of the tube can be used.

¼″ HEX			$\frac{5}{16}$″ HEX	
No.	Each	Size	No.	Each
309	$0.30	6″	313	$0.30
310	.35	8″	314	.35
311	.45	10″	315	.45
312	.50	12″	316	.50

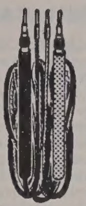
FAHNESTOCK SPRING BATTERY CLIPS



Clips are made of brass, nickel plated and are available in the single and double clip types.

No.	Type	Length	Will Take	Per C
533	Single	¾″	No. 14 B & S Wire	$1.65
534	Single	1″	No. 10 B & S Wire	2.00
535	Double	1½″	No. 10 B & S Wire	9.00
536	Double	$2\frac{1}{16}$″	No. 10 B & S Wire	10.00

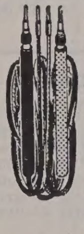
TEST LEADS WITH SOLDERLESS TIPS



Fibre handles colored Red and Black, 4″ long x ⅜″ diameter. Flexible rubber covered wire leads 50″ long also colored Red and Black. Available with standard phone tips, spade lugs or alligator clips.

No.	Type	Per Pr.
600	Phone Tips	$1.10
601	Spade Lugs	1.10
602	Alligator Clips	1.25

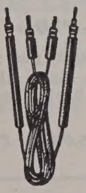
PHONO NEEDLE TEST LEADS



Fibre handles colored Red and Black, 4″ long x ⅜″ diameter. Tips are very sharp phonograph needles. Flexible rubber covered wires 50″ long also colored Red and Black. Available with standard phone tips, spade lugs, or alligator clips.

No.	Type	Per Pr.
613	Phone Tips	$1.10
614	Spade Lugs	1.10
615	Alligator Clips	1.25

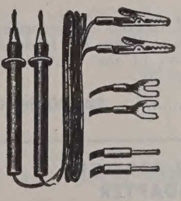
ALL SOLDERLESS TEST LEADS



The insulated handles and the insulated plugs are both of the solderless type construction. Insulated handles, Red and Black, are our No. 302, and the plugs are our No. 200. Flexible rubber covered wire leads 50″ long.

No. 603....................**$1.65 per pair**

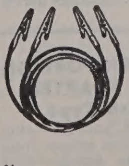
HEAVY DUTY TEST LEADS



Heavy duty fibre handles ½″ O.D. x 5⅜″ long, with fibre guard between handle and metal tip to prevent any possibility of shocks. Flexible wire leads 50″ long, colored Red and Black. Test leads are available with standard phone tip, spade lugs or alligator clips.

No.	Type	Per Pr.
620	Phone Tips	$2.25
621	Spade Lugs	2.25
622	Alligator Clips	2.50

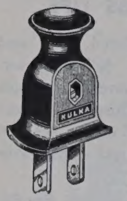
ALLIGATOR CLIP TEST LEADS



Made of very flexible Red and Black wire with alligator clips at each end.

No.	Wire Length	Per Pr.
604	12″	$0.75
605	24″	.85
606	36″	.95
607	48″	1.05

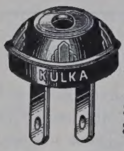
BAKELITE FLAT PULL CAP



Approved and listed with U. L. This handy unit consists of two halves of bakelite held together by a screw and nut. The prongs are of heavy brass and have screw terminals for conecting wire leads. Attractively designed for visible use and with an "easy-grip" shape to facilitate insertion and removal from any receptacle. Colors: Brown and Ivory.

No.	Color	Per C
854	Brown	$17.00
855	Ivory	21.00

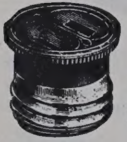
BAKELITE PONY CAP



Bakelite Pony Cap with Brass Prongs.

No.	Color	Per C
858	Brown	$13.00
859	Ivory	17.00

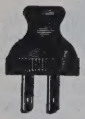
ATTACHMENT PLUG CAP



A snug-fitting, sturdy, bakelite base designed for use with standard attachment plug caps. Has slot finding features on its face and heavy spring contacts for positive and lasting electrical contact. 660 Watts — 250 Volts.

No. 857..**$17.00 per C**

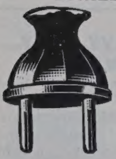
RUBBER ATTACHMENT — PLUG



Rubber handle attachment plug: Cord Hole ⅜″ (.375). Rated at 15 Amps. 125 Volts. Blades are made of Brass.

No. 850....................**$15.00 per C**

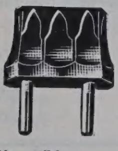
BAKELITE HANDLE PLUG
Foreign Type



Moulded bakelite handle foreign type plug. Blades are made of brass, and of the Continental Type spacing.

No. 851..............**$25.00 per C**

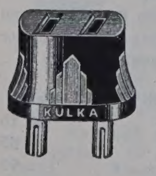
AMERICAN-FOREIGN PLUG ADAPTER



Streamlined bakelite plug adapter, which adapts from American to foreign type plugs. The plugs will fit snugly into the adapter. The foreign type plugs are made of brass, and are of Continental Type spacing.

No. 852......................................**$30.00 per C**

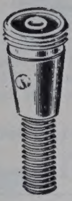
AMERICAN-FOREIGN PLUG ADAPTER
British Type



Streamlined bakelite plug adapter, which adapts from American to foreign type plugs. The plugs will fit snugly into the adapter. Prongs are made of brass and are of the BRITISH TYPE spacing.

No. 856..**$30.00 per C**

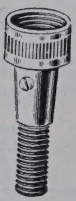
MICROPHONE CONNECTOR
Single Contact Male



A completely shielded single contact connector. Made of brass and heavily chrome plated. Mate for No. 116 female connector.

No. 115........................**$0.40 each**

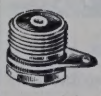
MICROPHONE CONNECTOR
Single Contact Female



Mate for our No. 117 chassis connector. This connector is used extensively for making connections from microphone to amplifier. Comes equipped with coupling ring. All metal parts are made of brass, heavily chrome plated, except the spring.

No. 116........................**$0.50 each**

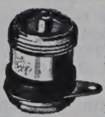
CHASSIS CONNECTOR
Single Contact Male



This type connector is recommended for use on the chassis or in the microphone. Made of brass, heavily nickel plated. Threaded ⅝″-27, and mounts in a ⅝″ hole. Supplied complete with washers, soldering lug and nut.

No. 117..**$0.30 each**

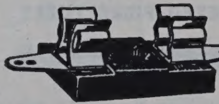
CLOSED CIRCUIT CHASSIS CONNECTOR



Same as No. 117 Connector except that circuit closes when female microphone connector (our No. 116) is removed. Supplied with washers, soldering lug and nut.

No. 114......................**$0.40 each**

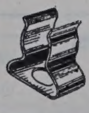
FUSE MOUNTING BASES



Black bakelite, panel mount type. Will accommodate the 3 A G Auto type cartridge fuse.

No.	Type	Each
530	Single	$0.20
531	Double	.30

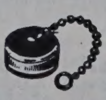
FUSE CLIPS



Clips are made of spring brass, nickel plated. Will accommodate the 3 A G Auto type cartridge fuse. Clips ¼″ wide x ⅜″ high.

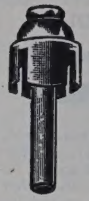
No. 532......................................**$1.75 per C**

CAP AND CHAIN



Made of brass, heavily nickel plated. The cap seals open end units against dust, eliminating noisy connections. Used with any threaded one or two-conductor chassis unit.

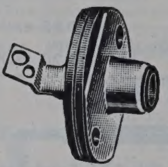
No. 118..**$0.50 each**



PHONO ADAPTER ATTACHMENT PLUG

Phonograph pick-up and auto radio connection plug.

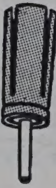
No. 1201....................**$8.00 per C**



PHONO JACK

Mate for the No. 1201 plug. Jack mounted on bakelite and metal back supplied for use with phonograph attachment.

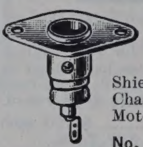
No. 1203, $12.00 per C



MOTOROLA TYPE PLUG

Attachment plug for all Motorola auto-radio receivers and many other types of auto radios.

No. 1200...........**$10.00 per C**

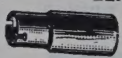


MOTOROLA SHIELDED JACK

Shielded Jack for Automobile Chassis which takes standard Motorola Plug.

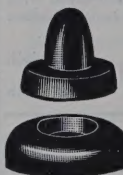
No. 1207...............**$18.00 per C**

LEAD-IN ADAPTER



Lead-in adapter converts Motorola plug to Delco type plug.

No. 1204..................................**$11.00 per C**



RUBBER FEET BUMPER

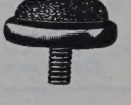
Rubber Bumper — ⅝″ dia. x 9/32″ thick. Recessed to accommodate a self-tapping screw, machine screw, wood screw or a tack.

No. 2184............**$4.00 per C**

Insert Rubber Bumper — O.D. of shoulder ½″ x 3/32″ thick. Insert 5/16″ long tapered from 3/16″ to ¼″.

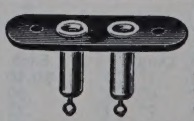
No. 2183..................................**$3.00 per C**

FELT FEET



Available in two types, either with a 6-32 x ⅜″ machine screw or with an "Anchor Fast" nail, which will stay in place, and will not back up, pull out, or "pop."

No.	Type	Per C
2181	With Machine Screw	$6.50
2182	With Stronghold Nail	7.00



PHONO TIP JACK

Brass, nickel plated jacks with positive contact springs mounted on 1/16″ bakelite. Jacks are 7/16″ center to center. Jacks will accommodate standard phone tips of either solderless or solder types.

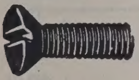
No. 878...**$20.00 per C**

STEEL MACHINE SCREWS

Round Head, Cadmium Plated

Available in bulk quantities, or can be obtained packed 1,000 or a gross to the box.

No.	Per M	Size	No.	Gross
1000	$3.40	6-32 x ¼″	1018	$0.61
1001	3.60	6-32 x ⅜″	1019	.61
1002	3.90	6-32 x ½″	1020	.65
1003	4.20	6-32 x ⅝″	1021	.65
1004	4.55	6-32 x ¾″	1022	.72
1005	5.20	6-32 x 1″	1023	.85
1006	4.20	8-32 x ¼″	1024	.65
1007	4.55	8-32 x ⅜″	1025	.72
1008	5.20	8-32 x ½″	1026	.85
1009	5.50	8-32 x ⅝″	1027	.98
1010	5.50	8-32 x ¾″	1028	1.10
1011	6.50	8-32 x 1″	1029	1.25
1012	5.50	10-32 x ¼″	1030	1.10
1013	6.00	10-32 x ⅜″	1031	1.17
1014	6.50	10-32 x ½″	1032	1.25
1015	7.15	10-32 x ⅝″	1033	1.40
1016	7.65	10-32 x ¾″	1034	1.45
1017	7.80	10-32 x 1″	1035	1.55

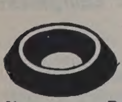


RACK SCREWS

Oval Head, Steel, Nickel Plated

Specially recommended for mounting panels in racks and cabinets. Available in gross packages or packed 1000 to the box.

No.	Per M	Size	No.	Gross
1102	$6.50	6-32 x ¼″	1090	$0.98
1103	6.85	6-32 x ½″	1091	1.05
1104	7.15	6-32 x ¾″	1092	1.17
1105	7.80	6-32 x 1″	1093	1.30
1106	6.70	8-32 x ¼″	1094	1.10
1107	7.80	8-32 x ½″	1095	1.25
1108	9.10	8-32 x ¾″	1096	1.45
1109	9.20	8-32 x 1″	1097	1.55
1110	8.45	10-32 x ¼″	1098	1.45
1111	9.20	10-32 x ½″	1099	1.55
1112	10.40	10-32 x ¾″	1100	1.60
1113	12.35	10-32 x 1″	1101	1.80



COUNTERSUNK WASHERS

Brass, Nickel Plated

Recommended for use with Rack Screws designated above.

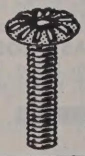
No.	Per M	Size	No.	Gross
1115	$6.80	6	1118	$1.05
1116	7.20	8	1119	1.10
1117	7.20	10	1120	1.10

FLAT AND SHAKEPROOF WASHERS

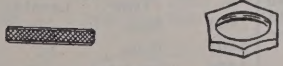
No.	Per M	Type	No.	Gross
1150	$1.65	No. 6 Brass N.P.	1146	$0.30
1151	2.00	No. 8 Brass N.P.	1147	.40
1152	2.00	No. 10 Brass N.P.	1148	.40
1127	3.50	No. 4 Shakeproof Int. Teeth	1121	.55
1128	3.75	No. 6 Shakeproof Int. Teeth	1122	.60
1129	3.75	No. 8 Shakeproof Int. Teeth	1123	.60
1130	3.75	No. 10 Shakeproof Int. Teeth	1124	.60
1132	4.00	¼″ Shakeproof Int. Teeth	1126	.60
1131	7.50	⅜″ Shakeproof Int. Teeth	1125	1.10
1139	3.50	No. 4 Shakeproof Ext. Teeth	1133	.55
1140	3.75	No. 6 Shakeproof Ext. Teeth	1134	.60
1141	3.75	No. 8 Shakeproof Ext. Teeth	1135	.60
1142	3.75	No. 10 Shakeproof Ext. Teeth	1136	.60
1144	4.00	¼″ Shakeproof Ext. Teeth	1138	.65
1143	7.50	⅜″ Shakeproof Etx. Teeth	1137	1.10

FANCY HEAD BRONZE FINISH SCREWS

No.	Size	Per M
1160	6-32 x ¾″	$10.70
1161	6-32 x 1″	11.40
1162	6-32 x 1¼″	12.50
1163	6-32 x 1½″	14.00
1164	8-32 x ¾″	13.50
1165	8-32 x 1″	14.30
1166	8-32 x 1¼″	16.25
1167	8-32 x 1½″	21.50



SPECIAL NUTS



Machined of Brass Nickel Plated. Correct sizes for volume controls and toggle switches.

No.	Type	Dimensions	Per M
1195	Volume Control	⅜-32 x ½ x 3/32	$20.00
1196	Toggle Switch	15-32 x 9/16 x 5/64	25.00
1197	Toggle Ring Nut	15-32 x ⅝ x 1/16	30.00

BRASS MACHINE SCREWS

Round Head, Nickel Plated

Available in bulk quantities, or can be obtained packed 1,000 or a gross to the box.

No.	Per M	Size	No.	Gross
1044	$6.10	4-36 x ¼″	1036	$0.90
1045	6.25	4-36 x ⅜″	1037	.95
1046	6.40	4-36 x ½″	1038	.98
1047	6.10	4-40 x ¼″	1039	.90
1048	6.25	4-40 x ⅜″	1040	.95
1049	6.40	4-40 x ½″	1041	.98
1050	6.40	6-32 x ¼″	1070	.98
1051	6.80	6-32 x ⅜″	1071	1.05
1052	7.10	6-32 x ½″	1072	1.10
1053	7.35	6-32 x ⅝″	1073	1.17
1054	7.80	6-32 x ¾″	1074	1.25
1055	12.75	6-32 x 1″	1075	1.85
1056	9.45	8-32 x ¼″	1076	1.40
1057	9.90	8-32 x ⅜″	1077	1.45
1058	10.25	8-32 x ½″	1078	1.55
1059	11.65	8-32 x ⅝″	1079	1.70
1060	12.75	8-32 x ¾″	1080	2.30
1061	16.95	8-32 x 1″	1081	2.50
1062	9.75	10-32 x ¼″	1082	1.45
1063	12.00	10-32 x ⅜″	1083	1.75
1064	13.00.	10-32 x ½″	1084	1.95
1065	13.60	10-32 x ⅝″	1085	2.00
1066	14.60	10-32 x ¾″	1086	2.15
1067	16.95	10-32 x 1″	1087	2.45

HEXAGON NUTS

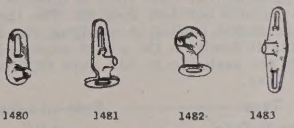
Brass, Nickel Plated

No.	Per M	Size	No.	Gross
1188	$7.80	4-36 x ¼″	1182	$1.15
1168	7.80	4-40 x ¼″	1169	1.15
1189	7.80	6-32 x ¼″	1183	1.15
1190	7.80	6-32 x 5/16″	1184	1.15
1191	9.75	8-32 x ¼″	1185	1.45
1192	9.75	8-32 x 5/16″	1186	1.45
1193	9.75	10-32 x 5/16″	1187	1.45

Steel, Cadmium Plated

No.	Per M	Size	No.	Gross
1179	$5.15	6-32 x ¼″	1176	$0.85
1180	6.25	6-32 x 5/16″	1177	.98
1181	6.25	8-32 x 5/16″	1178	.98

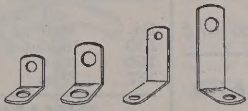
EYELET TYPE SOLDER LUGS



Made of brass. Nos. 1480, 1481 and 1482 are hot tinned and No. 1483 cadmium plated. Specially recommended for mounting on terminal strips.

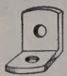
No.	Length	Hole	Per M
1480	⅝″	5/64 slot	$ 4.50
1481	⅝″	No. 8	10.00
1482	¼″	No. 8	7.50
1483	15/16″		7.50

BRASS AND STEEL ANGLES



No.	Material	Size	Per C
1474	Brass N.P.	½″ x ½″	$2.50
1475	Brass N.P.	⅝″ x ⅝″	5.00
1476	Steel H.T.	¾″ x ¾″	2.00
1477	Steel H.T.	⅝″ x 1⅛″	2.00

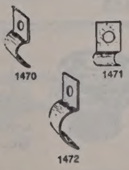
TAPPED ANGLE BRACKET



Made of steel, cadmium plated. Size ½″ x ½″, with one 8-32 tapped hole and one plain .165 hole.

No. 1473..$4.50 per C

CABLE CLAMPS

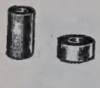


1470—Steel, Cadmium plated, No. 8 hole, l. ¾″, w. ⅜″. Fits ¼″ cable..$1.25

1471—Steel, Cadmium plated. No. 8 hole, l. ⅝″, w. ⅜″. Fits ⅛-¼″ cable.. 1.25

1472—Steel, Cadmium plated. No. 8 hole, l. 1″, w. ⅜″. Fits over ½″ cable.. 1.50

BRASS BUSHINGS



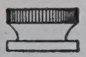
These brass bushings are ideal for use in raising sub panels, chassis, condensers, transformers, etc. Hole in bushing to accommodate a No. 6 or No. 8 screw.

No.	Per C	¼″ O.D. Length	No.	Per C
2100	$3.50	¼″	2105	$3.50
2101	4.00	⅜″	2106	4.00
2102	4.25	½″	2107	4.25
2103	5.00	¾″	2108	5.00
2104	5.50	1″	2109	5.50
		⅜″ O.D.		
2110	$4.25	¼″	2115	$4.25
2111	4.75	⅜″	2116	4.75
2112	5.00	½″	2117	5.00
2113	5.50	¾″	2118	5.50
2114	6.25	1″	2119	6.25

THREADED BRASS BUSHINGS

Brass bushings ¼″ O.D. Threaded 6-32 and 8-32.

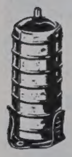
Threaded 6-32			Threaded 8-32	
No.	Per C	Length	No.	Per C
2120	$4.25	¼″	2125	$4.25
2121	5.25	⅜″	2126	5.25
2122	6.50	½″	2127	6.50
2123	7.50	¾″	2128	7.50
2124	8.50	1″	2129	8.50



KNURLED BATTERY NUTS
Brass, Nickel Plated

No.	Dimensions	Per C
1198	6-32 x 11/32 x 13/64	$2.50
1199	8-32 x 11/32 x 13/64	2.50

MINI-SHIELDS
The Perfect Shield For Mini-Tubes



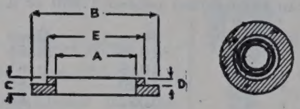
These new Mini-Shields are formed to fit snugly and yet expand to a constant snug fit on larger tubes to automatically compensate for the considerable variation in physical dimensions of miniature tubes as commercially produced.

Specially shaped serrations spaced to engage the lower mini-shield ribs catch and hold the shield firmly which actually tightens against vibrations or other forces tending to jiggle the tube loose.

These shields are made so that three rows of dimples pressing against the tube provide a gentle but firm snug fit. The three prong spring base clip grips the shield positively, cradling the tube within the shield and retaining it firmly in the socket secure against vibration. These Mini-Shields are available in two sizes to accommodate tubes 1½″ long and 2″ long.

No.	Type	Over-all Length	Per C
550	For 2″ Tube	1¾″	$12.00
551	For 1½″ Tube	1¼″	10.00
553	3-Prong Base Clip		5.00
554	Single Clips		3.00

FIBRE SHOULDER WASHERS



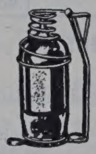
A. Inside Diameter
B. Outside Diameter
C. Thickness Over-all
D. Height of Shoulder
E. Diameter of Shoulder

No.	A	B	C	D	E	Per M
2150	.140	.375	.093	.031	.237	$10.50
2151	.110	.250	.062	.031	.187	8.50
2152	.136	.250	.093	.031	.187	9.00
2153	.136	.312	.093	.031	.187	10.00
2154	.250	.500	.068	.028	.312	11.00
2155	.172	.375	.093	.031	.246	9.75
2156	.196	.375	.093	.031	.308	9.75
2157	.375	.750	.093	.031	.500	13.00
2158	.385	.625	.093	.031	.500	12.50

FLAT FIBRE WASHERS

No.	I.D.	O.D.	Thickness	Per M
2160	.136	.250	1/16	$8.25
2161	.110	.250	1/16	8.25
2162	.140	.375	1/16	7.50
2163	.172	.375	1/16	7.50
2164	.196	.375	1/16	7.50
2165	.250	.500	1/16	8.00
2166	.250	.500	3/32	8.25
2167	.312	.500	1/16	8.00
2168	.385	.625	1/16	9.75
2169	.375	.750	1/16	12.00

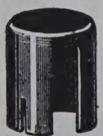
MINI-SPRING FOR MINI-TUBES
For Table Radios • Electronic Equipment
Radio Receivers



The Mini-Tube guard gives support to the Mini-Tube in two ways. It maintains a direct axial pressure downwards plus a sideways support that keeps the tube upright and perpendicular to the chassis. The spring action is constant and resilient permanently. If your radio equipment has an inclined chassis . . . or the tubes are mounted upside down or horizontally . . . or if it is subject to any vibration . . . or if your demand is constantly superior trouble-free reception, Mini-Tube guards are the only way to insure that tubes stay in place forever.

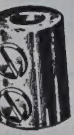
No.	Type	Per C
560	Short	$12.00
561	Medium	12.00
562	Long	12.00
563	9-Prong	12.00

GRID CAP SHIELD



Shield is slotted on the side, for passage of the grid lead wire. The shield fits snugly over the grid cap of the tube, completely shielding same. Shield is cadmium plated finish.

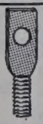
No. 537..................$10.00 per C



BRASS AND INSULATED COUPLINGS

For use on electronic equipment wherever a shaft extension is required. O.D. 7/16″ x ¾″ long.

No.	Material	Type	Each
120	Brass	¼″ to ¼″	$0.20
140	Insulated	¼″ to ¼″	.20
131	Brass	⅜″ to ¼″	.20

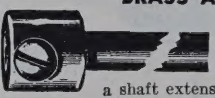


STEEL SPADE BOLTS

Steel, cadmium plated finish, threaded 6-32, thread length 5/16″, length over-all ¾″.

No. 1500..........................$8.45 per M

BRASS AND INSULATED EXTENDERS



For use on electronic equipment wherever a shaft extension is required. Over-all length 1¾″, shaft length 1⅜″.

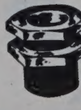
No.	Material	Type	Each
130	Insulated	¼″ to ¼″	$0.30
150	Brass	¼″ to ¼″	.30
132	Brass	⅜″ to ¼″	.30

THREADED BRASS RODS

Rods ordinarily supplied in 2-foot lengths; if one-foot length is required, please specify.

No.	Size	Per Foot
1400	6-32	$0.30
1401	8-32	.30
1402	10-32	.40
1403	¼″-20	.45

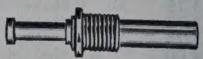
BEARING FOR PANEL ASSEMBLY



Made of brass, and fits in ⅜″ diameter hole in panels up to ¼″ thick. Bearing is made to accommodate ¼″ shafts.

No. 119......................$0.20 each

PANEL BEARING ASSEMBLY



This panel bearing is accurately machined and is specially recommended for use as dial drives, or for mounting volume controls, switches, etc. Over-all length 1⅞″. Supplied with nut. Drive shaft ¼″ O.D.

No. 126.......................................$25.00 per C

BRASS AND INSULATED RODS

These rods are available in both brass and insulated material.

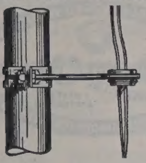
No.	Type	Length	Dia.	Each
1404	Brass	6″	¼″	$0.20
1405	Brass	12″	¼″	.40
1406	Insulated	6″	¼″	.20
1407	Insulated	12″	¼″	.40

We are also in a position to supply brass and insulated rods of various diameters and will gladly quote upon receipt of inquiry.

SMITH *Electronic Components*
HERMAN H. SMITH, INC

TELEVISION ANTENNA ACCESSORIES

CLAMP STAND OFF FOR ANTENNA MAST



A quick method for securing the antenna line down the mast. Simply slip clamp over the mast and tighten. It is not necessary to hold the nut to tighten. For antennas already installed, open the clamp and slip it around the mast. **Thirty seconds and the operation is complete!** Available in two sizes and supplied completely assembled with 3½″ screw eyes with molded polyethylene inserts as shown above for twin lead, coaxial cables or with universal insert which accommodates either twin lead or coaxial cables.

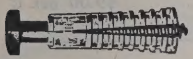
For ⅞" and 1" Masts

No.	Type	Per C
1255	With Twin Lead Insert	$13.00
1261	With Coaxial Insert	15.00
1266	With Universal Insert	13.00

For 1⅛" and 1¼" Masts

No.	Type	Per C
1256	With Twin Lead Insert	13.00
1262	With Coaxial Insert	15.00
1267	With Universal Insert	13.00

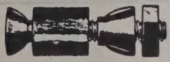
LAG SCREW EXPANSION SHIELD



This expansion shield is extensively used in television antenna installations. Made of a special alloy — 100% rust-proof. Newly designed threads hold greater load and external corrugations (ribs) give additional strength on masonry. This shield is 1″ long x ½″ O.D. and takes our standard ¼″ x 1¼″ lag screw.

No. 1230..........**$18.00 per C**

STUD ANCHORS

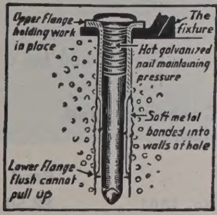


Stud Anchor consists of Cone-Headed Bolt, Lead Alloy Sleeve-Metal Cone and Square Nut completely assembled as at left. The bolt has two fins on its tapered section to lock into lead sleeve after the anchor has been set. This prevents the bolt from turning when the square nut is tightened Fits into a ½″ hole and is 2″ long over-all.

Instructions for Installation: Drill hole proper diameter and depth — place Star Stud in anchor into hole, head of the bolt first — remove the square nut — place setting tool or piece of pipe over bolt and hammer anchor solidly.

No. 1232..........**$18.00 per C**

DRIVE IN EXPANSION SHIELD


Upper flange holding work in place
The fixture
Hot galvanized nail maintaining pressure
Soft metal bonded into walls of hole
Lower flange flush cannot pull up

This is an expansion shield which uses **nails** as an expansion on locking pin. Drill ¼″ hole in the masonry and pass shield through mounting hole of object being attached so that top flange remains above fixtures. The nail, under the hammer blow, forces the lead into all the irregularities of the masonry hole, then passes through and locks anchor flange of bottom under the lead. The length of the shield is 1½″.

No. 1233..........**$15.00 per C**

GUY WIRE

An exceptionally high grade of steel galvanized guy wire for anchoring antenna masts. Available in two sizes, STANDARD—6 strands of No. 20; EXTRA HEAVY—6 strands of No. 18.

6 STRANDS No. 20

No.	Each	Length
1250	$0.80	50-foot Coil
1251	1.50	100-foot Coil
1252	7.00	500-foot Spool
1253	13.20	1000-foot Spool

6 STRANDS No. 18

No.	Each
1271	$1.25
1272	2.50
1273	12.30
1274	24.50

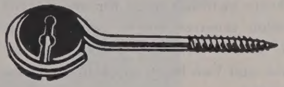
This Guy Wire is also available in both sizes in **50-Foot Connected Coils,** two dozen coils to the carton.

6 STRANDS No. 20
No. 1278 $16.50 Each Carton

6 STRANDS No. 18
No. 1279 $22.00 Each Carton

Each Carton: 24 Coils — 1200 Feet

SCREW EYE STAND OFF INSULATORS
With Molded Polyethylene Inserts



This screw eye has a special low-loss polyethylene insert and is specially designed for use in 300-ohm line television installations.

Twin Lead Insert

No.	Size	Per C
1210	3½″	$6.95
1240	7½″	9.00

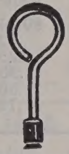
Coaxial Cable Insert

No.	Size	Per C
1260	3½″	7.80
1270	7½″	9.75

Universal Insert

No.	Size	Per C
1265	3½″	6.95
1280	7½″	9.00

EYE BOLT ASSEMBLY



This is the only Eye Bolt Anchor designed for anchoring antenna guy wire in brick or masonry. Made of ¼″ material, over-all length 2½″, fits into hole, closing gap $\frac{5}{32}$″. Rust-proofed. Can only be used with our No. 1229 tamping tool shown on Page U-76b.

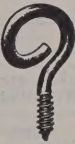
No. 1227..........**$18.00 per C**

EYE BOLT

Sturdy steel eye bolt for use where guy wire is necessary for T.V. mast installation. Inside diameter $\frac{23}{32}$″, shank length $\frac{15}{16}$″, thread length $1\frac{1}{16}$″.

No. 1249..........**$8.00 per C**

BRIDLE RING



Heavy duty steel bridle ring ⅝″ long. Another essential item where guy wire is used in T.V. mast installation.

No. 1238..........**$10.00 per C**

ANCHOR BOLT

Rust-proofed anchor designed for lasting and permanent anchorage for fastening wall mounts and pipe straps to masonry. Free tamping tool with each 100 Bolts.

No.	Bolt Length	Per C
1246	2″	$15.00
1247	3″	18.00
1248	4″	22.00

TOGGLE BOLT

A spring wing toggle bolt useful for mounting objects against hollow concrete. Clamp is galvanized steel and screw is ¼″ O.D. x 3″ long.

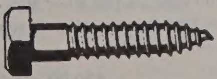
No. 1223..........**$22.00 per C**

WOOD SCREW ANCHOR

Especially designed to give permanent anchorage in any kind of masonry for 300-ohm and coaxial stand-offs. Tapped for wood screw. Free tamping tool with each 100 anchors.

No. 1226..........**$11.00 per C**

LAG BOLT



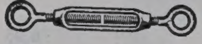
No.	Size	Per C
1213	¼″ x 1¼″	$6.00

TELEVISION ANTENNA ACCESSORIES

MIDGET KNIFE SWITCHES

Midget knife switches ideal for use in rear of television receiver where two antennas are used. Screw terminals placed for easy connection and two holes in each type base for mounting.

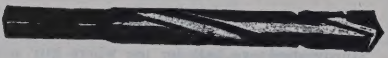
No.	Type	Type Base	Each
1241	S P S T	Porcelain	$0.40
1242	S P D T	Bakelite	.50
1243	D P S T	Porcelain	.70
1244	D P D T	Bakelite	.80



MIDGET TURNBUCKLES

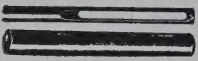
No.	Diameter of Bolt	Over-all Length Closed	Over-all Length Extended	List Price Each
1215	5/32"	3⅜"	4⅝"	$0.21
1216	3/16"	4"	5⅝"	.23
1217	7/32"	4½"	6⅜"	.25
1218	¼"	5½"	7⅝"	.30
1219	5/16"	6¾"	9¼"	.50
1220	⅜"	7½"	10½"	.75

CARBIDE TIPPED MASONRY DRILLS



These drills are carbide tipped and have a spiral fluted body. It penetrates freely and easily, giving clean, accurate holes. Individually packed complete with operating instructions.

No.	Size	Each
1234	¼"	$3.75
1236	⅜"	4.75
1235	½"	6.00

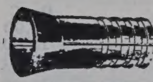


TAMPING TOOLS

An absolutely essential item for T.V. antenna installation to insure proper setting of all anchor bolts in masonry.

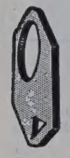
No.	Description	Each
1228	No. 2 Tool for ¼" Bolts	$2.00
1229	No. 6 Tool for Eye & Loop Bolts	4.75

LEAD ANCHORS FOR WOOD SCREWS



This is a new design anchor which gives greater holding power; requiring a smaller installation hole for the corresponding size screws. It takes more sizes of screws grouped in a more convenient series than other designs. It also has a larger range of holding power through various sizes of hole diameters. These anchors are 5/16" O.D., take a 10-12-14 wood screw and are forced into a 3/16" or ¼" hole.

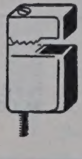
No.	Length	Per C
1231	1"	$ 7.00
1239	1½"	10.00



RUBBER STAND-OFF

Made of ⅛" heavy duty rubber, this stand-off is especially designed for either coaxial cable or standard twin-lead cable. Fits on any mast or cross arm with O.D. varying from 1" to 1¼".

No. 1263....................$10.00 per C

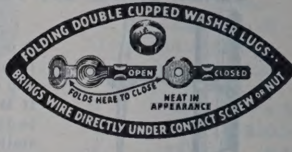


PORCELAIN STAND-OFF

Made to accommodate twin 300-ohm lead-in wire. Moisture-Proof Porcelain maintains firm grip on wire. Screw for mounting in either wood or masonry.

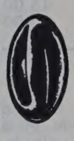
No. 1245....................$20.00 per C

SOLDERLESS TERMINAL LUGS


FOLDING DOUBLE CUPPED WASHER LUGS
OPEN
CLOSED
FOLDS HERE TO CLOSE
NEAT IN APPEARANCE
BRINGS WIRE DIRECTLY UNDER CONTACT SCREW or NUT

These lugs are easily applied and do not require the use of any special tool. They are designed to give a trim appearance to an otherwise unsightly wire connection. They fold neatly over the stranding and confine it directly under binding screw or nut and automatically insure greatest possible contact. The cushion-like construction of these lugs, when closed, permits binding nut or screw to sink into the soft copper and so serves the purpose of a lock nut and is therefore vibration-proof. Packed 100 per box.

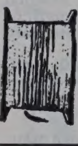
No.	Wire Size	Type	Length	Per C
1459	18 to 14	Double Cup	9/16"	$3.50
1460	18 to 10	" "	13/16"	3.75
1461	18 to 10	" "	15/16"	4.00
1462	18 to 14	Single Cup	¼"	1.50
1463	18 to 14	" "	⅜"	1.75



AIRPLANE INSULATOR

White glazed, low absorption porcelain insulator 2" long.

No. 1283....................$9.00 per C

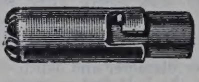


ANTENNA HANK

Cotton covered copper antenna hank.

No. 1222....................$30.00 per C

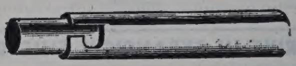
ANTENNA CONNECTOR



For use as connection of auto radio antenna lead-in to auto radio receiver.

No. 1300....................$10.00 per C

FUSE RETAINER



Recommended for use in auto radio power supply cables.

No. 1301....................$15.00 per C

Parts for No. 1300 Antenna Connector and No. 1301 Fuse Retainer

No.	Item	Per C
1305	Male Cap for No. 1300 and No. 1301	$2.50
1306	Female Shell for No. 1300	2.50
1307	Contact for No. 1300 and No. 1301	2.50
1308	Spring for No. 1300 and No. 1301	.50
1309	Washer for No. 1300 and No. 1301	.40
1310	Insulating Tube for No. 1301	.60
1311	Female Shell for No. 1301	5.50

JUMBO FUSE HOLDERS

For use with Philco and Motorola Auto Receivers; all parts comprising bushings, springs, contacts, etc., are furnished unassembled, packed in individual envelopes.

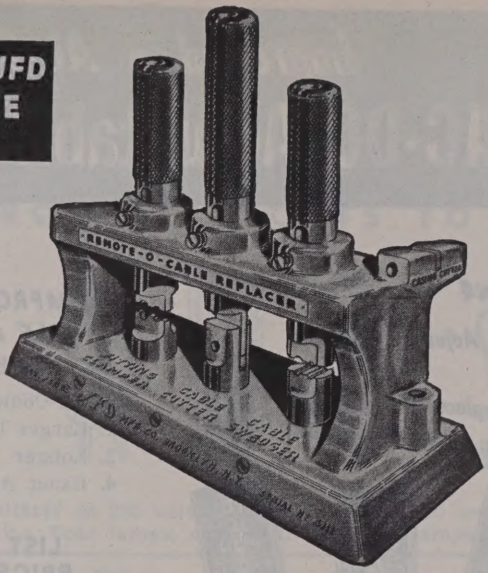
No.	Type	Length	Each
1302	For 9 Amp.	2" Long	$0.25
1303	For 14 Amp.	2½" Long	.30

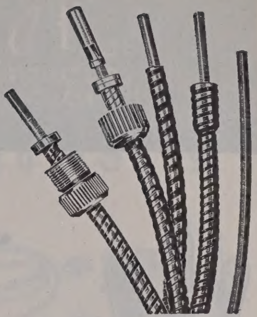
THE NEW IMPROVED JFD REMOTE-O-CABLE REPLACER

The Most Efficient Auto Radio Tuning Cable-Servicing Machine in Use Today!

Completely redesigned to meet MODERN Servicing requirements, the NEW JFD REMOTE-O-CABLE REPLACER is a vital necessity in the workshop of every auto-radio serviceman.

1. SWEDGES SHAFTING TO PREVENT UNRAVELLING.
2. CUTS SHAFTING TO EXACT LENGTH.
3. REPLACES OLD FITTINGS ON NEW SHAFTING.
4. CASING GROOVE MAKES CUTTING EASY.





SERVICEMEN'S NET COST $67.52

●

Size: Length, 10½". Width, 4¼". Height, 13". Weight, 29¼ lbs.

ANY JOB PROMPTLY DONE AND DELIVERED—The Remote-O-Cable Replacer + 50 feet of shafting and casing + an assortment of fittings and you are fully equipped.

USE OLD FITTINGS ON NEW SHAFTING—No need to wait for special lengths or odd fittings.

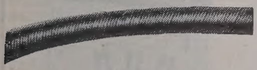
NO DELAY—Shafting of any length immediately available.

NO LOSS OF HEADS OR SHAFTING—Shafting of any make radio immediately changed to fit any dashboard head.

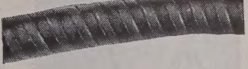
FRONT—REAR—ANYWHERE—Radio control in any part of the car.

EXACT LENGTH OF SHAFTING DOES IT—Maximum tuning efficiency.

AUTO RADIO CONTROL SHAFTING AND CASING



UNSWEDGED "LIVE" SHAFTING	NON-RAVELLING DEAD SHAFTING	CASING FOR ALL SHAFTINGS
Type CB .130 gauge **$0.18 per ft. List**	Type CD .130 gauge **$0.20 per ft. List**	Type HB .130 gauge **$0.18 per ft. List**
Type CA .150 gauge **$0.23 per ft. List**	Type CC .150 gauge **$0.26 per ft. List**	Type HA .150 gauge **$0.23 per ft. List**



AUTO RADIO CONTROL SHAFTING AND CASING CUT TO LENGTH

.130 CABLE AND CASING — *List Prices*

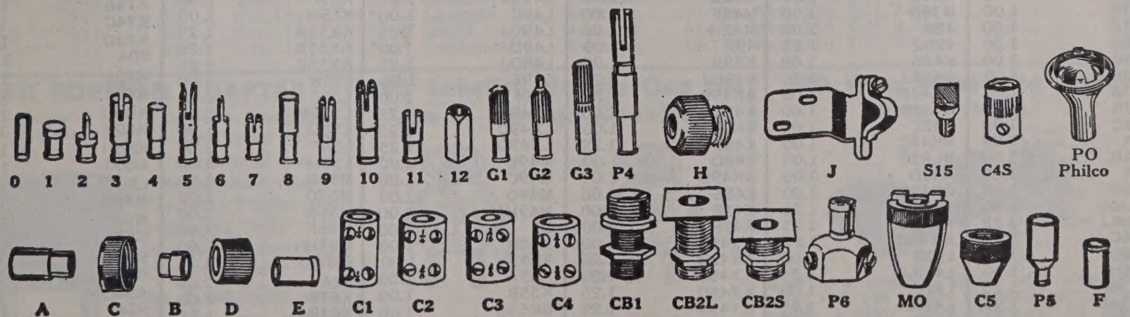
	18"	24"	30"	36"	42"	48"
Shafting only CB .130 Gauge	$0.50	$0.60	$0.71	$0.81	$0.92	$1.02
Casing only HB for .130 Gauge	.50	.60	.71	.81	.92	1.02
Shafting & Casing Complete CB HB .130	1.00	1.20	1.42	1.62	1.84	2.04

.150 CABLE AND CASING — *List Prices*

	18"	24"	30"	36"	42"	48"
Shafting only CA .150 gauge	$0.57	$0.70	$0.84	$0.96	$1.10	$1.22
Casing only HA for .150 gauge	.57	.70	.84	.96	1.10	1.22
Shafting & Casing Complete CA HA .150	1.14	1.40	1.68	1.92	2.20	2.44

JFD PRECISION MADE

Auto Radio Tuning Cable Fittings Gear & Couplers

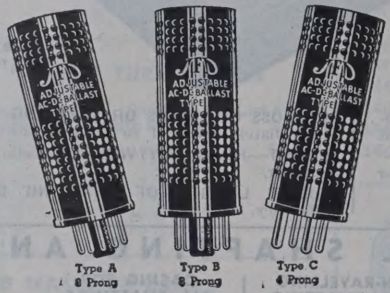


Nos. 0, 1, 7, B, E	Lots of 20 @	$0.10 ea. List
Nos. C, D	Lots of 20 @	.10 ea. List
Nos. 2, 4, 8, 11, F	Lots of 20 @	.10 ea. List
Nos. 3, 5, A	Lots of 20 @	.13 ea. List
Nos. 6, 9, 10, 12, C1, C2, C3, C4, C5, J, S15	Lots of 10 @	$0.20 ea. List
Nos. C4S, CB1, CB2L, CB2S, P5, P6	Lots of 5 @	.33 ea. List
Nos. M0130, M0150	Lots of 10 @	.30 ea. List
Nos. G1, G2, G3, P4, H, PO	Lots of 5 @	.25 ea. List

JFD
PRECISION MADE

Improved • Air-Cooled AC-DC Adjustable Ballasts

Just 3 Adjustable Ballasts Replace Over 3000 Exact Duplicate AC-DC Resistance Tubes!


JFD ADJUSTABLE AC-DC BALLAST TYPE A
JFD ADJUSTABLE AC-DC BALLAST TYPE B
JFD ADJUSTABLE AC-DC BALLAST TYPE C
Type A 8 Prong
Type B 8 Prong
Type C 4 Prong

JFD *IMPROVED AIR-COOLED* ADJUSTABLE AC-DC BALLASTS HAVE THESE *IMPROVEMENTS:*

1. Air-Cooled Perforated Shell
2. Larger Insulating Surface
3. Longer Life, Heavier Resistance Wire
4. Exact Adjustments made

LIST PRICE $1.50 ea.

Over 3,000,000 JFD Adjustable Ballasts have been sold since 1934 — practically every one still in use, giving service and satisfaction.

No. 770 Serviceman's Kit
JFD
Improved Air-Cooled Adjustable AC-DC Ballasts
2 Type A
2 Type B
1 Type C

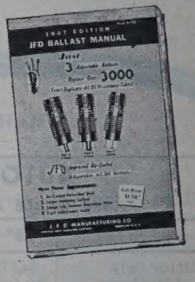
Dealer's and Serviceman's Kit
Improved • Air-Cooled
AC-DC Adjustable Ballasts

No. 770—SERVICEMEN'S KIT

contains 5 Ballasts: 2 Type A, 2 Type B, 1 Type C Ballasts together with listing of over 2500 replacements and complete instructions.............................List Price $7.50

GET THIS FREE AC-DC BALLAST TUBE MANUAL!

Contains valuable information on how to adapt adjustable ballasts to all service jobs. Simply send 12 flaps from JFD Dial Belt envelopes and 10c in stamps (to cover mailing) to JFD MANUFACTURING CO. INC., 4117 Ft. Hamilton Parkway, Brooklyn 19, New York, U. S. A. (Further Details on Page 37.)


1947 EDITION
JFD BALLAST MANUAL
Just 3 Adjustable Ballasts Replace Over 3000

USE JFD BALLASTS	TO REPLACE AC-DC RESISTANCE TUBES		
	Beginning with Letter	With Numbers Including	Ending with letter
"A" Ballasts	K, L, M, BK, BL, or BM	6 through 42	A, B, C, D, F, G, or H
"B" Ballasts	K, L, M, BK, BL, or BM	45 through 105	A, B, C, D, F, G, H, S1, S2, S3
"C" Ballasts	All 4 prongs	80 through 350	R, R4, R8, L, L4, L8

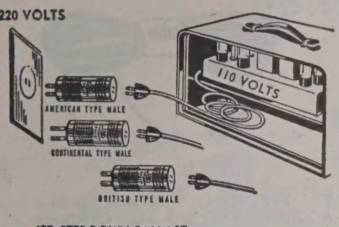
AC-DC STANDARD TUBES—RMA STANDARD CODING

Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price	Type No.	List Price
10A Addison	$1.00	M36B	1.00	M42D	1.00	L49B	1.00	BK55D	1.00	M73B	1.00
17A	1.00	M36C	1.00	M42E	1.00	L49BJ	1.25	K55F	1.00	K74B	1.00
K17B	1.00	M36D	1.00	M42F	1.00	L49C	1.00	K55H	1.00	K74C	1.00
K17C	1.00	42A	1.00	M42H	1.00	L49CJ	1.25	KX55A	1.25	K74D	1.00
L17B	1.00	42B2	1.25	49A	1.00	L49D	1.00	KX55B	1.25	80A	1.00
L17C	1.00	K42B	1.00	K49B	1.00	L49DJ	1.25	KX55C	1.25	K80B	1.00
K22B	1.00	K42BJ	1.25	K49BJ	1.25	L49E	1.00	L55B	1.00	K80C	1.00
K23B	1.00	BK42B	1.00	BK49B	1.00	L49F	1.00	L55C	1.00	K80D	1.00
L23B	1.00	BL42B	1.00	K49C	1.00	LX49B	1.25	L55CP	1.25	K80F	1.00
L23C	1.00	K42C	1.00	BK49C	1.00	LX49C	1.25	L55D	1.00	K80H	1.00
33A	1.00	BK42C	1.00	K49CJ	1.25	LX49D	1.25	L55F	1.00	L80B	1.00
33AG	1.00	BL42C	1.00	K49D	1.00	M49B	1.00	L55H	1.00	L80C	1.00
36A	1.00	K42D	1.00	BK49D	1.00	M49C	1.00	M55B	1.00	M80B	1.00
K36B	1.00	BK42D	1.00	K49E	1.00	M49D	1.00	M55C	1.00	M80C	1.00
BK36B	1.00	KX42A	1.25	K49F	1.00	M49H	1.00	M55D	1.00	K87B	1.00
K36BJ	1.25	KX42B	1.25	K49H	1.00	50	1.00	M55F	1.00	90A	1.00
K36C	1.00	KX42C	1.25	KX49A	1.00	K52H	1.00	M55H	1.00	K90B	1.00
K36D	1.00	L42B	1.00	KX49B	1.25	55A	1.00	60R30	1.25	K90C	1.00
K36H	1.00	L42BJ	1.25	KX49C	1.25	K55A	1.00	62A	1.00	92A	1.00
KX36A	1.25	L42C	1.00	KX49D	1.25	K55B	1.00	K67B	1.00	K92B	1.00
KX36B	1.25	L42CJ	1.25	KY49A	1.25	BK55B	1.00	K67BJ	1.25	K92C	1.00
KX36C	1.25	L42D	1.00	KY49B	1.25	BL55B	1.00	K67C	1.00	K92D	1.00
L36B	1.00	L42DJ	1.25	KY49C	1.25	BM55B	1.00	K67D	1.00	K92F	1.00
L36C	1.00	L42E	1.00	KZ49A	1.25	K55C	1.00	L67C	1.00	K92H	1.00
L36D	1.00	M42B	1.00	KZ49B	1.25	BK55C	1.00	K72B	1.00		
L36DJ	1.25	M42C	1.00	KZ49C	1.25	K55D	1.00	K73C	1.00		

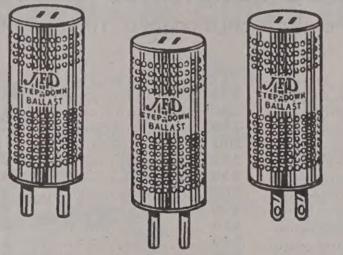
JFD PRECISION MADE

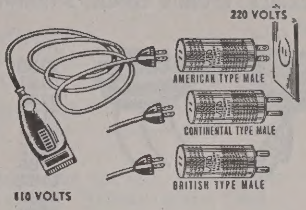
Plug-in type RESISTOR BALLASTS

STEP-DOWN FROM 220 VOLTS TO 110 VOLTS



JFD STEP-DOWN BALLAST

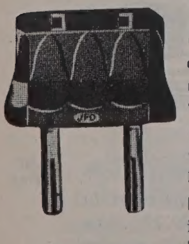




Use JFD voltage reducing ballasts on 220 volt current supply if you want to operate 110 volt appliances. Excellent for radios, floor lamps, clocks, therapeutic lamps, electric blankets, etc.

Catalog No.	Resist.	Current	Voltage Drop	Watts	Male End	Female End	Load	List Price
450	97	1.13	220-110	125	American	American	125 W Infra Red Therapeutic Lamp	$2.40
451B	97	1.13	220-110	125	British	American	125 W Infra Red Therapeutic Lamp	2.40
451C	97	1.13	220-110	125	Continental	American	125 W Infra Red Therapeutic Lamp	2.40
456	250	.44	220-110	65	American	American	35-65 W Radio Heating Pads	2.40
457B	250	.44	220-110	65	British	American	35-65 W Radio Heating Pads	2.40
457C	250	.44	220-110	65	Continental	American	35-65 W Radio Heating Pads	2.40
458	300	.35	220-110	38	American	American	4-5 Tube AC-DC Radio, .3 Amp tubes	2.40
459B	300	.35	220-110	38	British	American	4-5 Tube AC-DC Radio, .3 Amp tubes	2.40
459C	300	.35	220-110	38	Continental	American	4-5 Tube AC-DC Radio, .3 Amp tubes	2.40
462	500	.22	220-110	25	American	American	General Use	2.40
463B	500	.22	220-110	25	British	American	General Use	2.40
463C	500	.22	220-110	25	Continental	American	General Use	2.40
464	560	.20	220-110	25	American	American	5 Tube AC-DC Radio Using .15 Amp tubes	2.40
465B	560	.20	220-110	25	British	American	5 Tube AC-DC Radio Using .15 Amp tubes	2.40
465C	560	.20	220-110	25	Continental	American	5 Tube AC-DC Radio Using .15 Amp tubes	2.40
466	660	.167	220-110	8	American	American	General Use	2.40
467B	660	.167	220-110	8	British	American	General Use	2.40
467C	660	.167	220-110	8	Continental	American	General Use	2.40
468	1345	.082	220-110	9	American	American	Electric Razor	2.40
469B	1345	.082	220-110	9	British	American	Electric Razor	2.40
469C	1345	.082	220-110	9	Continental	American	Electric Razor	2.40
470	6000	.018	220-110	2	American	American	Electric Clock	2.40
471B	6000	.018	220-110	2	British	American	Electric Clock	2.40
471C	6000	.018	220-110	2	Continental	American	Electric Clock	2.40
472	110	.950	220-110	105	American	American	15-7 Watt Xmas lights in parallel	2.40
473B	110	.950	220-110	105	British	American	15-7 Watt Xmas lights in parallel	2.40
473C	110	.950	220-110	105	Continental	American	15-7 Watt Xmas lights in parallel	2.40
474	960	.115	220-110	13	American	American	Schick Razor	2.40
475B	960	.115	220-110	13	British	American	Schick Razor	2.40
475C	960	.115	220-110	13	Continental	American	Schick Razor	2.40
476	1100	.1	220-110	11	American	American	Packard Razor	2.40
477B	1100	.1	220-110	11	British	American	Packard Razor	2.40
477C	1100	.1	220-110	11	Continental	American	Packard Razor	2.40
478	475	.230	220-110	26	American	American	6 tube AC-DC Radio Using .15 Amp tubes	2.40
479B	475	.230	220-110	26	British	American	6 tube AC-DC Radio Using .15 Amp tubes	2.40
479C	475	.230	220-110	26	Continental	American	6 tube AC-DC Radio Using .15 Amp tubes	2.40
480	300	.300	220-110	33	American	American	Remington Razor	2.40
481B	300	.300	220-110	33	British	American	Remington Razor	2.40
481C	300	.300	220-110	33	Continental	American	Remington Razor	2.40
482	785	.140	220-110	16	American	American	Portable Radio Total Current drain .140 Amp.	2.40
483B	785	.140	220-110	16	British	American	Portable Radio Total Current drain .140 Amp.	2.40
483C	785	.140	220-110	16	Continental	American	Portable Radio Total Current drain .140 Amp.	2.40
484	430	.255	220-110	28	American	American	Detrola Automatic Phono Turntable	2.40
485B	430	.255	220-110	28	British	American	Detrola Automatic Phono Turntable	2.40
485C	430	.255	220-110	28	Continental	American	Detrola Automatic Phono Turntable	2.40
488	2000	.055	220-110	6	American	American	General Use	2.40
489B	2000	.055	220-110	6	British	American	General Use	2.40
489C	2000	.055	220-110	6	Continental	American	General Use	2.40
490	143	.87	220-110	96	American	American	65-130 Watt 110 Volt Radio	2.40
491B	143	.87	220-110	96	British	American	65-130 Watt 110 Volt Radio	2.40
491C	143	.87	220-110	96	Continental	American	65-130 Watt 110 Volt Radio	2.40

JFD FOREIGN ADAPTER



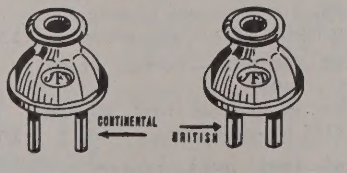
Converts American Male Plug to Continental and British Male Plugs

Converts Foreign receptacles into the standard American type—in a jiffy!

No. 2-449—with Continental type prongs.
List Price **$0.33**

No. 2-450—with British type prongs.
List Price **$0.33**

JFD Bakelite Handle Cap for Use in Foreign Countries

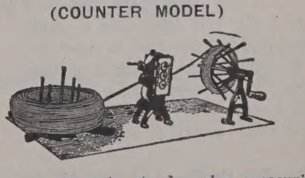


Comes with Continental or British Prongs

No.		List Price
2-451	Cap with Continental type prongs	**$0.25**
2-452	Cap with English type prongs	.30

JFD Wire Measuring Outfit

(COUNTER MODEL)



Here is a compact, sturdy wire measuring outfit that can be set up easily on counter, bench or table. More than pays for itself in time saved and exact wire measurements. Measures up to 1000 feet. Very simple to set up and operate—it works silently. Take-up reel is adjustable.

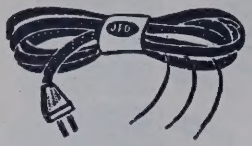
Cat. No. 66-C Complete Outfit

JFD PRECISION MADE

New Enlarged Line of AC-DC RESISTANCE LINE CORDS

STANDARD 3 TERMINALS AC-DC RESISTANCE CORDS

FLEXIBLE, STURDY CORDS, 3-TERMINAL TYPE, WITH COLOR-CODED, TINNED LEADS



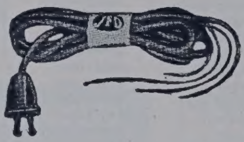
Attractive individual Cartons

No.	Ohms	List
*2180	135	$1.17
*2181	160	1.17
*2182	180	1.17
*2183	200	1.17
2184	220	1.17
2185	250	1.17
2186	290	1.17
2187	300	1.17
2188	330	1.17
2189	350	1.17
2190	390	1.17
2450	450 (High Resist.)	1.72

*Note: 135, 160, 180, and 200 ohm cords can also be used for single light 20 and 15 watt fluorescent fixtures.

TAPPED 4 TERMINAL AC-DC RESISTANCE CORDS

Pilot light resistor shunt built into the line cord. Used on Emerson, Zenith, Sparton, R. C. A., General Electric, Wells-Gardner, Sears Roebuck, Fada, Admiral, Air King, Detrola, Crosley, Garod, and others.



No. List, Ea.

2176—160 OHMS—TAPPED AT 24 OHMS

For sets using tubes having a voltage drop of approximately 69 volts as 2-25 volt tubes and 3-6.3 volt tubes plus single pilot light or similar combination $1.38

2195—165 OHMS—TAPPED AT 30 OHMS

There is a large demand for this tapped line cord 1.38

2177—180 OHMS—TAPPED AT 25 OHMS

For sets using tubes having a voltage drop of approximately 63 volts as 2-25 volt tubes and 2-6.3 volt tubes plus a single pilot light or similar combination 1.38

2178—200 OHMS—TAPPED AT 25 OHMS

For sets using tubes having a voltage drop of approximately 57 volts as 1-25 volt tube, 1-12 volt tube and 3-6.3 volt tubes and a single pilot light. May also be used for sets using tubes having a voltage drop of 63 volts, (2-25 volt and 2-6.3 volt tubes) if high line voltage (125 volts) is encountered.... 1.38

2179—200 OHMS—TAPPED AT 40 OHMS

For sets using tubes having a voltage drop of approximately 57 volts as 1-25 volt tube, 1-12 volt tube and 3-6.3 volt tubes and two pilot lights in series 1.38

No. List, Ea.

2174—280 OHMS—TAPPED AT 40 OHMS

For sets using tubes having a voltage drop of approximately 32 volts as 2-12 volt tubes and 1-6.3 volt tube or 5-6.3 volt tubes or similar combinations using 2 pilot light in series $1.38

2164—360 OHMS—TAPPED AT 80 OHMS

Used in Garod Model BP-20. See No. 2196 for specifications............ 1.72

2166—430 OHMS—TAPPED AT 80 OHMS

For Farnsworth Model CD59. See No. 2196 for specifications 1.72

2156—510 OHMS—TAPPED AT 80 OHMS

For Fada. See No. 2196 for specificastions 1.72

2196—560 OHMS—TAPPED AT 80 OHMS

Tapped at 80 ohms for plate of rectifier. Designed with voltage dropping resistor to plate of rectifier. Avoids necessity of using B+ resistor. This cord used extensively 1.72

2158—960 OHMS—TAPPED AT 80 OHMS

For G. E. Model L622. See No. 2196 for specifications 1.72

2165—1950 OHMS—TAPPED AT 360 OHMS

Used extensively in sets such as Crosley Model 27BD, Admiral Model 28-G-5, and other sets with similar circuits 2.06

HIGH RESISTANCE CORDS

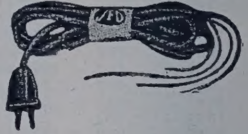
No. List Price

2197 For 3-way portable radios. AC-DC battery. New high resistance type cord, has 560 ohms resistance. Many thousands of sets using this identical cord are now in use. This popular replacement cord should be stocked by every serviceman! Individually packaged $1.72

2157—For AC-DC Sets.

This cord has 960 ohms resistance, and is used wherever 45Z3 rectifier tube is employed. (For pocket type radios, such as: Admiral, Fada Sentinel, Sonora, Motorola, Detrola. Farnsworth, etc.) Individually packaged 1.72

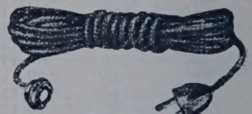
REPLACEMENT LINE CORD FOR MOTOROLA SETS



No. List Price

2198—8 ft. cord containing 2 resistance elements—1100 and 280 ohms. Has 4 terminals. Essential replacement for all Motorola portables. Nos. 41D, 51D, 52D, 41H. $2.06

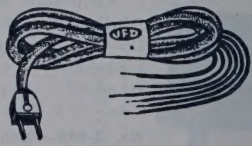
COMBINATION ANTENNA WIRE and STRAIGHT AC CORD



No. List Price

2168—3-wire cord with special female socket to fit sets which have three prong male plug, used in Sentinel, Admiral, Belmont, Sonora, etc. Individually packaged $1.72

UNIVERSAL AC-DC RESISTANCE LINE CORDS



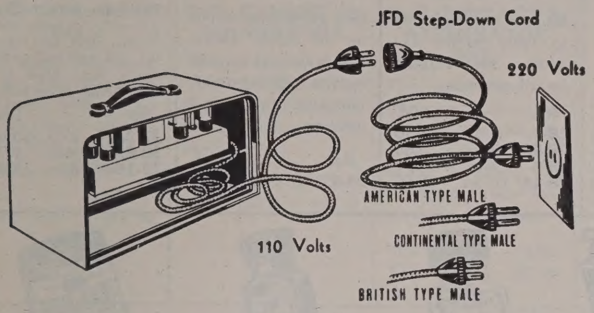
No. List Price

2175—This line cord replaces AC-DC cords from 220 ohms to 300 ohms. Can be used for either standard three terminal or tapped cord........ $1.72

STEP-DOWN — AC-DC RESISTOR LINE CORDS

(Step-Down from 220 V. to 110 V.)

JFD STEP-DOWN LINE CORDS FOR RADIOS

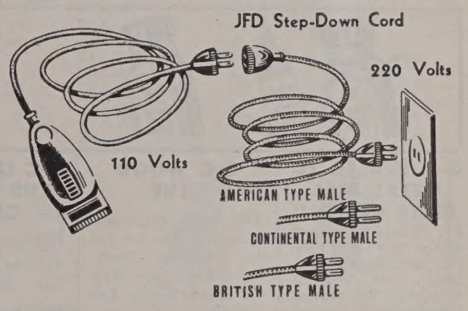


Cat. No.	Description	List Price
2432C	220V-110V Stepdown for 6 tube sets drawing .150 amps. Continental Male and American Female Plugs	$2.40

Cat. No.	Description	List Price
2191	220V-110V Stepdown for 4, 5, 6 tube sets drawing .3 amps. American Male Plug	$2.40
2193C	220V-110V Stepdown for 4, 5, 6 tube sets drawing .3 amps. Continental Male Plug	2.40
2193B	220V-110V Stepdown for 4, 5, 6 tube sets drawing .3 amps. British Male Plug	2.40
2192	220V-110V Stepdown for 5 tube sets drawing .15 amps. American Male Plug	2.40
2194C	220V-110V Stepdown for 5 tube sets drawing .15 amps. Continental Male Plug	2.40
2194B	220V-110V Stepdown for 5 tube sets drawing .15 amps. British Male Plug	2.40
2430A	220V-110V Stepdown for 6 tube sets drawing .150 amps. American Male and Female Plugs	2.40
2431B	220V-110V Stepdown for 6 tube sets drawing .150 amps. British Male and American Female Plugs	2.40

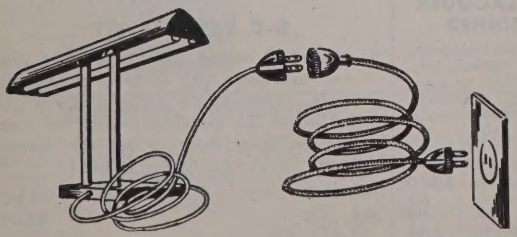
JFD STEP-DOWN LINE CORDS FOR ELECTRIC RAZORS

Cat. No.	Description	List Price
2203	220V-110V Stepdown for Remington Rand Razor 15W. American Female and American Male	$2.60
2203B	220V-110V Stepdown for Remington Rand Razor 15W. American Female and British Male	2.60
2203C	220V-110V Stepdown for Remington Rand Razor 15W. American Female and Continental Male	2.60
2204	220V-110V Stepdown for Schick Razor 9W, Sunbeam Shavemaster 15W, Williams Roto-Shaver, Gillette, Gem 10W with American Female and American Male	2.60
2204B	220-110V Stepdown for Schick Razor 9W, Sunbeam Shavemaster 15W, Williams Roto-Shaver, Gillette, Gem 10W with American Female and British Male	2.60
2204C	220V-110V Stepdown for Shick Razor 9W, Sunbeam Shavemaster 15W, Williams Roto-Shaver, Gillette, Gem 10W with American Female and Continental Male	2.60
2205	220V-110V Stepdown for Packard Razor 6W with American Female and American Male	2.60
2205B	220V-110V Stepdown for Packard Razor 6W with American Female and British Male	2.60



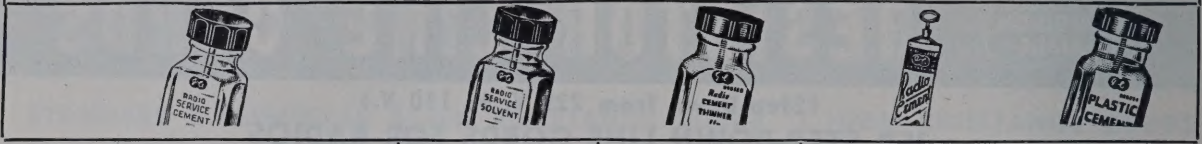
Cat. No.	Description	List Price
2205C	220V-110V Stepdown for Packard Razor 6W with American Female and Continental Male	$2.60

JFD AC-DC LINE CORDS FOR FLUORESCENT FIXTURES



Cat. No.	Description	List Price
2181FL	165 ohm, for 20 watt bulb, 117 volts, 6 feet long	$1.17
2181FL-2	Two 165 ohm windings, for two 20 watt bulbs, 117 volts, 6 feet long	2.00
2182FL	180 ohm, for 15 watt bulb, 117 volts, 6 feet long	1.17
2200FL	Two 180 ohm windings, for two 15 watt bulbs, 117 volts, 6 feet long	2.00

GENERAL G-C CEMENT *RADIO CEMENTS FOR ALL PURPOSES*


RADIO SERVICE CEMENT
RADIO SERVICE SOLVENT
Radio CEMENT THINNER
Radio Cement
PLASTIC CEMENT

G-C RADIO SERVICE CEMENT

The best Cement for repairing radios and speakers. Excellent for repairing and replacing torn cones. Vibration-proof, water-proof and fast drying. Brushes attached.

No.		List
30-2	2-oz.	$0.50
34-2	Tube	.50
30-4	4-oz.	1.00
30-6	6-oz.	1.40
30-8	8-oz.	1.75
30-16	16-oz.	3.30

G-C RADIO SERVICE SOLVENT

Best Solvent for loosening cement on speaker cones, frames, etc. Will dissolve all cements on speakers. Brush attached.

No.		List
31-2	2-oz.	$0.50
31-4	4-oz.	.65
31-6	6-oz.	.85
31-8	8-oz.	.95
31-16	16-oz.	1.40

G-C CEMENT THINNER

Made of same solvents as G-C Service Cement. Best thinner for all cements.

No.		List
28-2	2-oz.	$0.50
28-4	4-oz.	.65
28-8	8-oz.	.95
28-16	16-oz.	1.40

G-C SPEAKER CEMENT

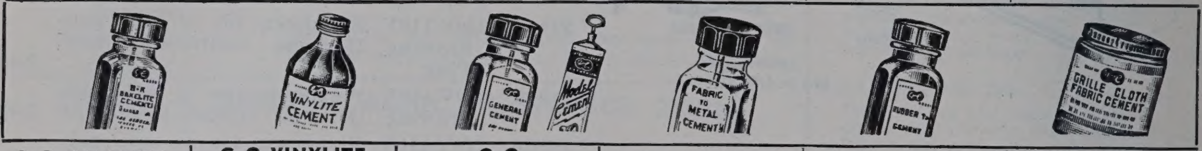
Best grade cement put up in handy tubes. For radio and speaker repairs. Water-proof, vibration-proof, fast drying.

No.		List
34-2	2-oz. Tube	$0.50

G-C PLASTIC CEMENT

For cementing broken plastic cabinets, knobs, dial and crystal assemblies, grille cloth, etc. Fast drying. Brush attached.

No.		List
32-2A	2-oz.	$0.60
32-8A	8-oz.	1.75
32-16A	16-oz.	3.30


BAKELITE CEMENT
VINYLITE CEMENT
GENERAL CEMENT
Model Cement
FABRIC TO METAL CEMENT
RUBBER CEMENT
GRILLE CLOTH FABRIC CEMENT

G-C BAKELITE CEMENT

For cementing bakelite to bakelite and bakelite to other materials. For repairing knobs, cabinets, panels, for inserts in moldings, attaching labels to plastics, etc. Brush attached.

No.		List
32-2	2-oz.	$0.60
32-8	8-oz.	2.20
32-16	16-oz.	4.15

G-C VINYLITE CEMENT

Clear transparent adhesive, air drying. For cementing metals, plastics, paper, leather, etc. Used also as thermoplastic cement for non-porous materials. Sets on cooling. Brush attached.

No.		List
58-2	2-oz.	$0.60
58-8	8-oz.	1.75

G-C HOUSEHOLD & MODEL CEMENT

Best cement for model makers, household, and office use. For airplanes, railroads, ships, toys, etc. Will cement wood, paper, plastics, metal, china, ceramics, etc. Fast drying, water-proof. Brush attached.

No.		List
45-2	2-oz.	$0.50
45-3	Tube	.50

G-C FABRIC TO METAL CEMENT

For cementing cloth and felt to metal or plastics. Best for grille cloth, phono turntable felts, upholstering, fabrics, etc. Fast drying, water-proof.

No.		List
22-4	4-oz.	$0.70
22-8	8-oz.	1.00
22-16	16-oz.	1.95

G-C GRAY RUBBER CEMENT

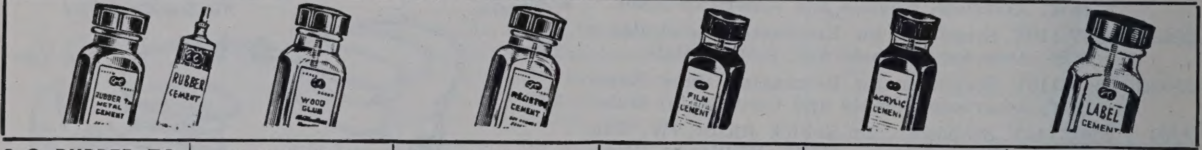
General purpose for cloth, paper, rubber, etc. Has great tackiness and adhesion for radio, shop, auto, or hobby use.

No.		List
23-4	4-oz.	$0.70
23-8	8-oz.	1.00
23-16	16-oz.	1.95

G-C GRILLE CLOTH CEMENT

Rubber base cement for grille cloth, leatherette, fabric, upholstering, etc. Will not penetrate, stain, or shrink.

No.		List
38-4	4-oz.	$0.70
38-8	8-oz.	1.00
38-16	16-oz.	1.95


RUBBER TO METAL CEMENT
RUBBER CEMENT
WOOD GLUE
RESISTOR CEMENT
FILM CEMENT
ACRYLIC CEMENT
LABEL CEMENT

G-C RUBBER TO METAL DIAL DRIVE CEMENT

For cementing rubber drives to shafts, rubber mountings, gaskets, hose, weather stripping, for radios, refrigerators, autos, etc.

No.		List
35-2	2-oz.	$0.50
35-3	Tube	.50
35-4	4-oz.	1.00
35-8	8-oz.	1.75
35-16	16-oz.	3.30

G-C WOOD GLUE

New white resin water-proof glue for radio cabinets, furniture, chairs, etc. Will not injure finish. Extra strong.

No.		List
39-2	2-oz.	$0.60
39-4	4-oz.	.70
39-8	8-oz.	1.00
39-16	16-oz.	1.65

G-C ELECTRICAL AND RESISTOR CEMENT

Heat-proof cement, hardens like porcelain. Same as on resistors, flat irons, etc.

No.		List
27-2	2-oz.	$0.60

G-C FILM CEMENT

New improved cement for all safety and nitrate film. Sets fast. Brush attached.

No.		List
33-1	1-oz.	$0.40

G-C ACRYLIC CEMENT

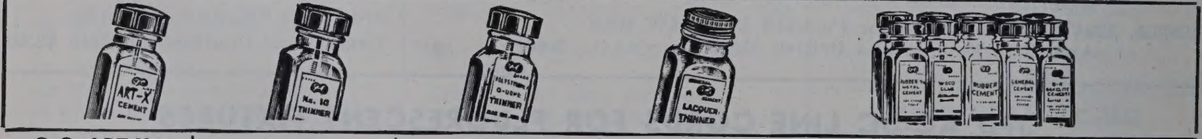
Welds and cements lucite, plexiglass, and other acrylic materials. Strong, fast drying. Brush attached.

No.		List
40-2	2-oz.	$0.60

G-C LABEL CEMENT

Sticks labels to anything — metal, glass, wood, tin, bakelite, plastics, etc. Good for cementing labels to bins, racks, waterproofing labels, etc.

No.		List
46-2	2-oz.	$0.60
46-8	8-oz.	1.50


ART-X CEMENT
No. 10 THINNER
POLYSTYRENE Q-DOPE THINNER
LACQUER THINNER
RUBBER TO METAL CEMENT
WOOD GLUE
RUBBER CEMENT
GENERAL CEMENT
BAKELITE CEMENT

G-C ART-X RUBBER CEMENT

Transparent, pure, real rubber cement for artist and layout work. Will not stain or shrink paper, can be easily removed. Handy for panel layout, photo mounting, etc.

No.		List
33-4	4-oz.	$0.50
33-8	8-oz.	.75
33-16	16-oz.	1.25

G-C No. 67 PAINT THINNER

For Ruf-Koat, Krome-Koat, B-K Cement, Insulating Varnish, Rubber Cements, and ordinary paints.

No.		List
67-2	2-oz.	$0.50
67-4	4-oz.	.65
67-8	8-oz.	.95
67-16	16-oz.	1.40

G-C Q-DOPE THINNER

Will cut and dissolve Q-Dope and other polystyrene coil dopes and cements. Will soften and weld polystyrene rods tubes, sheets, etc.

No.		List
41-2	2-oz.	$0.50
41-4	4-oz.	.65
41-8	8-oz.	1.00

G-C LACQUER THINNER

Will thin all lacquers, lacquer enamels, telephone black or gray, touch-up lacquers, airplane dopes, model cements, etc.

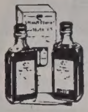
No.		List
29-2	2-oz.	$0.50
29-4	4-oz.	.65
29-8	8-oz.	.95
29-16	16-oz.	1.40

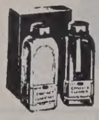
G-C SAMPLER KIT

What kind of cement shall I use? Get this kit and experiment with all types of cements available. Cements for all applications included so you can try them yourself for your application. Save time — get the answer quicker. 10 — 2-oz. bottles in Kit.

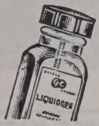
No.		List
345	Kit	$6.00

GENERAL G-C CEMENT RADIO CHEMICALS





INSULATING AND DIPPING VARNISH



POLYSTYRENE Q-DOPE

G-C COIL DOPE KIT

For high frequency coils, ultra low loss. Contains 2-oz. bottle Polystyrene Q-Dope, 2-oz. Thinner, and 2 brushes. The best!

No.		List
888	Kit	$1.00

G-C CEMENT & SOLVENT KIT

"Handy to carry with you." Contains bottle G-C Radio Cement and G-C Solvent, with brushes.

No.		List
343	Kit	$0.75

G-C CONTACT & ATTENUATOR KIT

For cleaning and lubricating attenuator, tunners, contacts, all-wave switches, condenser bearings, etc. Eliminates noise and prevents corrosion.

No.		List
777	Kit	$1.00

G-C INSULATING & DIPPING VARNISH

For treating field coils, noisy or buzzing transformers and chokes. Air dries to a tough insulating film. Can be brushed or dipped.

No.		List
56-2	2-oz.	$0.60
56-4	4-oz.	.85
56-8	8-oz.	1.10
56-16	16-oz.	1.95

G-C LIQUIDOPE

All wave nitrocellulose base dope for coils. Air dries fast to tough film, that insures toughness and firmness. Use for sealing, doping, supporting coils, etc.

No.		List
36-2	2-oz.	$0.60
36-8	8-oz.	1.40
36-16	16-oz.	2.50

G-C Q-DOPE

Liquid polystyrene ultra low loss coil dope for RF, UHF, and VHF components. Will not change R.F. circuit values. Performs — 70°F to 160°F. Also use as Polystyrene Cement.

No.		List
37-2	2-oz.	$0.60
37-4	4-oz.	.85
37-8	8-oz.	1.40
37-16	16-oz.	2.50

FUNGUS VARNISH

CONTACT AND CRYSTAL CLEANER

Electronic CONTACT CLEANER

RADIO CLEANER

CARBON TETRA-CHLORIDE

CONTACT DOPE

G-C FUNGUS VARNISH

Used on radio equipment and instruments to insulate and prevent fungus growth in moist or humid climates. Air dry, brush or spray.

No.		List
57-2	2-oz.	$0.60
57-8	8-oz.	1.10
57-16	16-oz.	1.65

G-C CONTACT & CRYSTAL CLEANER

Extra pure cleaner. Fast drying for cleaning contacts and crystals. Will not injure delicate parts.

No.		List
127-2	2-oz.	$0.50
127-4	4-oz.	.65
127-8	8-oz.	.85
127-16	16-oz.	1.20

G-C RED ELECTRONIC CONTACT CLEANER

The best and only all-purpose cleaner. Dissolves the dirt and removes corrosion. Leaves protective film on contacts to prevent corrosion.

No.		List
210-2	2-oz.	$0.50*
210-4	4-oz.	.70
210-8	8-oz.	1.00
210-16	16-oz.	1.80

G-C RADIO CHASSIS CLEANER

Clean the chassis and make extra money on every repair job. Satisfy your customer. For radio chassis, panels, testers, etc. Non-explosive cleaner.

No.		List
123-8	8-oz.	$0.70
123-16	16-oz.	1.10
123-G	1 Gal.	4.25

G-C CARBON TETRA-CHLORIDE

100% pure for cleaning and degreasing electrical contacts, controls, motors. Absolutely safe — will not burn. Also kills bugs, roaches, ets.

No.		List
211-2	2-oz.	$0.50
211-4	4-oz.	.65
211-8	8-oz.	.95
211-16	16-oz.	1.65
211-32	32-oz.	2.70
211-G	1 Gal.	6.90

G-C CONTACT DOPE

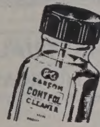
Ideal cleaner and lubricant for switches, controls and contacts. Resists corrosion and oxidation. Eliminates noise.

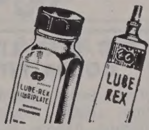
No.		List
1213	Tube	$0.40
1214	2-oz.	.60

CARB-O-TET

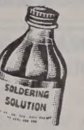
Specially made from 100% Carbon-Tet materials.

215-G	1 Gal.	$4.15





SILICONE COMPOUND



G-C CARBON CONTROL CLEANER

Fix noisy carbon controls without taking apart. Just squirt cleaner along shaft and job is done. Save money. Applicator supplied.

No.		List
212-2	2-oz.	$0.60

G-C GRAFOLINE

Noiseless lubricant for air exposed switch contacts, rheostats, relays, wire volume controls, tube prongs, etc. Increases current capacity of switch controls. Cleans also.

No.		List
120-2	2-oz.	$0.60

G-C CARBON-X

New improved formula. Fix those old noisy carbon controls, touch up noisy spots on worn controls. Brush in bottle.

No.		List
1204	1-oz.	$0.75
1205	2-oz.	1.00

G-C LUBE-REX

Lubriplate — white lubricant for push buttons, phonographs, Philco mystery controls, guns, fishing reels, dials, etc. Prevents corrosion, repels water.

No.		List
1206	2-oz. Tube	$0.60
1209	2-oz. Bottle	.60

G-C SILICONE COMPOUND

"The miracle moisture and water-proofing compound for Television and FM"

A permanent water-proofing material for TV and FM leads.

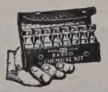
No.		List
8100	1-oz. Tube	$1.65
	Dealer's Net	.99

G-C LIQUID SOLDER FLUX

Non-corrosive flux for radio and electrical work. Solders faster, smoother.

No.		List
42-2	2-oz.	$0.60
42-8	8-oz.	1.75

GENERAL G-C CEMENT
RADIO CHEMICAL LABORATORY



G-C CHEMICAL LABORATORY

Complete assortment of 20 popular radio chemicals and cements in 2-oz. bottles, put up on steel rack. Very neat for the radio bench and home work shop. Rack sets on bench or hangs on wall. Steel Rack is FREE.

No. 997 Lab List $11.70
Dealer's Net 6.99

G-C CHEMICAL KIT

Pocket size kit of 8 popular radio chemicals and cements, for fast repairs on the job. Put up in neat leatherette case. Easy to carry.

No. 999 List $3.30
— Refills available at your jobbers —

G-C DELUXE CHEMICAL LAB

Practical larger laboratory of popular chemicals and cements to fit needs of average shop — 2-oz., 4-oz., and 8-oz. bottles. Larger bottles of more popular items. Rack sets on bench or hangs on wall. Steel rack is FREE.

No. 998 List $14.30
Dealer's Net 8.49

* Net

GENERAL G-C CEMENT PAINTS—KITS—COMPOUNDS

RUF-KOAT
WRINKLE VARNISH

KRYSTAL-KOAT
CRYSTALIZING
LACQUER

TELEPHONE BLACK

Scratch
STIK

G-C RUF-KOAT WRINKLE VARNISH

Air Dry or Bake

The only finish that will air dry and give professional wrinkle job without baking. Same as used by leading manufacturers. Don't experiment — use the best. Apply and let dry. Colors: Black, Gray, Brown, Green, Red and Blue (Specify Color).

No.		List
60-2	2-oz.	$0.60
60-4	4-oz.	1.00
60-8	8-oz.	1.75
60-16	16-oz.	3.00

G-C KRYSTAL KOAT CRYSTAL LACQUER

Makes beautiful floral pattern when dry. Strictly air drying. For chassis, panels, decorations on metal, wood, paper, etc. Colors: Black Gray, Brown, Green, Red, Blue and Clear. (Specify Color).

No.		List
63-2	2-oz.	$0.60
63-4	4-oz.	1.00
63-8	8-oz.	1.75
63-16	16-oz.	3.00

G-C TELEPHONE BLACK OR GRAY

High grade lacquer enamel covers well, dries fast. Black is satin ebony finish similar to telephones. Gray is pleasing shade. For panels, racks, parts, etc. (Specify Color).

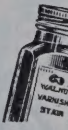
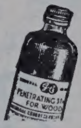
No.		List
62-2	2-oz.	$0.60
62-8	8-oz.	1.40
62-16	16-oz.	2.50

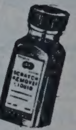
G-C GENERAL SCRATCH STICK

Removes scratches. Simply run over scratches and they will disappear. Handy to carry in your pocket or tool box for emergency repairs. Also sell to housewives.

No.		List
909	Scratch Stik	$0.40
909-D	Display 12 Stiks	4.80

KROME KOAT
ALUMINUM PAINT

PORCELAIN GLAZE

WALNUT
VARNISH
STAIN

PENETRATING STAIN
FOR WOOD

MICROPHONE
CARBON

SCRATCH
REMOVER
LIQUID

G-C KROME-KOAT ALUMINUM PAINT

Fast drying, ready mixed, leaves chrome-like finish. For PA equipment, speakers, chassis, towers, antennas, etc.

No.		List
61-2	2-oz.	$0.60
61-4	4-oz.	.85
61-8	8-oz.	1.40
61-16	16-oz.	2.20

G-C PORCELAIN GLAZE

Fills in nicks and dents on porcelain and duco refrigerators, sinks, washing machines, etc. Fill in and let dry.

No.		List
911	2-oz.	$0.60
911-16	16-oz.	3.85

G-C SPIRIT VARNISH

Fast drying walnut spirit varnish for touching up nicks and scratches. Will not raise the finish.

No.		List
161-2	2-oz.	$0.60
161-4	4-oz.	.85
161-8	8-oz.	1.40
161-16	16-oz.	2.20

G-C PENETRATING STAIN

Spirit type stain, penetrates and will not injure finish. Cover scratches, dents, darken corners on cabinets, etc. Walnut.

No.		List
162-2	2-oz.	$0.50
162-4	4-oz.	.85
162-8	8-oz.	1.40
162-16	16-oz.	2.20

G-C MICROPHONE CARBON GRANULES

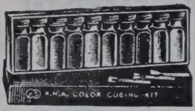
Polished pure carbon granules for microphones.

No.		List
1281	100 Size Highest Sensitivity	$0.80
1282	80 Size Best for General Use	.80
1283	60 Size Best for Hard Use — Sound Trucks, etc.	.80

G-C SCRATCH REMOVER LIQUID

New liquid! Removes scratches instantly. Simply wipe over scratches. Handy to have in tool box.

No.		List
917	2-oz.	$0.50
923	½-oz.	.30


R.M.A. COLOR CODING KIT

COLOR CODING KIT

DIAL LITE COLORING

LUMINOUS
LITE-KOAT FINISH KIT

LITE-KOAT POWDER
MIX-KOAT
KOVER-KOAT
MIX-KOAT THINNER

G-C RMA COLOR CODING KIT

Complete kit of all standard RMA colors to code resistors, condensers, parts, etc. Chart included. Ten bottles.

No. 677 **List $1.95**

G-C TOUCH UP CODING KIT

Five bottles, 4 colors and solvent for coding and sealing parts, adjustments, wires, etc. Red, Green, Blue, Yellow and Solvent.

No. 675 **List $0.85**

G-C DIAL LITE COLOR KIT

Long lasting coloring for dials signals, lamps, panels, hobby work, etc. Red, Green, Blue, Amber, Purple and Solvent in kit.

No.		List
66-6	Kit	$1.00
66-5	Kit no purple	.85
66-2	2-oz. (Specify color)	.60
66-16	16-oz. (specify color)	2.50

G-C LUMINOUS KITS

Complete kits of luminous paint that glows in the dark. Many uses in shop and home. See it at night. Easy to use — apply and let dry.

No.		List
184-0	DeLuxe kit contains Powder, Mix-Koat, Top Koat and Brush,	$2.50
184-1	Regular kit contains Powder, Mix-Koat and Brush.	$1.65

G-C LUMINOUS MATERIALS

LITE-KOAT POWDER

No.		List
185-1	1-oz.	$0.95
185-2	2-oz.	1.65

KOVER-KOAT

To protect and cover luminous material.

No.		List
187-2	2-oz.	$0.60
187-8	8-oz.	1.25

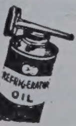
MIX-KOAT

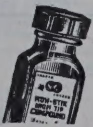
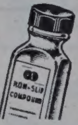
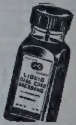
To mix with powder.

No.		List
186-2	2-oz.	$0.60
186-8	8-oz.	1.25

MIX-KOAT AND KOVER-KOAT THINNER

No.		List
188-2	2-oz.	$0.60
188-8	8-oz.	1.25


REFRIGERATOR OIL

Soldering
PASTE
No 1207

NON-STICK
IRON TIP
COMPOUND

NON-SLIP
COMPOUND

LIQUID
NON-SLIP

G-C DIAL OIL

Made with graphite. Special for lubricating dials, drives, and fine mechanisms. Long lasting.

No.		List
1245	4-oz.	$0.50

G-C REFRIGERATOR AND APPLIANCE OIL

Non-gumming oil for household appliances and small motors. The best general purpose oil.

No.		List
1250	4-oz.	$0.50

G-C SOLDERING PASTE

The best non-corrosive paste for radio and electrical work. Solders faster and smoother.

No.		List
1207	2-oz. can	$0.30

G-C NON-STICK IRON TIP COMPOUND

Prevents soldering iron tips from burning into iron. Saves your iron and tips.

No.		List
1201	2-oz.	$0.60

G-C NON-SLIP COMPOUND

Powder Compound

For dial cords, belts, pulleys, etc. Good for V or flat belts on refrigerators, motors, etc.

No.	List
1210	$0.50

Liquid Compound

Penetrating, fast-drying liquid, prevents slipping on dial cords, pulleys, belts. Increases life of cords and belts.

No.		List
1211	½-oz.	$0.30
1215	2-oz.	.60

GENERAL G-C CEMENT CABINET REPAIR KITS—POLISHES

FRENCH EMULSION

G-C FRENCH EMULSION

Best pad lubricant to use with French Varnish Polishing Method.

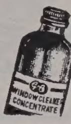
No.		List
164-4	4-oz.	$0.55

FRENCH VARNISH

G-C FRENCH VARNISH

Used by craftsmen to repair furniture and blend in the finish. Can be applied with pad, brush or spray. Dries fast.

No.		List
160-2	2-oz.	$0.60
160-4	4-oz.	.75
160-8	8-oz.	1.40



G-C WINDOW CLEANER CONCENTRATE

Mix with quart of water and make your own high-grade window cleaner. Makes glass sparkle.

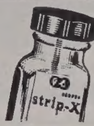
No.		List
122-5	6-oz.	$0.50

TOPS SPOT REMOVER

G-C SPOT CLEANER

Safe high-grade cleaner with special applicator in cap. Non-explosive.

No.		List
124-2	6-oz.	$0.60



G-C STRIP-X

Strips enamel from magnet wire. Dip wire in and wipe insulation off—ready for soldering.

No.		List
26-2	2-oz.	$0.60

G-C CONE RECONDITIONER

Apply to old dried out cones to restore plasticizer and bring back original tones.

No.		List
25-8	8-oz.	$0.95
25-16	16-oz.	1.65

RUBBING OIL

G-C RUBBING OIL

Rub down newly finished or repaired cabinets to produce rich satin sheen finish.

No.		List
163-16	16-oz.	$0.75

TOPS SELF Polishing WAX

G-C FLOOR WAX

High-grade heavy duty commercial self-polishing floor wax. Gives hard, durable finish.

No.		List
97-G	1 Gal	$6.55

LEMON OIL POLISH

G-C LEMON OIL POLISH

Inexpensive polish for removing dust, finger marks, treating dust rags, mops, etc. Picks up dust.

No.		List
91-8	8-oz.	$0.45
91-16	16-oz.	.60

Skratch Remover and Polish

Skratch Remover and Polish

G-C SCRATCH REMOVER POLISHES

DARK

Polish contains stains to remove scratches. Sell to housewives.

No.		List
92-2	2-oz.	$0.30
92-8	8-oz.	.50
92-8-L	8-oz. Lab. size	.50
92-16	16-oz.	.85

LIGHT

For light woods; polishes and removes scratches at same time. Popular with housewives.

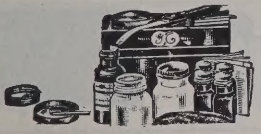
No.		List
93-2	2-oz.	$0.30
93-8	8-oz.	.50
93-16	16-oz.	.85

CREME O WAX Polish

G-C CREME-O-WAX POLISH

White non-staining hard wax base polish produces a hard glossy finish. Excellent for radios, pianos, refrigerators, furniture, etc.

No.		List
95-2	2-oz.	$0.30
95-8	8-oz.	..60
95-8-L	8-oz. Lab. size	.60
95-16	16-oz.	.90



G-C REFRIGERATOR PATCH KIT

"New Improved Kit"

Supplies everything necessary to repair porcelain or Duco nicks, dents, or scratches. Kit contains bottle of pure white lacquer enamel and bottles of Yellow, Blue, Brown, and Black tinting colors, solvent, spatula, porcelain patch stick, sandpaper, and brushes. Useful on refrigerators, washers, ranges, table tops, etc. Directions included.

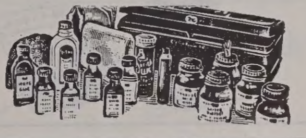
No. 902 **List $4.35**

G-C DELUXE CABINET REPAIR KIT

"New Improved Kit"

Comes in handy metal box. Contains ten shades of shellac sticks, bottles of light and dark oil stain, bottles of metal shading varnish, polish, General Skratch Stik, alcohol lamp (with alcohol), spatula, small brushes, steel wool, sandpaper, and wiping cloth. Everything necessary for a practical repair job. No special skill required. Directions included.

No. 901 **List $5.45**

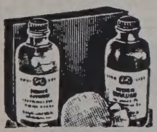


G-C MASTER DELUXE CABINET REPAIR KIT

"New, Most Complete Kit"

A complete cabinet repair kit put in a permanent metal box. All finishes supplied are spirit soluble and will not cut or damage surrounding finishes on cabinets, etc. Kit contains 10 shellac sticks, alcohol lamp, French varnishes, rubbing felt and fluid, enamels, glue, steel wool, sandpaper, polish, directions, etc. Nothing else needed! The best buy on the market!

No. 900 **List $9.95**



G-C FRENCH VARNISH KIT

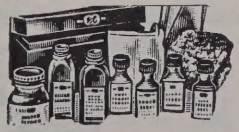
Kit for French polishing. Only way to blend repairs with adjoining finish. Kit includes varnish, emulsion, pad, and instructions.

No. 160-0 **List $1.40**

G-C MAGIC SCRATCH KIT

Combination of 6 shades fillers and light and dark scratch fluid. Easy to use on emergency jobs.

No. 915 **List $1.40**



G-C MASTER CABINET TOUCH-UP KIT

"Ideal Quick Touch-Up Kit"

A complete, fast touch-up kit for repairing scratches and dents. Works on wood and plastic cabinets. The spirit finishes will not cut into the adjoining surface or injure surrounding finish. Contains French varnish, emulsion, colored enamels, stains, polishes, and filler. Sandpaper, steel wool, rubbing cloth and directions included. Brushes attached to caps of all finish bottles. Put up in metal box.

No. 907 **List $3.25**

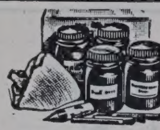
G-C RADIO-REFRIGERATOR CABINET PATCH KIT

"New Improved Kit"

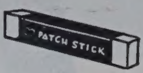
A kit of the shellac patch sticks to fill all needs. Patches wood, plastics, bakelite and porcelain. Nine shellac sticks for the light and dark shades of wood, and black and white, alcohol lamp (with alcohol), spatula, steel wool, sandpaper and wiping cloth are packed in the metal box. Directions included.

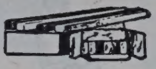
No. 903 **List $3.85**

GENERAL G-C CEMENT GRILLE CLOTH—FLOCK KITS



PLASTIC CABINET TOUCH-UP KIT





G-C TOUCH-UP KIT

Practical for touching up small scratches and dents. Includes light and dark varnish and spirit stains, filler, cloth, brushes, etc.

No.		List
905	Kit	$1.10

G-C PLASTIC TOUCH-UP KIT

Kit contains 6 colors touch - up lacquer enamels to fix up plastic and colored cabinets. Walnut, Ivory, Black, Red, Blue, Green, and brushes.

No.		List
910	Kit	$1.40

G-C PORCELAIN PATCH STICK

Made for white porcelain refrigerators, sinks, ranges, fixtures, etc. Simply melt into nick and smooth off.

No.		List
908	Stick	$0.40

G-C SHELLAC STICK KIT

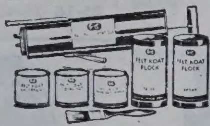
Handy assortment of 10 colors to take care of any shade of wood. Same as in G-C Kits.

No.		List
925	Kit	$1.80

G-C SHELLAC STICKS

High grade sticks for filling dents and nicks in wood cabinets and furniture. Sticks 7″ long.

No.		List	No.		List
929	Lt. Walnut	$0.50	979	Dk. Oak	$0.50
930	Dk. Walnut	.50	980	Transparent	.50
933	Black	.50	981	Lt. Transp.	.50
934	White	.50	982	Walnut	.50
935	Maple	.50	983	Mahogany	.50
978	Lt. Oak	.50	984	Blonde Maple	.50



FELT-KOAT UNDERCOAT

RUBBER UNDERCOAT

G-C FELT KOAT FLOCK KIT

New G-C kit with special blower gun. Distributes flock evenly and applies a thick velvet-like coat. Kit is complete with gun, brown and ivory flock, brown and ivory undercoat, thinner, brush, etc. Gives professional job on turntables, cabinets, grilles, tool boxes, toys, signs, etc. Has thousands of applications.

No.		List
180-2	Kit	$10.50

G-C FELT KOAT KITS

Complete flock kit with flock undercoat, thinner and brushes and shaker type can for applying flock. Colors: Brown, Blue, Taupe, Black, White, Ivory Red, Green, Silver and Gold. (Specify Color).

No.		List
180-0	DeLuxe Kit	$3.00
180-1	Reg. Kit (No brush or thinner)	2.15

G-C FLOCK BLOWER GUN

It's easy to apply flock and be sure to get a good job with the G-C Patented Gun. Gun can also be used for dusting and cleaning.

No.		List
180-3	Gun	$4.35
180-4-N	Cleaning Nozzle for Gun	.65

G-C FLOCK UNDERCOAT

Material is first applied on surface to be flocked. Then flock is applied. Used on metal, wood, paper, etc. Colors: Brown, Taupe, Blue, Black, White, Ivory, Red, Green, Silver and Gold. (Specify Color).

No.		List
180-4	4-oz.	$1.10
180-8	8-oz.	1.95
180-16	16-oz.	3.00

G-C RUBBER BASE UNDERCOAT

Use as flock sizing on fabrics, upholstering, turntables, etc. Makes pliable coating.

No.		List
182-4	4-oz.	$1.00
182-8	8-oz.	1.75
182-16	16-oz.	2.50

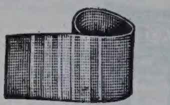
FLOCK SIZING THINNER

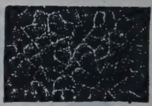
For #180 Undercoat.

181-4	4-oz.	$0.45
181-8	8-oz.	.60
181-16	16-oz.	.85
181-G	1 Gal.	4.15

FELT COAT FLOCK

Skratch STIK





G-C FELT-KOAT FLOCK

Genuine Rayon Flock, $\frac{1}{16}$″ length fibers accurately cut, give beautiful even finish. One pound covers approximately 90 sq. ft. Colors: Brown, Taupe, Blue, Black, White, Ivory, Red, Green, Silver, and Gold. (Specify Color).

No.		List
180-5	2-oz. Can	$1.00
180-6	½-lb. Bag	3.00
180-7	1-lb. Bag	5.00

G-C GENERAL SCRATCH STICK

Removes scratches. Simply run over scratches and they will disappear. Handy to carry in your pocket or tool box for emergency repairs. Also sell to housewives.

No.		List
909	Scratch Stik	$0.40
909-D	Display 12 Stiks	4.80

1-A SKRATCH STIK DEAL — WIRE DISPLAY FOR DEALERS

Dealers and servicemen — Display the No. 1-A Skratch Stik deal in your shop or store and sell Skratch Stiks to your customers. Every home and office needs one. You can earn extra profit with this self-selling display.

No. 1-A Deal 12 Skratch Stiks Wire
List $5.35
Dealer's Net 2.88*

G-C LUGGAGE FABRIC

Airplane type fabric for portables, test instruments, cabinets, etc. Colors: Gray and Brown. (Specify Color).

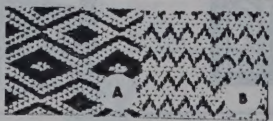
No.		List
960	18″ x 18″	$0.85
961	36″ x 18″	1.65
962	Any length, 36″ wide, per yard	3.05

G-C INSTRUMENT FABRIC

Leatherette fabric to cover cabinets and instruments. Same as used by manufacturers. Colors: Black and Brown. (Specify Color).

No.		List
965	18″ x 16″	$0.85
966	18″ x 32″	1.65
967	Any length, per yard	3.05

GRILLE CLOTH



G-C CABINET SPEAKER GRILLE CLOTH

Beautiful modern patterns of Brown, Gold and light colors to match Walnut, Mahogany and Ivory cabinets. Specify "Ivory" when ivory is wanted.

No.	Size	List	No.	Size	List
940	18″ x 20″	$1.25	954	5″ x 10″	$0.35
941	9″ x 18″	.58	949-1	1-Yd. Pkgs., 40″ Wide	5.75
942	12″ x 12″	.60	949-1R	40″ Wide Cont. lgth., per yd.	4.95
943	14″ x 18″	.70	949-2R	50″ Wide Cont. lgth., per yd.	5.60
944	24″ x 13″	.90	950	Roll 9″ x 12″	.50
945	18″ x 13″	.70			
946	8″ x 8″	.28			
947	9½″ x 10″	.30			
948	6″ x 6″	.25			

G-C SPARKLE GRILLE CLOTH

Juke box metallic grille cloth. Beautiful gold pattern. Sparkles in the light. Very good for ivory cabinets also.

No.		List
957	Large Pattern, per Yd.	$10.00
958	Small Pattern, per Yd.	10.00

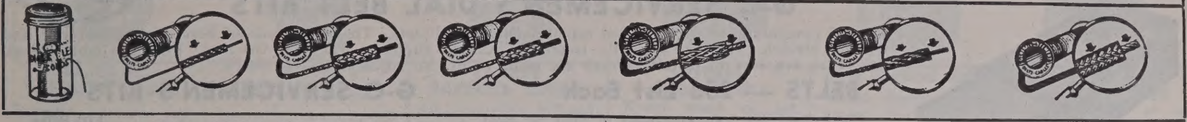
G-C METAL FLOCKED GRILLE SCREEN

Very popular. Both sides flocked with rayon over galvanized metal screen. Used on radios, P.A. speakers, intercoms, auto radios, etc. Waterproof, durable; Colors: Brown, Ivory, Maroon.

No.	Size	Color	List
951-1	8″ x 11″	Brown	$0.85
951-3	8″ x 11″	Ivory	.85
951-5	8″ x 11″	Maroon	.85
952-1	18″ x 24″	Brown	2.90
952-3	18″ x 24″	Ivory	2.90
952-5	18″ x 24″	Maroon	2.90
953-1	36″ x 36″	Brown	8.95
953-3	36″ x 36″	Ivory	8.95
953-5	36″ x 36″	Maroon	8.95

* Net

GENERAL G-C CEMENT *RADIO DIAL CORDS and CABLES*



THE THREE MOST POPULAR CORDS USED

G-C No. 75 STANDARD THIN NYLON CORD

.028″ diam. Most popular; used on 95% of sets. Braided nylon over fibre glass core. In plastic container.

No.	Spool	List
75-25	25 ft.	$1.25
75-50	50 ft.	2.40
75-100	100 ft.	4.50
75-11	Env.	.40

G-C No. 75-A EXTRA THIN NYLON CORD

.025″ diam. Used on RCA, GE, Strom.-Carl., etc. Braided nylon over fibre glass core. In plastic container.

No.	Spool	List
75A-25	25 ft.	$1.25
75A-50	50 ft.	2.40
75A-100	100 ft.	4.50
75A-11	Env.	.40

G-C No. 74 MEDIUM NYLON CORD

.040″ diam. Very popular; used by RCA, Philco, GE, etc. Braided nylon over fibre glass core. In plastic container.

No.	Spool	List
74-25	25 ft.	$1.25
74-50	50 ft.	2.40
74-100	100 ft.	4.50
74-11	Env.	.40

G-C No. 70 BRAIDED BRONZE CABLE

.040″ diam.; used on radio dials, instruments and for aircraft reel-in antenna cable. Phosphor bronze braided over fibre glass core for strength. In plastic container.

No.	Spool	List
70-25	25 ft.	$1.25
70-50	50 ft.	2.40
70-100	100 ft.	4.50
70-11	Env.	.40

G-C No. 71 42-STRAND BRONZE CABLE

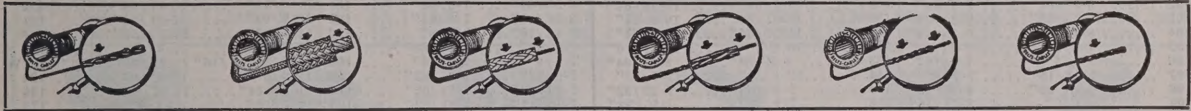
.040″ diameter; 42 strands twisted phosphor bronze over fibre glass core. Radio dials, aircraft reel-in antennas, etc. Durable and flexible. In plastic containers.

No.	Spool	List
71-25	25 ft.	$1.25
71-50	50 ft.	2.50
71-100	100 ft.	4.50
71-11	Env.	.40

G-C No. 73 HEAVY NYLON CORD

.062″ diameter; used on Philco, Majestic, Brunswick, etc. Very strong, chemically treated to prevent slipping. In plastic container.

No.	Spool	List
73-25	25 ft.	$1.50
73-50	50 ft.	2.75
73-100	100 ft.	5.00
73-11	Env.	.40



G-C No. 76 SPECIAL THIN BRONZE CABLE

.025″ diam. braided bronze as used on GE, RCA, and others. Also for flexible connections on speakers, cones, etc. In plastic container.

No.	Spool	List
76-25	25 ft.	$1.25
76-50	50 ft.	2.40
76-100	100 ft.	4.50
76-11	Env.	.40

G-C No. 73-X EXTRA HEAVY NYLON CORD

.072″ diameter. Extra heavy cord as used by Philco and others. Chemically treated to prevent slipping. In plastic container.

No.	Spool	List
73X-25	25 ft.	$1.50
73X-50	50 ft.	2.75
73X-100	100 ft.	5.00
73X-11	Env.	.40

G-C No. 78 BRAIDED LINEN CORD

.040″ diameter, same as used on Emerson radios, instruments, drawing boards, etc. Extra strong and durable. In plastic container.

No.	Spool	List
78-25	25 ft.	$1.25
78-50	50 ft.	2.40
78-100	100 ft.	4.50
78-11	Env.	.40

G-C No. 79 MONEL METAL CABLE

.035″ diam. Strong and durable, non-corrosive cable for radio dials and instruments. Preferred by many to bronze cable. In plastic container.

No.	Spool	List
79-25	25 ft.	$1.25
79-50	50 ft.	2.40
79-100	100 ft.	4.50

G-C No. 80 EXTRA THIN METAL CABLE

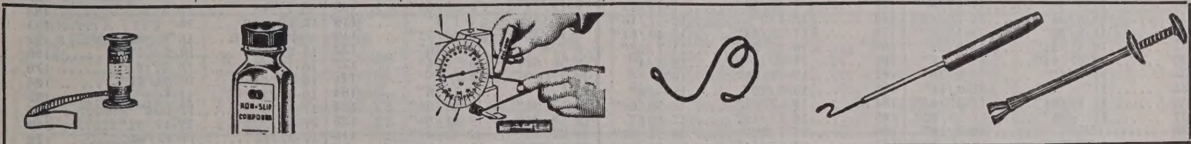
.015″ diameter. Very strong twisted steel cable. Popular on foreign and export receivers, instruments, dials, etc. In plastic container.

No.	Spool	List
80-25	25 ft.	$1.25
80-50	50 ft.	2.40
80-100	100 ft.	4.50

G-C No. 82 EXTRA THIN PHOSPHOR BRONZE CABLE

.012″ diam. twisted of 7 strands .004″ phosphor bronze. Used on dial instruments and Army and Navy Radar Equipment. In plastic container.

No.	Spool	List
82-25	25 ft.	$1.25
82-50	50 ft.	2.40
82-100	100 ft.	4.50



G-C PHOSPHOR BRONZE BELTING

This belting is required to make repairs on some of the older model sets.

For Atwater Kents — $\frac{3}{16}$″ wide x .005″ thick.

No.		List
61-25	25 ft.	$1.50

For Brunswicks — $\frac{5}{16}$″ wide x .006″ thick.

No.		List
62-25	25 ft.	$2.00

G-C NON-SLIP COMPOUNDS

Powder Compound

For dials, cords, pulleys, belts. Prevents slipping.

No.		List
1210	2-oz.	$0.50

Liquid

Penetrating liquid shrinks fibers, prevents slipping on dial cord and belts.

No.		List
1215	2-oz.	0.60

G-C CORD DRESSING

Easy way to treat slipping cords. Simply rub on stick and job is done. Prevents and stops slipping.

No.		List
1212	Stick	$0.25

G-C READY MADE CABLES

For popular sets. Save time in repairing these sets.

No.	Model	List
R7	Brunswick, 15, 22 Front,	$0.50
R8	Brunswick, 15, 22 Rear	.50
R9	GE, A88, A82, A87	.50
R10	Majestic, 70, 71, 72	.50

G-C DIAL CABLE TOOL

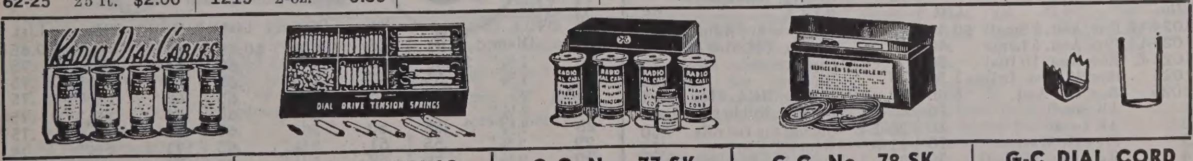
Handy tool to aid in stringing new dial cord and replacing cables slipped off pulleys and drums. It's like an extra hand. Speeds up the job.

No.	List
5096	$0.75

G-C HANDY PICK-UP TOOL

Very handy for every one. Picks up pieces in hard-to-get-at places. Will hold and start screws, nuts, etc. Will pay for itself in short time.

No.	List
5089	$1.50



G-C DIAL CABLE RACK

Very handy, includes popular cables. Hangs on wall or on bench. Handy measuring rule or sign. Kit includes rack and five 25 ft. spools each Nos. 71, 73, 74, 75 and 76 cables.

No.	List
7-A-25	$6.50

G-C DIAL SPRING KITS

Handy kit of springs as used on dial cord drives. Six sizes included.

No.		List
1054-E	10 Assorted	$0.40
1054-SE	10 Small Springs	.40
1055	Kit 25 Asst. Springs	1.20
1056	Kit 100 Asst. Springs	4.40

G-C No. 77-SK DIAL CORD KIT

Contains four 25 ft. spools most popular cord; 75-25, 74-25, 76-25, 71-25, and free assortment of dial cord clamps and eyelets.

No.		List
77-SK	Cable Kit	$4.75

G-C No. 78-SK DIAL CORD KIT

Combination kit in 10 ft. lengths of all G-C Dial Cables. Each in separate envelope, packed in leatherette box. Handy for servicemen and experimenters.

No.		List
78-SK	Cable Kit	$4.65

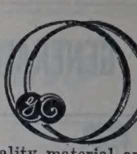
G-C DIAL CORD CLIPS

Handy clip and eyelet assortment used to fasten to ends of dial cords, etc. Required on every set.

No.		List
1028-E	Assortment	$0.40

GENERAL G-C CEMENT

DIAL BELTS
RUBBER DRIVES — CRYSTALS



Woven Fabric Dial Belts

G-C SERVICEMEN'S DIAL BELT KITS

General Cement Belts are approved replacements for all sets. They are made of best quality material and will not stretch. They are specially treated to prevent slipping. They are the best. Sizes available for all sets. They are easy to install as they are made to fit. No adjustments necessary.

BELTS — 25c List Each

Servicemen! Have an assortment of belts on hand for prompt replacement. Kits contain only the more popular belts used. KIT INCLUDES ATTRACTIVE STEEL BOX—BELT SCALE AND COMPLETE LISTING OF OVER 1100 MODELS.

G-C SERVICEMEN'S KITS

	List Price
No. G- 25—Kit of 25 popular belts	$ 7.50
No. G- 50—Kit of 50 popular belts	14.75
No. G-100—Kit of 100 (includes every size)	25.00

INSTRUCTIONS — FOR MEASURING BELTS

To determine size of belt, if the old belt is available, cut the belt and measure for stretched out length. This will be "cut length" of belt.

If old belt is not available or is worn out so that it cannot be properly measured, stretch a thin thread around belt pulleys on set. (Be sure to use thin thread as a thick cord will give an inaccurate reading.) Measure the thread, it will be our "circumference around pulleys." In measuring belts always remember that the **circumference around pulleys** is not the same as **stretched out or cut length.** A belt when cut, develops approximately 3/16" extra length when stretched out, depending on thickness of belt.

G-C RADIO BELT SPECIFICATIONS

LISTED AS PER BELT NO.

GC Belt No.	Circumference Around Pulleys	Cut Length
101	6-23/32"	6-29/32"
102	6-57/64"	7-5/64"
103	7-15/32"	7-21/32"
104	8-1/64"	8-13/64"
105	7-1/2"	7-11/16"
106	7-1/4"	7-7/16"
107	7-11/16"	7-7/8"
108	8-21/32"	8-27/32"
109	8-1/2"	8-11/16"
110	8-25/64"	8-37/64"
111	7-15/16"	8-1/8"
112	8-43/64"	8-55/64"
113	8-3/32"	8-9/32"
114	8-15/64"	8-27/64"
115	9-13/64"	9-25/64"
116	9-5/16"	9-1/2"
117	9-1/16"	9-1/4"
118	10-23/64"	10-35/64"
119	9-17/32"	9-23/32"
120	10-45/64"	10-57/64"
121	10-11/16"	10-7/8"
122	10-3/8"	10-9/16"
123	9-7/8"	10-1/16"
124	10-17/64"	10-29/64"
125	10-25/64"	10-37/64"
126	10-1/16"	10-1/4"
127	9-59/64"	10-7/64"
128	10-19/64"	10-31/64"
129	10-41/64"	10-53/64"
130	11-5/64"	11-17/64"
131	11-9/64"	11-21/64"
131W	11-9/32"	11-15/32"
132	10-31/32"	11-5/32"
133	10-61/64"	11-9/64"
134	11-3/8"	11-9/16"
135	11"	11-3/16"
136	11-25/64"	11-37/64"
137	11-5/32"	11-15/32"
138	12"	12-3/16"
139	12-9/32"	12-15/32"
140	12-7/32"	12-13/32"
141	11-3/4"	11-15/16"
142	12-3/32"	12-1/4"
143	11-13/16"	12"
144	12-15/32"	12-21/32"
145	12-39/64"	12-51/64"
146	13-1/2"	13-11/16"
147	14-27/64"	14-39/64"

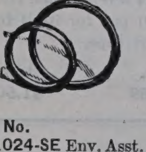
GC Belt No.	Circumference Around Pulleys	Cut Length
148	14-33/64"	14-3/4"
149	15-1/64"	15-13/64"
150	15-61/64"	16-9/64"
151	14-57/64"	15-5/64"
152	10-1/2"	10-11/16"
153	8-39/64"	8-51/64"
154	12-1/32"	12-7/32"
155	7-35/64"	7-23/32"
156	7-9/32"	7-15/32"
157	7-1/64"	7-13/64"
158	6-15/16"	7-1/8"
159	8-1/32"	8-7/32"
160	8-11/16"	8-7/8"
161	6-55/64"	7-3/64"
162	8-13/64"	8-25/64"
163	9-19/64"	9-31/64"
164	10-1/4"	10-7/16"
165	17-1/16"	17-1/4"
166	19-7/16"	19-5/8"
167	8-13/16"	9"
168	12-13/16"	13"
169	17-13/32"	17-19/32"
170	16-19/64"	16-31/64"
171	11-3/16"	11-3/8"
172	8-3/16"	8-3/8"
173	11-7/16"	11-5/8"
174	7-3/4"	7-15/16"
175	21-5/16"	21-1/2"
176	22-35/64"	22-47/64"
177	7-13/32"	7-19/32"
178	12-1/2"	12-11/16"
179	17-37/64"	17-49/64"
180	10-27/32"	11-1/32"
181	18-9/16"	18-3/4"
182	15-13/16"	16"
183	15-7/16"	15-5/8"
184	16-27/64"	16-39/64"
185	16-15/16"	17-1/8"
186	14-7/32"	14-13/32"
187	15-17/64"	15-29/64"
188	19-47/64"	19-59/64"
189	18-1/2"	18-11/16"
190	17-5/8"	17-13/16"
191	22-49/64"	22-61/64"
192	straight belt	16"
193	straight belt	12-7/16"
194	11-21/32"	11-27/32"

LISTED AS PER BELT SIZE

Circumference Around Pulleys	Cut Length	GC Belt No.
6-23/32"	6-29/32"	101
6-55/64"	7-3/64"	161
6-57/64"	7-5/64"	102
6-15/16"	7-1/8"	158
7-1/64"	7-13/64"	157
7-1/4"	7-7/16"	106
7-9/32"	7-15/32"	156
7-13/32"	7-19/32"	177
7-15/32"	7-21/32"	103
7-1/2"	7-11/16"	105
7-35/64"	7-23/32"	155
7-11/16"	7-7/8"	107
7-3/4"	7-15/16"	174
7-15/16"	8-1/8"	111
8-1/64"	8-13/64"	104
8-1/32"	8-7/32"	159
8-3/32"	8-9/32"	113
8-3/16"	8-3/8"	172
8-13/64"	8-25/64"	162
8-15/64"	8-27/64"	114
8-25/64"	8-37/64"	110
8-1/2"	8-11/16"	109
8-39/64"	8-51/64"	153
8-21/32"	8-27/32"	108
8-43/64"	8-55/64"	112
8-11/16"	8-7/8"	160
8-13/16"	9"	167
9-1/16"	9-1/4"	117
9-13/64"	9-25/64"	115
9-19/64"	9-31/64"	163
9-5/16"	9-1/2"	116
9-17/32"	9-23/32"	119
9-7/8"	10-1/16"	123
9-59/64"	10-7/64"	127
10-1/16"	10-1/4"	126
10-1/4"	10-7/16"	164
10-17/64"	10-29/64"	124
10-19/64"	10-31/64"	128
10-23/64"	10-35/64"	118
10-3/8"	10-9/16"	122
10-25/64"	10-37/64"	125
10-1/2"	10-11/16"	152
10-41/64"	10-53/64"	129
10-11/16"	10-7/8"	121
10-45/64"	10-57/64"	120
10-27/32"	11-1/32"	180
10-61/64"	11-9/64"	133
10-31/32"	11-5/32"	132

Circumference Around Pulleys	Cut Length	GC Belt No.
11"	11-3/16"	135
11-5/64"	11-17/64"	130
11-9/64"	11-21/64"	131
11-5/32"	11-15/32"	137
11-3/16"	11-3/8"	171
11-9/32"x5/16"	11-15/32"x5/16"	131W
11-3/8"	11-9/16"	134
11-25/64"	11-37/64"	136
11-7/16"	11-5/8"	173
11-21/32"	11-27/32"	194
11-3/4"	11-15/16"	141
11-13/16"	12"	143
12"	12-3/16"	138
12-1/32"	12-7/32"	154
12-3/32"	12-1/4"	142
12-7/32"	12-13/32"	140
straight belt	12-7/16"-str. belt	193
12-9/32"	12-15/32"	139
12-15/32"	12-21/32"	144
12-1/2"	12-11/16"	178
12-39/64"	12-51/64"	145
12-13/16"	13"	168
13-3/16"	13-3/8"	146
14-7/32"	14-13/32"	186
14-27/64"	14-39/64"	147
14-33/64"	14-3/4"	148
14-57/64"	15-5/64"	151
15-1/64"	15-13/64"	149
15-17/64"	15-29/64"	187
15-7/16"	15-5/8"	183
15-13/16"	16"	182
straight belt	16" - str. belt	192
15-61/64"	16-9/64"	150
16-19/64"	16-31/64"	170
16-27/64"	16-39/64"	184
16-15/16"	17-1/8"	185
17-1/16"	17-1/4"	165
17-13/32"	17-19/32"	169
17-37/64"	17-49/64"	179
17-5/8"	17-13/16"	190
18-1/2"	18-11/16"	189
18-9/16"	18-3/4"	181
19-7/16"	19-5/8"	166
19-47/64"	19-59/64"	188
21-5/16"	21-1/2"	175
22-35/64"	22-47/64"	176
22-19/64"	22-61/64"	191

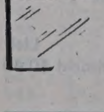
Buy a G-C Belt Kit and Get a Free Belt Replacement Guide



G-C RADIO AND PHONO DRIVES

No.		List
1024-SE	Env. Asst. 5 Small	$0.40
1024-LE	Env. Asst. 5 Large	.40
1024-E	Env. Asst. 10 Dial	.80
1025	Box 25 Asst. Drives	1.50
1026	Box 100 Asst.	6.00
1	AK Small	.10
2	AK Large	.10
3	Stewart-Warner	.10
4	Kennedy, Wells-G.	.10
5	Stewart-Warner	.10
6	RCA	.10
7	Stewart-Warner	.10
8	Stewart-Warner	.10
9	Atwater-Kent	.10
10	Stewart-Warner	.10
11	Lge. Atwater-Kent	.10

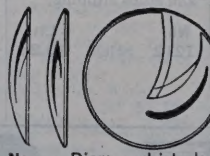
No.		List
12	Emerson, Majestic	$0.10
13	Small AK	.10
15	Philco	.25
16	General Industries, RX-LX	.25
17	Alliance 80, Admiral, Philco, VM, Gen. Ind., Seeburg, etc.	.25
18	RCA	.15
19	Philco, RCA, etc.	.15
20-E	Detrola, Rubber Type	.40
20-1-E	Spring for Detrola	.50
21-A	General Electric	.15
22	RCA RP-176, GE 809-J, large tire	1.00
23	RCA RP-176, GE 809-J, rim drive	.20
24-E	Crescent 3 ¾" O.D.	.40
24-AE	Admiral, Crescent 3 ¼" O.D.	.40
24B-E	Admiral 3 ⅛" O.D.	.40



G-C PLASTIC CRYSTAL

Clear plastic crystal in flat sheet. For radio dials, clocks, dashboards, etc. Can be cut to size, fitted and cemented in place.

No. 92 8" x 10" **List $1.45**



G-C RADIO DIAL GLASS AND CLOCK CRYSTALS

Round convex replacement glass crystals for radios, clocks, auto radios, instruments, panels, dash board.

No.	Diam.	List
25	1 ¾"	$0.55
26	1 ⅞"	.55
26A	2"	.55
27	2 ⅛"	.55
28	2 ¼"	.55
29	2 ⅜"	.55
30	2 ½"	.55
31	2 ⅝"	.55
32	2 ¾"	.55
33	2 ⅞"	.55
34	3"	.55
35	3 ⅛"	.55
36	3 ¼"	.55
37	3 ⅜"	.55
38	3 ½"	.55
39	3 ⅝"	.55
40	3 ¾"	.55
41	3 ⅞"	.55
42	4"	.65
43	4 ⅛"	.65
44	4 ¼"	.65

No.	Diam.	List
45	4 ⅜"	$0.65
46	4 ½"	.65
47	4 ⅝"	.65
48	4 ¾"	.65
49	4 ⅞"	.65
50	5"	.65
51	5 ⅛"	.65
52	5 ¼"	.65
53	5 ⅜"	.65
54	5 ½"	.65
55	5 ⅝"	.65
56	5 ¾"	.65
57	5 ⅞"	.65
58	6"	.65
59	6 ⅛"	.65
60	6 ¼"	.65
61	6 ⅜"	.65
62	6 ½"	.65
62A	6 ⅝"	.65
63	6 ⅞"	.65

No.	Diam.	List
64	6 ¾"	$0.65
66	7"	.75
67	7 ⅛"	.75
68	7 ¼"	.75
69	7 ⅜"	.75
70	7 ½"	.75
71	7 ⅝"	.75
72	7 ¾"	.75
73	7 ⅞"	.75
74	8"	.75
75	8 ⅛"	.85
76	8 ¼"	.85
77	8 ⅜"	.85
78	8 ½"	.85
79	8 ⅝"	.85
80	8 ¾"	.85
81	8 ⅞"	.85
82	9"	.85
83	9 ⅛"	.85
84	9 ¼"	.85

DC65	Kit of 65 Crystals	$38.50
DC25	Kit of 25 Popular Crystals	13.75

GENERAL G-C CEMENT RADIO KNOBS—KITS

MAJESTIC BAKELITE KNOBS

Popular pattern. Set screw type. ⅞" diam., ¼" shaft.

No.		List
1100	Walnut	$0.16
1100-I	Ivory	.20

ROYAL BAKELITE KNOBS

Beautiful pattern. Set screw type. ⅞" diam., ¼" shaft.

No.		List
1105	Walnut	$0.16
1105-I	Ivory	.20

YANKEE BAKELITE KNOBS

Set screw type. ¾" and 1" diam., ¼" shaft.

No.		List
1109	¾" Wln.	$0.16
1110	1" Walnut	.16
1109-I	¾" Ivory	.20
1110-I	1" Ivory	.20

MODERN LARGE KNOB

Knurl shaft or set screw types. 1⅛" diameter.

No.		List
Knurl Shaft Type		
1176	Walnut	$0.12
Set Screw Type		
1177	Walnut	.16

NEW LARGE KNOB

Knurl shaft or set screw types. 1⅛" diameter.

No.		List
Knurl Shaft Type		
1178	Walnut	$0.12
Set Screw Type		
1179	Walnut	.16

POPULAR LARGE KNOB

Knurl shaft or set screw types. 1 3/16" diameter.

No.		List
Knurl Shaft Type		
1180	Walnut	$0.12
Set Screw Type		
1181	Walnut	.16

MIDGET BAKELITE KNOBS

Set Screw Type

For small sets. 11/16" diam., ¼" shaft.

No.		List
Pointer Type		
1115	Walnut	$0.12
1116	Ivory	.13
1117	Red	.13
1118	Black	.12

For small sets. 11/16" diam., set screw ¼".

No.		List
Non-Pointer Type		
1111	Walnut	$0.12
1112	Ivory	.13
1113	Red	.13
1114	Black	.12

STREAMLINE POINTERS

The most popular pointer knob. ¼" shaft, set screw type 1¼" long.

No.		List
1136	Black	$0.15
1136-W	Walnut	.16
1137	Red	.18
1137-I	Ivory	.20

A very popular pointer knob. ¼" shaft, set screw type, 2" long.

No.		List
1135	Black	$0.20
1135-W	Walnut	.24
1138	Red	.24
1138-I	Ivory	.26

MODERN POINTER BAR KNOBS

Brass Bushing

For intercomms and instruments. Black. Set screw, ¼" shaft, 2¾" long.

No.		List
1130	Black	$0.38
1130-W	Walnut	.38

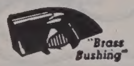
For intercomms and instruments. Black finish. Set screw, ¼" shaft, 1⅝" long.

No.		List
1131	Black	$0.35
1131-W	Walnut	.35

INSTRUMENT KNOB

A heavy duty knob for communication equipment, instruments. ¼" brass insert, set screw. 1¾" O.D. x ⅞".

No.		List
1175	Black	$0.35



STREAMLINE POINTERS

Brass Bushing

Brass insert. ¼" shaft, set screw. 1¼" long.

No.		List
1170	Black	$0.25
1170-W	Walnut	.25
1172	Red	.30
1172-I	Ivory	.30

Brass insert. ¼" shaft, set screw. 2" long.

No.		List
1171	Black	$0.30
1171-W	Walnut	.30
1173	Red	.36
1173-I	Ivory	.36

POPULAR BAR KNOB

For intercomms, instruments, appliances. Bakelite with set screw. ¼" hole, 1⅝" long.

No.		List
1132	Walnut	$0.20

POPULAR PLASTIC KNOB

15/16" diameter with ½" shank extension for ¼" knurled shaft.

No.		List
1153	Walnut	$0.12
1154	Ivory	.13

ATTRACTIVE PLASTIC KNOB

15/16" diameter, flush type for ¼" knurled shafts.

No.		List
1155	Walnut	$0.12
1156	Ivory	.13

MIDGET TYPE PLASTIC KNOB

¾" diam., ⅜" shank for ¼" knurled shafts.

No.		List
1157	Walnut	$0.12
1158	Ivory	.13

MIDGET TYPE PLASTIC KNOB

¾" diam. flush type for ¼" knurled shafts.

No.		List
1159	Walnut	$0.12
1160	Ivory	.13

ACORN PLASTIC KNOB

¾" diam., ⅛" shank for ¼" knurled shafts.

No.		List
1182	Walnut	$0.12
1183	Ivory	.13

PUSH-ON KNURL KNOB

15/16" diam. flush type for ¼" knurled shafts.

No.		List
1184	Walnut	$0.12
1185	Ivory	.13

PUSH-ON KNURL KNOB

15/16" diam., ½" shank for ¼" knurled shafts.

No.		List
1186	Walnut	$0.12
1187	Ivory	.13

POINTER TYPE PLASTIC KNOB

15/16" diam., ½" shank for ¼" knurled shafts.

No.		List
1188	Walnut	$0.12
1189	Ivory	.13

MIDGET TYPE PLASTIC KNOBS

23/32" diam., ½" shank for ¼" knurled shafts.

No.		List
1197	Walnut	$0.12
1198	Ivory	.13

23/32" diam., flush shank for ¼" knurled shafts.

No.		List
1193	Walnut	$0.12
1194	Ivory	.13

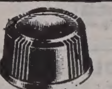
SPRING AND D-SHAFT KNOBS

Spring type. 15/16" diam. Fits ¼" flat shafts.

No.		List
1151	Walnut	$0.12
1152	Ivory	.13

D- or flat shaft type. ⅝" diam.

No.		List
1161	Walnut	$0.12
1162	Ivory	.13



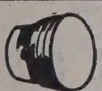
SPRING AND D-SHAFT KNOBS

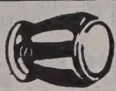
D- or flat shaft type. ¾" diam.

No.		List
1163	Walnut	$0.13
1164	Ivory	.14

D- or flat shaft type. 1" diam.

No.		List
1165	Walnut	$0.14
1166	Ivory	.15





G-C AUTO RADIO KNOBS

1 3/16" diam. x 11/16" high. For ¼" and 3/16" shafts. Brass bushing with set screw.

No.		List
¼" Shaft		
1191	Pearl Gray	$0.30
1192	Maroon	.30
3/16" Shaft		
1167	Pearl Gray	.30
1168	Maroon	.30

Set screw type auto radio knob. 13/16" diam. x ⅞" high. For either ¼" or 3/16" shafts with bushing.

No.		List
1195	Pearl Gray	$0.30
1196	Maroon	.30

G-C AUTO RADIO KNOBS

Chrome plated. For ¼" and 3/16" shafts. Set screw mounting.

No.		List
1169	¼"	$0.30
1174	3/16"	.30

G-C KNOB SET SCREW ASST.

Handy set screw assortments for radio knobs, shafts, pulleys. 6-32, 8-32, and 10-32.

No.		List
1060	50 Asst.	$1.10
1061	100 Asst.	2.00
1062-E	20 Asst.	.40
6605	30 Asst.	.65

G-C RADIO KNOB KITS

Popular plastic knobs in assorted kits, all kinds of knobs included.

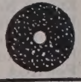
No.	Quantity	List
1140	35 Asstd. Push-on Buttons	$3.95
1141	28 Asstd. Spring Knobs	3.95
1142	24 Asstd. Set Screw Knobs	3.95
1143	30 Asstd. All Type Knobs	3.95
1144	15 Asstd. Auto Radio Knobs, for ¼" and 3/16" shafts	3.95

RADIO KNOB SPRINGS

G-C KNOB SPRING KITS

Twelve types of knob springs or wedges in kit.

No.		List
1049-E	Env. 20 Asstd.	$0.40
1050	Kit 35	.85
1051	Kit 100	1.65
6619	Jar 35 Asstd.	.65



G-C KNOB FELTS

Used behind knobs. Saves cabinet.

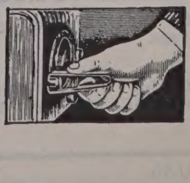
No.		List
1065-E	Env. 50	$0.40
6641	Jar 70	.65

G-C KNOB BUSHINGS

Reduce from ¼" to 3/16". For auto radios.

No.	List
6751	$0.40

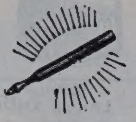
G-C RADIO KNOB PULLER

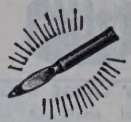


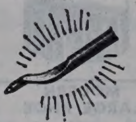
Very handy in removing knobs that are hard to pull off. Simply slip behind knob and pull off. Saves the cabinet and the knobs.

No.	List
1063	$0.40

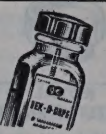
GENERAL G-C CEMENT PHONO NEEDLES and ACCESSORIES

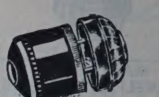






RECORD LUBRICANT





G-C MASTER POINT PHONO NEEDLES

G-C CATHEDRAL TONE

Long life, excellent tone needle made with osmium alloy tip to insure uniform reproduction and long life. Will save the records and give excellent reproduction for a long time.

No.		List
1430	Each	$0.75
1431-D	Display 12 # 1430,	9.00

G-C SYMPHONIC NEEDLE

Superior quality long life needle designed to give excellent tone. Special osmium alloy tip gives true reproduction with less pressure on the records. Will last indefinitely.

No.		List
1435	Each	$1.00
1435-D	Display 12 # 1435,	12.00

G-C CONCERT GRAND

Very finest "long life" curved "spring action" needle that will bring out the finest tones in music. Special osmium alloy tip insures long life. Tip is perfectly formed to fit record grooves. The best.

No.		List
1436	Each	$1.50
1436-D	Display 12 # 1436,	18.00

G-C RECORD-LIFE LUBRICANT

Simply wipe record with "Record-Life" and the needle will glide over the record smoothly. Prevents record and needle wear; also eliminates noises and scratching sounds. Use also for making records.

No.		List
125-1	1oz.	$0.30
125-2	2-oz.	.60
125-4	4-oz.	.85
125-6	6-oz.	1.00

G-C REK-O-DOPE

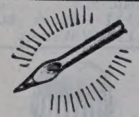
Required lubricant when recording and cutting records. All purpose, it cools, cleans, lubricates, and hardens grooves when cut. Rek-O-Dope will give better tone and longer life.

No.		List
126-1	1-oz.	$0.30
126-2	2-oz.	.60
126-4	4-oz.	.85
126-6	6-oz.	1.00

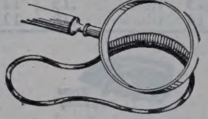
G-C CORD CONNECTOR

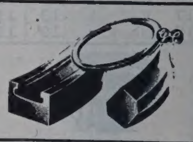
Handy cord connector to connect phono motors to radio sets, for appliances, vacuum cleaners, sewing machines, etc.

No.	List
868	$0.65



MASTER-POINT
LONG LIFE
Phonograph Record
RECORDING
STYLUS
No. 1433





G-C 'JUKE SPECIAL' PHONO NEEDLE

Long life needle. Preferred by operators on coin machines, automatic records, etc. Precious osmium tip will give long, hard service and tone quality, even when used with heavy pick-ups. Will give thousands of plays.

No.		List
1437	Each	$1.00
1437-D	Display 12 # 1437,	12.00

G-C RECORDING STYLUS

The best cutting stylus made from alloy steel will give several hours of good cutting. Make your own recordings.

No.		List
1433	Each	$0.50
1434-D	Display 12 # 1433,	6.00

G-C SERVICEMAN'S NEEDLE PACKET

Handy package containing ten assorted high quality G-C Master-Point Needles. Packaged in attractive folder which protects the needle packages so that they are fresh and new when you make your sale.

No.		List
1432	Packet	$9.50

G-C RECORD TURNTABLE FELT

Re-cover phono turntables with ready cut felts. Dark brown.

No.	Dia.	List
1292	7⅞"	$0.45
1296	8⅞"	.60
1293	9⅞"	.65
1294	11⅞"	.75
1295	15⅞"	1.30
Brown Felt — By The Yard		
1298	36" Wide, per yd.	5.50

G-C DETROLA SPRING DRIVE

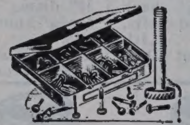
Genuine replacement for Detrola turntables. Spring drive with core inside. Used on Detrola, Utah, and Trela models, etc.

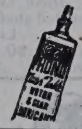
No.		List
20-1-E	Detrola Spring	$0.50

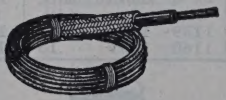
G-E — RCA PHONO DRIVES

Special V and Rim drives for RCA, RP-176 and G-E, 809-J turntables.

No.		List
22	Large Tire, each	$1.00
23-E	Env. 2 Rim Drives	.40







G-C PHONO NEEDLE STYLUS SCREWS

Here's the hard-to-get replacement thumb set screws for pick-up arms and recording heads!

No.		List
1052	15 Asst. Stylus Screws	$ 1.65
1052-E	Env. 7 Asst. Screws	.40
1053	100 Asst. Stylus Screws	11.00

Individual Phono Screw Specifications

P1	For Shure Brothers, etc.	.10
P2	For Astatic, RCA, Seeburg, Webster, etc.	.10
P3	For Astatic, Stromberg-Carlson, Universal, Webster, etc.	.10
P4	For Rek-O-Cut, Webster, etc.	.15
P5	For RCA, etc.	.15
P6	For RCA, etc.	.10
P7	For Webster, etc.	.15
P8	For Shure Brothers, etc.	.15
P9	For RCA, Astatic, Webster, etc.	.15
P10	For Audex, etc.	.15

CARTRIDGE MOUNTING SCREWS

For mounting cartridges in Phono Pick-Up Arms.

No.		List
6005-E	Env. 60 4-36 x ¼"	$0.40
6005-AE	Env. 60 4-40 x ¼"	.40

G-C STA-PUT PHONO-GEAR LUBRICANT

New "STA-PUT" lubricant for phono motors, gears, shafts, etc. Will not run or drip—it "Stays Put." Recommended by RCA, G-E, and others.

No.		List
1223	Tube	$0.60
122-2	2-oz.	.60

G-C PICK-UP & CARTRIDGE SCREW ASST.

Contains small size screws and bushings such as used on cartridges of pick-up arms. Very handy in replacing cartridges or repairing stripped threads.

No.		List
6000-E	30 Screws,	$0.40

G-C PHONO NEEDLE AND PARTS CUP

Standard size bakelite cup for phono needles and parts. It makes handy holder for screws, nuts, parts, etc., on the service bench.

No.		List
1399	Needle Cup	$0.10

G-C SHIELDED PHONO PICK-UP WIRE

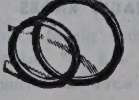
Handy package of single conductor shielded wire as used on phono pick-ups, etc. Enough wire for several jobs in package.

No.		List
1738-E	Envelope	$0.40

G-C RECORD CLEANING PAD

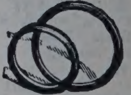
Specially treated soft felt pad for cleaning and removing dust from records. Saves records.

No.		List
1290	4" x 4"	$0.25
1291	6" x 6"	.45



G-C
PHONO TURNTABLE DRIVES
RUBBER REPLACEMENT DRIVES

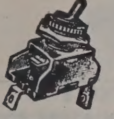
Exact duplicates for replacement of popular friction type phono turntable drives. Use G-C # 35-2 Rubber-to-Metal Cement for cementing rubber to rim.



No.		List
16	For General Industries RX-LX Motors	$0.25
16-E	Env. 2 No. 16 Drives	.40
17	For Alliance Model and Motorola	.25
17-E	Env. 2 No. 17 Drives	.40
18	For RCA	.15
18-E	Env. 3 No. 18 Drives	.40
19	For Philco, RCA, etc.	.15
19-E	Env. 4 No. 19 Drives	.40
20-E	Detrola Rubber Drive	.40
20-1-E	Detrola Spring Drive	.50

No.		List
21-A	For General Electric Models	$0.15
21-A-E	Env. 2 No. 21-A	.40
22	RCA RP-176, G-E 809-J, large tire	1.00
23	RCA RP-176, G-E 809-J, rim drive	.20
23-E	Env. 2 No. 23 Drives	.40
24-E	Crescent 3¾" O.D.	.40
24-A-E	Admiral, Crescent, 3¼" O.D.	.40
24-B-E	Admiral 3⅛" O.D.	.40

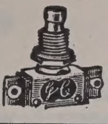
GENERAL G-C CEMENT SWITCHES — SPAGHETTI TUBING



G-C TOGGLE SWITCH

S.P.S.T. Radio and appliance switch. Open housing, underwriters approved. Made by Cutler-Hammer, 3 amp. 125 volt. Nickel Plated.

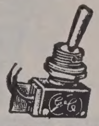
No.		List
1339	S.P.S.T.	$0.45



G-C PUSH-ON PUSH-OFF SWITCH

For vacuum cleaners, appliances, test equipment. Made by H & H for G-C. Rated at 3 amps., 125 volts. Nickel Plated.

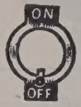
No.		List
1338	S.P.S.T.	$1.45



G-C BAT HANDLE SWITCH WITH WIRE LEADS

For vacuum cleaners, appliances, radio sets, etc. Made by H & H for G-C. Rated at 3 amps., 125 volts. Nickel Plated.

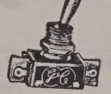
No.		List
1335	S.P.S.T.	$0.95



G-C ON-OFF PLATE

Will fit the G-C, H & H, Cutler - Hammer, and other makes of standard switches.

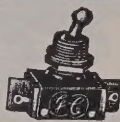
No.		List
1329	On-Off Plate	$0.05



G-C BAT HANDLE TOGGLE SWITCH

Tear drop handle general purpose switch. Made by H & H for G-C. 3 amps., 125 volts. Nickel Plated.

No.		List
1330	S.P.S.T.	$0.60
1331	S.P.D.T.	.75
1332	D.P.S.T.	1.20
1333	D.P.D.T.	1.30

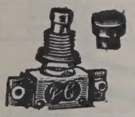


G-C TOGGLE SWITCHES

Ball handle general purpose switch. Made by H & H for G-C. 3 amps., 125 volts. Nickel Plated.

No.		List
1300	S.P.S.T.*	$0.60
1301	S.P.S.T.†	.70
1302	S.P.D.T.*	.80
1303	S.P.D.T.†	.85
1304	D.P.S.T.*	1.20
1305	D.P.S.T.†	1.25
1306	D.P.D.T.*	1.30
1307	D.P.D.T.†	1.40

* ½″ Shank Length.
† ¾″ Shank Length.



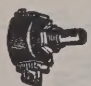
G-C PUSH BUTTON SWITCH

Two circuit, "slow make and quick break" momentary contact switch. One circuit normally on, other off; pushing button reverses circuits in use. Made by H & H for G-C. 3 amps., 125 volts. Shank ⅝″ long.

No.		List
1340	Switch	$1.20

PUSH BUTTON
For 1340 Switch
Red or Black (Specify)

No.		List
1343	Button	$0.35

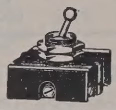


G-C ROTARY SWITCHES

Best grade enclosed rotary switches. Made by H & H for G-C. 3 amps., 125 volts. Shafts 1½″ long.

No.		List
1320	S.P.S.T.*	$0.85
1321	S.P.S.T.†	1.00
1322	S.P.D.T.*	.95
1323	S.P.D.T.†	1.15
1324	D.P.S.T.†	1.45
1325	D.P.D.T.*	1.45
1326	D.P.D.T.†	1.70

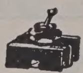
* ⅜″ Shank Length.
† 1″ Shank Length.



G-C NEUTRAL CENTER SWITCH

Handy radio, appliance and tester switch with 3 positions, On-Off-On. Rated 15 amps., 110 volts; $\frac{15}{32}$″ shank. Nickel Plated.

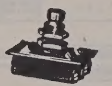
No.		List
1308	S.P.D.T.	$1.25
1309	D.P.D.T.	2.00



G-C EXTRA HEAVY DUTY POWER SWITCH

Three position for motors, projectors, transmitters, movie equipment, etc. Made by H & H for G-C. 10 amps., 125 volts. Neutral off in center. Size 2″ x 1″ x 1⅝″, shank ¾″ diameter.

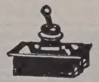
No.		List
1352	D.P.D.T.	$5.50
1353	3.P.D.T.	8.25
1354	4.P.D.T.	12.00



G-C HEAVY DUTY POWER SWITCH

Push button, D.P.S.T. safety switch for transformers, racks, transmitters, refrigerators and high frequency work Made by H & H for G-C. 12 amps., 125 volts. Nickel Plated.

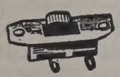
No		List
1351	D.P.S.T.	$2.20



G-C HEAVY DUTY POWER SWITCH

D.P.S.T. toggle power switch for motors, appliances, projectors, etc. Made by H & H for G-C. 12 amps., 125 volts. Nickel Plated.

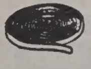
No.		List
1350	D.P.S.T.	$1.55



G-C SLIDE SWITCHES

For phonographs, tone controls, auto lights, electric trains, etc. ½″ wide x 1⅛″ center mounting.

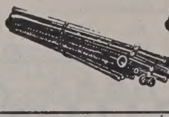
No.		List
1355	S.P.S.T.	$0.35
1357	S.P.D.T.	.40
1358	D.P.S.T.	.45
1359	D.P.D.T.	.50



G-C RADIO FRICTION TAPE

This narrow ⅜″ tape was particularly made for radio work. It eliminates waste and tearing of tape. It saves time and is handy to carry with you.

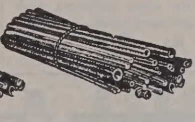
No.	Roll	List
870	65 ft. ⅜″	$0.55
871	65 ft. ¾″	.95



G-C PLASTIC TUBING KITS

Handy kits of assorted colors and sizes. Ideal for experimenters and servicemen.

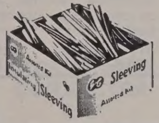
No.		List
635	Kit of 25 ft. Asstd.	$0.90
635-D	Display 8 No. 635	7.20
636	Kit of 15 ft. Asst.	1.25
636-D	Display 8 No. 636	10.00



G-C ASSORTED SPAGHETTI KIT

An assortment of 7½″ lengths of spaghetti sleeving. 26 lengths to the kit. Sizes include from No. 17 wire to ⅜″ I.D. A very handy bundle to have for repair jobs.

No.		List
550	Kit 26 Lengths	$0.65

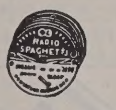


G-C SPAGHETTI ASSORTMENT

"A Box Full of Spaghetti"

Here's a buy you can't beat on a spaghetti assortment. A variety of sizes and colors are included of high grade varnish tubing. Put up in attractive box.

No.	List
551	$1.25



G-C SPAGHETTI ON SPOOLS

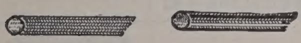
"Approved by ASTM"

5000-Volt Dielectric Strength

Best grade varnished tubing put on convenient 20-ft. spools. Will fit wire from No. 12 to No. 18. Colors: Black, Red, Yellow, Green, Blue. Specify color.

No.	Spool	List
499	20-ft.	$1.95

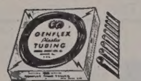
G-C COATED SLEEVING



Best grade varnished sleeving. Dielectric strength 2000 volts. Colors: Black, Red, Yellow, Green, Brown. Specify color.

No.	Size	List
525	No. 20, fit 20 wire	$0.11
528	No. 17, fit 18 wire	.12
531	No. 14, fit 14 wire	.15
533	No. 12, fit 12 wire	.15
537	⅛″ I.D.	.20
540	$\frac{3}{16}$″ I.D.	.30
543	¼″ I.D.	.35
546	⅜″ I.D. (resist. size)	.60
547	$\frac{7}{16}$″ I.D.	.75

G-C GENFLEX PLASTIC TUBING
"MADE OF EXTRUDED PLASTIC"



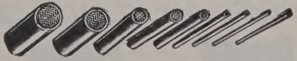
High grade extremely flexible plastic tubing for Radio and Electronic Insulation work. Resistant to cold or heat. High dielectric strength, average 8,000 volts. Put up in attractive individual boxes for easy handling.
Colors: Black, Red, Green, Clear (Specify)

No.	Wire	Std. Pkg.	List
603	18	20 ft.	$0.95
605	16	20 ft.	.95
607	14	20 ft.	.95
609	12	20 ft.	.95
611	10	15 ft.	.95
613	8	15 ft.	.95

No.	Wire	Std. Pkg.	List
616	6	10 ft.	$0.95
617	4	10 ft.	.95
620	2	10 ft.	.95
625	Fits over 300-ohm Twin Line	8 ft.	.95

All sizes available in continuous lengths on special order of 1,000 feet or more.

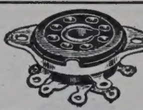
G-C RADIO SPAGHETTI



Best grade Radio and Television spaghetti. Smooth coated, with best varnishes. Very flexible. 5000 volt dielectric. Approved by ASTM. Colors: Black, Red, Yellow, Green, Brown. Specify color. 30″ lengths.

No.	Size	List
500	No. 20, fit 20 wire	$0.18
503	No. 17, fit 18 wire	.18
506	No. 14, fit 14 wire	.20
508	No. 12, fit 12 wire	.20
512	⅛″ I.D.	.35
515	$\frac{3}{16}$″ I.D.	.50
518	¼″ I.D.	.60
521	⅜″ I.D. (resist. size)	.75
522	$\frac{7}{16}$″ I.D.	.95
523	½″ I.D.	1.20

GENERAL G-C CEMENT RADIO SOCKETS—PLUGS—JACKS



G-C STANDARD TUBE SOCKETS

BAKELITE SOCKETS

High quality molded bakelite sockets with plated bronze contacts. Three grounding lugs on base of each socket. 1½″ mounting centers.

No.		List
1528	8-prong Octal	$0.15
1528-L	8-prong Loctal	.25

WAFER SOCKETS

No.		Mntg. Center	List
1534	4-prong	1½″	$0.15
1535	5-prong	1½″	.15
1536	6-prong	1½″	.15
1537	7-pr. Small	1½″	.15
1537-L	7-pr. Large	1½″	.18
1538	8-pr. Octal	1 5/16″	.18
1538-2	8-pr. Octal	1½″	.18
1538-L	8-pr. Loctal	1 5/16″	.20

G-C MINIATURE TUBE SOCKETS

BAKELITE MINIATURE SOCKET

For Miniature Tubes

High quality molded bakelite socket with metal saddle mounting. Made with phosphor bronze plated contacts for 7-prong tubes. Standard ⅞″ mounting centers.

No.		List
1540	Bakelite Socket	$0.25

WAFER MINIATURE SOCKET

For Miniature Tubes

High grade bakelite sockets for new miniature tubes. Phosphor bronze contacts, for 7-prong tubes. Standard ⅞″ mtg. centers.

No.		List
1541	Wafer Socket	$0.15
1542	Wafer Socket with grounding strap	.17

G-C 860 CAP

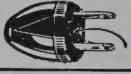
Spring action flat brown bakelite cap. Approved brass blades.

No.		List
860	Cap	$0.25

G-C 861 CAP

Spring action, finger grip rubber caps. Approved, screw terminal brass blade.

No		List
861	Cap	$0.25



G-C 865 CAP

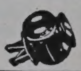
Modern flush type rubber cap. Easy to assemble. No exposed screws or wires.

No.		List
865	Cap	$0.25

G-C 867 PLUG

Popular screw plug for standard sockets.

No.		List
867	Plug	$0.17



G-C CUBE TAP

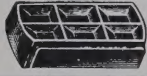
New type spring action cube tap with 3 outlets always available.

No.		List
862	Brown	$0.30

G-C CORD CONNECTOR

Brown bakelite with bronze contacts.

No.		List
863	Brown	$0.25



G-C SURFACE BLOCK

3-plug. Bakelite outlet for extension cords. Can fasten to wall or base.

No.		List
866	Brown	$0.50

G-C AUTO ANTENNA PLUG

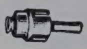
Shielded connector plug as used on Motorola and other auto radios.

No.	List
1740	$0.15

G-C ANTENNA CONNECTOR JACK

Shielded jack to fit the 1740 plug for auto antenna and phonograph connection.

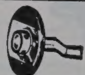
No.	List
1741	$0.25



G-C PHONO PLUG

For all phonographs and auto radio connections; RCA, Zenith, Philco and others.

No.	List
1742	$0.10
1742-E Env. of 4,	.40



G-C PHONO JACK

Used for phonograph attachments. To be used with 1742 plug.

No.	List
1743	$0.15
1743-E Env. of 3,	.40

G-C EXTENSION JACK AND CONNECTOR

For extending radio ant. cables and phono attachments. Fits 1740 or 1742 plugs.

No.	List
1744	$0.20

G-C MOTOROLA LEAD ADAPTER

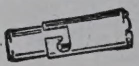
Adapter plug used to adapt bayonet type connector to Motorola type.

No.	List
1745	$0.40

G-C ADAPTER SHELL

Used to change the Motorola fitting to bayonet type connector.

No.	List
1746	$0.12



G-C ANTENNA CONNECTOR

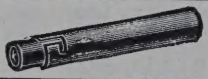
Used for connections on auto antenna and ground lines.

No.	List
1747	$0.15

G-C JUMBO FUSE HOLDER

14 amp. fuse holder, 2¼″ long x ½″ diameter.

No.	List
1748	$0.30



G-C FUSE CONNECTOR

Regular Type

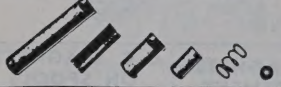
Used on auto radios and other equipment. Completely assembled.

No.	List
1749	$0.20

G-C ANTENNA CONNECTOR END

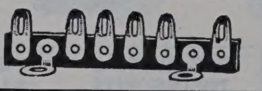
To be used with regular antenna connectors. With bushing.

No.	List
1750	$0.10



G-C REPLACEMENT PARTS FOR ANTENNA AND FUSE CONNECTORS

	No.		List
(a)	1791	Sleeve of Fuse Connector	$0.05
	1791-G	Box of 144 No. 1791	7.20
(b)	1792	Sleeve of Antenna Connector	.05
	1792-G	Box of 144 No. 1792	5.00
(c)	1793	End piece for Antenna and Fuse Connector	.04
	1793-G	Box of 144 No. 1793	7.20
(d)	6720	Auto Fuse Insulator Sleeve	.02
	6720-G	Box of 144 No. 6720	1.50
(e)	1796	Spring for Antenna and Fuse Connector	.01
	1796-G	Box of 144 No. 1796	1.40
(f)	1795	Bakelite Bushing	.04
	1795-G	Box of 144 No. 1795	4.00



G-C TERMINAL STRIPS

SCREW TYPE

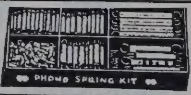
Laminated bakelite strips, rigidly constructed, terminals will not turn and short.

No.	Contacts	List
1772	2	$0.18
1773	3	.27
1774	4	.36
1775	5	.45
1776	6	.54
1777	7	.63
1778	8	.72
1779	9	.81
1780	10	.90

SOLDER TYPE

Mounted on laminated bakelite strips. Lugs securely fastened and will not turn.

No.	Contacts	List
1781	1	$0.05
1782	2	.06
1783	3	.07
1784	4	.11
1785	5	.12
1786	6	.13
1787	7	.14
1788	8	.15
1789	9	.18
1790	10	.20



G-C PHONO SPRING KIT

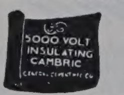
Kit contains assorted springs same as are used on phono turntables. With this kit you can replace the broken or weak spring without waiting or delay in service.

No.		List
6478	Kit of 50	$2.50
6479	Kit of 100	4.40

G-C AUTO FUSE INSULATOR SLEEVE

Insulating sleeve to fit regular fuse holders.

No.	List
6720-E Env. of 16,	$0.40



G-C INSULATING CAMBRIC

10,000 Volts

Yellow varnished cambric. .010″ thick.

No.		List
549	Roll over 210 sq. in.	$0.75
548	86″ x 36″, yd., any length	4.00

G-C LAMINATED BAKELITE PANELS

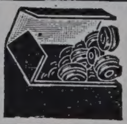
1/16″ thick. Black.

No.		List
590	6″ x 6″ x 1/16″	$0.60
591	6″ x 12″ x 1/16″	1.10
592	12″ x 12″ x 1/16″	2.20

G-C FYBEROID "FISH PAPER"

Fish paper has many uses around the shops for repair jobs where electrical insulation is required. .010″ — 240 sq. in. roll.

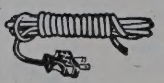
No.		List
560	Roll	$0.50



G-C RUBBER KIT ASSORTMENT

Handy kit to keep in the shop. Contains various sizes of rubber grommets, chassis mounts, etc. An exceptional buy.

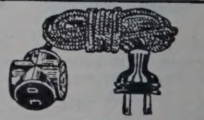
No.		List
7600	Rubber Kit	$1.00



G-C RADIO CORD SETS

Handy replacement cord sets, ready to attach to radio sets and appliances. Approved Brown parallel wire with plugs attached.

No.		List
885	6 ft.	$0.45
886-P	7½ ft.	.60

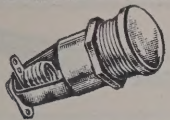
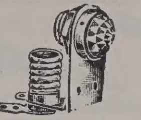
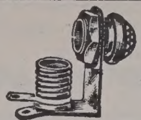
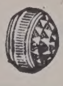


G-C EXTENSION CORDS

G-C extension cords are made of approved wire ready to use with a plug on one end and a 3-way tap on the other end. Brown.

No.		List
887	6 ft.	$0.75
889	7½ ft.	.90

GENERAL G-C CEMENT SIGNAL LIGHTS — CONNECTORS — CLIPS

G-C ONE-INCH JEWEL SIGNAL LIGHT

For signal devices of all types. Bulbs change from the front; for socket bases as listed below. One-inch mounting hole. Jewel colors: Red, Green, Blue, Amber, Opal, and Clear (Specify Jewel Color).

No.	Socket	Jewel	List
7901	110-V. Cand.	Facett	$1.40
7902	110-V. Cand.	Smooth	1.40
7903	Min. Bayonet	Facett	1.40
7904	Min. Bayonet	Smooth	1.40
7905	Min. Screw	Facett	1.40
7906	Min. Screw	Smooth	1.40

G-C ¾-INCH JEWEL SIGNAL LIGHT

All purpose signal light with facetted jewels in colors of Red, Green, Blue, Amber, Opal, Clear. 11/16″ mounting hole. Jewel removed from front. (Specify Jewel Color)

No.	Socket	List
7907	Min. Screw	$0.80
7908	Min. Bayonet	.80
7909	110-V. Candel.	.80

G-C ½-INCH JEWEL SIGNAL LIGHT

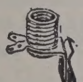
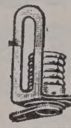
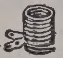
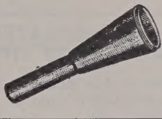
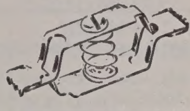
Popular signal light, requires only 7/16″ mounting hole. Facetted jewel removed from front. Colors: Red, Green, Blue, Amber, Opal, Clear. (Specify Jewel Color).

No.	Socket	List
7910	Min. Screw	$0.35
7911	Min. Bayonet	.40
7912	110-V. Candel.	.40

G-C PANEL JEWELS

Complete assemblies in 1″, ¾″, and ½″ diameters. Fit panels up to ¼″ thick. Brass nickel-plated. Colors: Red, Green, Blue, Amber, Opal, Clear. (Specify Jewel Color).

No.	Dia.	Jewel	Mtg. Hole	List
7913	½″	Facett	7/16″	$0.25
7914	½″	Smooth	7/16″	.25
7915	¾″	Facett	11/16″	.60
7916	1″	Facett	1″	1.10

G-C CLIP-ON PILOT LIGHT SOCKETS

Clip up and clip down types for replacements. Cadmium-plated.

No.	Type	List
7920	Min. Screw Clip Up	$0.15
7921	Min. Screw Clip Down	.15
7922	Min. Bay. Clip Up	.17
7923	Min. Bay. Clip Down	.17
7924	110-V. Cand. Clip Up	.20
7925	110-V. Cand. Clip Down	.20

G-C BRACKET-TYPE PILOT LIGHT SOCKETS

Sturdy bracket-up or bracket-down type. Cadmium-plated.

No.	Type	List
7926	Min. Screw Bracket Up	$0.15
7927	Min. Screw Bracket Down	.15
7928	Min. Bay. Bracket Up	.17
7929	Min. Bay. Bracket Down	.17
7930	110-V. Candel. Bracket Up	.20
7931	110-V. Candel. Bracket Down	.20

G-C UNMOUNTED PILOT LIGHT SOCKETS

Cadmium plated. Ideal for replacements or special assemblies.

No.	Type	List
7932	Min. Screw Base	$015
7933	Min. Bayon. Base	.14
7934	110-V. Candelabra	.16

G-C PILOT LAMP INSTALLER

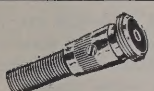
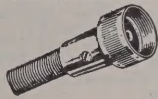
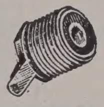
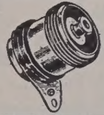
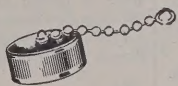
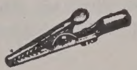
Makes it easy to install miniature dial bulbs, neon and candelabra lamps in hard-to-get-at- places. All rubber.

No.		List
7935	Installer	$0.40

G-C DOUBLE ALLIGATOR CLIP

Brand New! A clip on both ends. Handiest connector made for joining wires, making temporary circuits, repairs; for tests, experiments, etc. Cadmium-plated.

No.		List
7758-E	Env. 2	$0.40

G-C MALE MICROPHONE CONNECTOR

Completely shielded, sturdy, single contact connector. Brass, bright chrome-plated. Steel spring cord protector.

No.		List
7940	Connector	$0.45

G-C FEMALE MICROPHONE CONNECTOR

Single contact female type used with No. 7940, 7941 and 7943 connectors. Complete, brass chrome-plated.

No.		List
7942	Connector	$0.55

G-C MICROPHONE CHASSIS UNIT CONNECTOR

Single contact male connector for chassis. Used with type 7942 female connector. Supplied complete. Brass nickel-plated.

No.		List
7941	Connector	$0.35

G-C MICROPHONE CONNECTOR

Single contact, closed circuit type, prevents open circuit noises when microphone is disconnected. Chassis type, use with type No. 7942 female connector. Brass, nickel-plated.

No.		List
7943	Connector	$0.55

G-C MICROPHONE CONNECTOR CAP

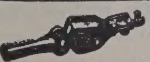
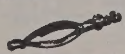
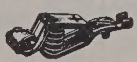
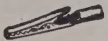
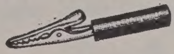
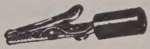
Chrome plated cap with anchor chain for all connectors. Seal against dirt and prevent thread damage.

No.		List
7944	Connector Cap	$0.50

G-C INSULATED ALLIGATOR CLIP

Solder type with Red or Black insulated sleeve. Strong spring. Nickel plated.

No.		List
5064	Red Clip	$0.20
5064-E	Env. of 2,	.40
5065	Black Clip	.20
5065-E	Env. of 2,	.40

G-C CROCODILE CLIP

Set screw type. Teeth nest together to assure perfect contact with wires, etc. Cadmium-plated.

No.		List
7757	Clip	$0.30

G-C WEE-PEE-WEE CLIP

Very small and thin nosed with set screw for wire. Phosphor bronze. Ideal for coil work.

No.		List
7755	Clip	$0.30

GC PEE-WEE CLIP

Popular test clip. Interlocking jaws assure positive contact. Set screw type.

No.		List
7756	Clip	$0.12

G-C ALLIGATOR CLIP

Solder type, non-insulated. Strong spring for positive contact. Nickel-plated.

No.		List
5063	Clip	$0.12
5063-E	Env. of 3,	.40

G-C ALLIGATOR CLIP

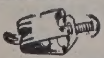
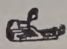
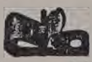
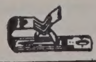
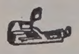
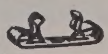
Wire fastens under set screw. Handy for all types of connectors. Cadmium-plated.

No.		List
7752	Clip	$0.18

G-C SCREW TYPE INSULATED ALLIGATOR CLIP

Very popular. Bright polished handles. Set screw for wire.

No.		List
7750	Blk. Clip	$0.25
7751	Red Clip	.25

G-C FAHNESTOCK CLIPS (Also see other listing Page U-105)

G-C AMMETER CONNECTOR

Easily clips to the ends of screws. Positive fast connector.

No.		List
6307	Each	$0.12
6307-G	Box 144	16.05

G-C SMALL CLIP

½″ long by 7/32″ wide. Handles up to No. 16 wire. No 6 Mtg. Hole.

No.		List
6301	Each	$0.03
6301-G	Box 144	2.30

G-C MEDIUM CLIP

¾″ long by 5/16″ wide. Handles up to No. 14 wire. No. 6 Mtg. Hole.

No.		List
6302	Each	$0.03
6302-G	Box 144	2.50

G-C LARGE CLIP

1 1/16″ long by ⅜″ wide. No. 8 Mtg. Hole.

No.		List
6303	Each	$0.04
6303-G	Box 144	2.65

G-C MEDIUM SOLDER LUG CLIP

¾″ long by 5/16″ wide. No. 6 Mtg. Hole.

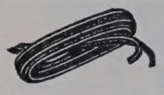
No.		List
6306	Each	$0.04
6306-G	Box 144	3.40

G-C DOUBLE CLIP

1½″ long by 5/16″ wide. No. 6 Mtg. Hole.

No.		List
6304	Each	$0.14
6304-G	Box 144	21.40

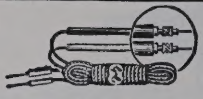
GENERAL G-C CEMENT TEST PRODS—PLUGS—TIPS



G-C TEST LEAD WIRE

Ideal long-life replacement wire, extra flexible, 6000 volt insulation. Red and Black (Specify color).

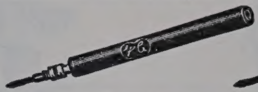
No.		List
5049	Env. 1 Red, 1 Black, 50″ long,	$0.50
5049-C	100-ft.	5.00
5049-M	1000-ft.	45.00



G-C MASTER TEST LEADS

Heavy duty type. Very best. 6000 volt test, 50″ extra flexible wire. Solderless connectors. Polished, colored plastic prods, removable tips. Brass nickel-plated. One Red, one Black lead.

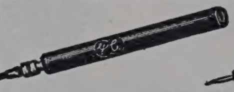
No.		List
5050	Test Leads	$1.50



G-C TEST PRODS

Solderless type non-breakable fibre. Removable tip, brass nickel-plated.

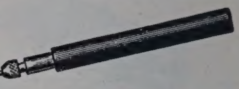
No.	Size	Color	List
5041	5¼″	Red	$0.40
5042	5¼″	Black	.40
5043	7¼″	Red	.50
5044	7¼″	Black	.50



G-C LOW-LOSS DELUXE TEST PRODS

New polished low-loss material. Non-breakable. Moisture resistant. Withstands high voltages. Solderless type, brass nickel-plated.

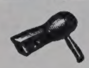
No.		List
5045	Red	$0.50
5046	Black	.50



G-C NEEDLE POINT TEST PRODS

Adjustable chuck tip for needle. 6″ polished plastic handles in Red or Black. Brass nickel-plated chuck removable. Includes needle. (Specify color).

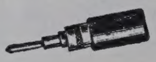
No.	List
7701	$0.50



G-C MODERN PHONE TIP PLUG

New type safety tip plug fits standard phone tip jack. Solderless connectors, brass plated nickel contact.

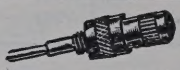
No.		List
7704	Red	$0.50
7705	Black	.50



G-C INSULATED TEST PROD TIPS

Unbreakable polished plastic insulated handles. Solderless connectors, brass nickel-plated.

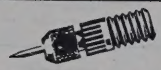
No.		List
5061	Red	$0.24
5061-E	Env. 2	.40
5062	Black	.24
5062-E	Env. 2	.40



G-C TEST PROD TIPS

Solderless type, brass nickel-plated. Non-insulated. Wire fastens easily.

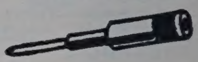
No.		List
5060		$0.15
5060-E	Env. 3	.40



G-C PHONO NEEDLE POINT TEST PROD CHUCK

Threaded chuck fits ¼-20 threaded hole. Needle removable. Brass nickel-plated. Includes needle.

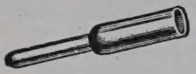
No.	List
7702	$0.20



G-C HEAVY DUTY PHONE PLUG

Standard type as used on test prods, leads, etc. Fits snugly in ¼″ hole. Brass nickel-plated.

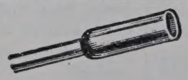
No.	List
7706	$0.15



G-C SOLID STANDARD PHONE TIP

Solid brass type made to RMA specifications. Bright nickel-plated.

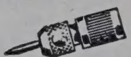
No.		List
6321-E	Env. 8	$0.40
6321-G	Pkg. 144	6.75



G-C STANDARD PHONE TIP

Made of drawn brass with hole through center for easy soldering of wire at tip. Bright nickel-plated.

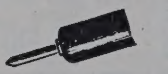
No.		List
6320	Env. 16	$0.40
6320-G	Pkg. 144	2.95
6629	Jar 30	.65



G-C PHONO NEEDLE POINT TEST PROD CHUCK

Push on type fits snugly in ¼″ hole. Brass nickel-plated.

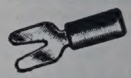
No.	List
7703	$0.20



G-C INSULATED PHONE TIP PLUG

Fits standard phone tip jacks. Polished non-breakable low-loss plastic insulated handles. Brass, nickel-plated tip. Minimum contact exposure.

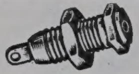
No.		List
7710	Red	$0.20
7711	Black	.20



G-C INSULATED SPADE LUG

Tapered spade lug fits all screws or terminal strips up to No. 10. Insulated female end fits banana plugs.

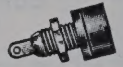
No		List
7712	Red	$0.20
7713	Black	.20



G-C PHONO TIP JACKS

Standard type with phosphor bronze spring contacts. Fits ¼″ hole and panels up to ⅜″ thick. Brass parts nickel-plated.

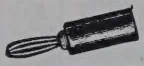
No.	List
7714	$0.15



G-C INSULATED PHONE TIP JACKS

Standard insulated type phosphor bronze spring contacts. ⅜″ insulated head. Fits ¼″ hole and panels up to ¼″ thick. Brass parts nickel-plated.

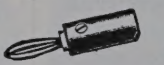
No.		List
7715	Red	$0.20
7716	Black	.20



G-C SPRING BANANA PLUG

Insulated solderless type with polished insulated handles. Non-collapsible spring action plug Metal parts nickel-plated.

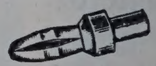
No.		List
7730	Red	$0.30
7731	Black	.30



G-C SET SCREW TYPE BANANA PLUG

Insulated set screw type. Polished insulated plastic handles. Non-collapsible spring action banana type plug. Nickel-plated metal parts.

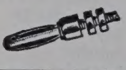
No.		List
7732	Red	$0.25
7733	Black	.25



G-C SMALL BANANA PIN PLUGS

Approved silver-plated plugs with straight shank. Can be riveted or soldered. For wires, multiple plugs, etc.

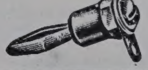
No.		List
6400	Env. 10	$0.40



G-C SPRING BANANA PLUG

Standard size with 6-32 threaded shank. Use on plug-in coils, terminal strips, etc. Complete with lug and nut. Brass nickel-plated.

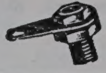
No.	List
7736	$0.15



G-C SPRING BANANA PLUG

Standard size with 6-32 female thread on end. Supplied with screw and solder lug. Brass nickel-plated.

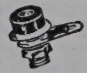
No.	List
7737	$0.15



G-C BANANA JACK

Standard size banana pin jack. Fits ¼″ hole up to ⅜″ thick panel. Nut and lug supplied. Brass nickel-plated.

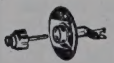
No.	List
7740	$0.15



G-C INSULATED BANANA JACK

Standard size with polished plastic insulators. Fits ¼″ hole, up to ⅜″ thick panel. Nut, lug, and insulators supplied. Brass, nickel-plated.

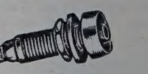
No.		List
7741	Red	$0.20
7742	Black	.20



G-C RCA PHONO PIN PLUG AND JACK

RCA types used on many type receivers. Also used as auto antenna connectors.

No.	List
1742 Mdgt. Plg.	$0.10
1742-E Env. 4	.40
1743 Midget Jck.	.15
1743-E Env. 3	.40



G-C INSULATED BANANA PLUG OR PHONE TIP JACK

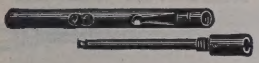
Standard size insulated combination jack. Brass nickel-plated with phosphor bronze spring contacts. Fits ¼″ hole, panels up to ⅝″ thick.

No.		List
7744	Red	$0.30
7745	Black	.30

GENERAL CEMENT ALIGNMENT TOOLS—KITS

ALIGNMENT COMBINATION TOOLS

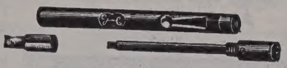
G-C COMBINATION ALIGNMENT TOOL



Popular bone fibre tool. Consists of screwdriver with metal nib, ¼″ slotted hex wrench and 5/16″ hex wrench on other end.

No.	List
5014	$0.85

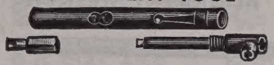
G-C No. 5015 ALIGNMENT TOOL



Popular combination tool. Bone fibre. Includes metal screwdriver tip to fit hex wrench, 5/16″ hex wrench, ¼″ slotted hex wrench and fibre screwdriver with metal nib.

No.	List
5015	$1.35

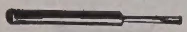
G-C DELUXE COMBINATION ALIGNMENT TOOL



Most useful tool designed to use in cramped quarters. Bone Fibre. Consists of short screwdriver with metal nib and ¼″ hex side wrench with slotted ¼″ hex end wrench, 5/16″ hex wrench and heavy metal screwdriver tip.

No.	List
5016	$1.35

G-C INSULATED HEX WRENCH AND DRIVER

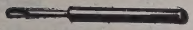


Combination insulated ¼″ hex wrench and screwdriver. Screwdriver can be extended for extra length. Made of bone fibre.

No.		List
5005	Extends 7″-13″	$0.75
5006	Extends 11″-17″	1.00

ALIGNMENT SCREWDRIVERS

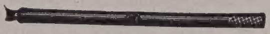
G-C NON-EXTENSION INSULATED WRENCH AND DRIVER



Combination tool ¼″ hex wrench on one end and screwdriver on other. 6″ overall length. Made of bone fibre.

No.	List
5007	$0.40

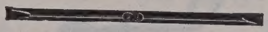
G-C ALIGNMENT SCREWDRIVER



Popular insulated tool. New low inductance material with metal nib. Strong and flexible. Two sizes.

No.		List
5000	¼″ x 6″	$0.40
5088	7/32″ x 6″	.40

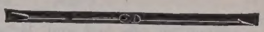
G-C BONE FIBRE ALIGNMENT SCREWDRIVER



Indispensable for all sets. Tough black bone fibre resists chipping. Can be reground. ¼″ blade on each end.

No.		List
5004	7″	$0.40

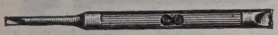
G-C POLYSTYRENE ALIGNMENT SCREWDRIVER



For U.H.F. sets. Best low loss material. ¼″ blades on both ends. Blades easily reground.

No.		List
5008	7″	$0.40

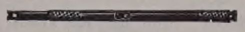
G-C DUPLEX NO-METAL ALIGNMENT SCREWDRIVER



In polystyrene or hard bone fibre. ¼″ blade on one end and ⅛″ blade on other. 6″ long. Tips easily reground.

No.		List
5009	Bone Fibre	$0.40
5010	Polystyrene	.40

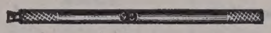
G-C DUPLEX ALIGNMENT SCREWDRIVER



Made of Genflex low-loss material. Especially strong. ¼″ driver on end and 7/32″ on other. Metal tips for extra strength.

No.	List
5001	$0.75

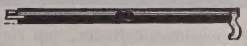
G-C RCA TYPE ALIGNING SCREWDRIVER



Especially for push button adjustments. Narrow screwdriver on one end and recessed screw nib on other. ¼″ Bone Fibre.

No.	List
5003	$0.75

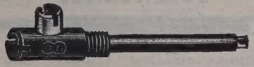
G-C PHILCO, RCA TYPE TRIMMER TOOL



For neutralizing air trimmers. 7/32″ bone fibre. Special clip-on end, metal tip on other.

No.	List
5086	$0.60

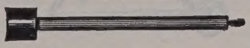
G-C BALANCING TOOL



For adjustments in close quarters. Two ¼″ hex wrenches; one on side and other on end. Fibre screwdriver with metal tip.

No.	List
5084	$0.60

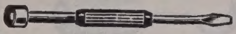
G-C DUPLEX TUBE TAPPER



Handy soft rubber mallet on one end and insulated ¼″ bone fibre screwdriver on other.

No.	List
5081	$0.65

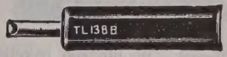
G-C MULTI-PURPOSE TOOL



For neutralizing padding condensers and iron core tuners. One end metal screwdriver, other sleeve socket screwdriver. Best steel, fibre handle.

No.	List
5091	$0.75

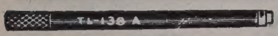
G-C NEUTRALIZING TOOL



U.S.A. type TL-138-B. Special short tool. Bone Fibre.

No.	List
5066	$0.50

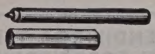
G-C U.S.A. TYPE TL-138-A ALIGNING TOOL



To Government specifications. Sturdy. For tuning and aligning. 6″ long. Bone Fibre.

No.	List
5098	$1.00

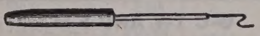
G-C CABLE EYELET TOOL



For eyelets and rivets on dial cables, part assemblies, etc. Includes clincher punch and base. Tempered steel.

No.	List
741	$1.00

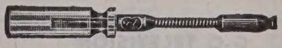
G-C DIAL CABLE TOOL



Makes it easy to replace dial cords and springs. A necessity in cramped quarters.

No.		List
5096	Dial Cable Tool	$0.75

G-C FLEXIDRIVER



Flexible shaft for "hard to get places." Insulated guide for tip. Army-Navy approved. 7″ overall length.

No.	List
5019	$2.00

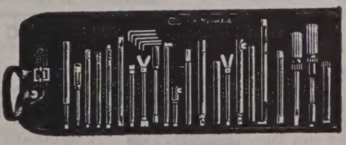
G-C ALL-PURPOSE ALIGNMENT TOOL KIT

Most popular kit. Seventeen tools designed into nine basic tools some of which telescope into each other. Roll type leatherette case. Includes one each G-C tools Nos. 5001, 5003, 5004, 5011, 5016, 5017, 5053, 5056, 5057.

No.		List
5023	Kit	$6.25

G-C PROFESSIONAL ALIGNMENT TOOL KITS

Complete kits. Be prepared to service every set with these DeLuxe Alignment Kits. These are the preferred kits for radio men. In a handy roll-type leatherette case or a steel partitioned box. Kits contain one each of the following G-C tools described on these pages: Nos. 5000, 5001, 5002, 5003, 5004, 5005, 5011, 5012, 5013, 5015, 5016, 5017, 5018, 5019, 5031, 5032, 5033, 5034, 5035, 5051, 5053, 5056, 5057, 5081, 5082, 5083, 5084, 5085, 5086, 5087.



No. 5024

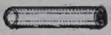
No. 5025

No.		List
5024	Kit in Roll Type Case	$19.95
5025	Kit in Steel Box	19.95

GENERAL G-C CEMENT *ALIGNMENT TOOLS—KITS*

G-C ALIGNMENT TOOLS AND WRENCHES

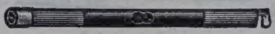
G-C INSULATED ALIGNING WRENCHES



Popular sizes. Hexed full-length bone fibre tubing. Just cut off to renew when worn.

No.	Length	Across Flat	Diam.	List
5051	5"	5/16"	7/16"	$0.30
5052	5"	1/4"	3/8"	.25
5053	6"	1/4"	3/8"	.35
5054	8"	1/4"	3/8"	.40
5055	12"	1/4"	3/8"	.50

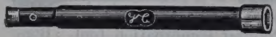
G-C PHILCO TYPE ALIGNMENT WRENCH



5/16" Hex Wrench on one end, metal hook for air trimmers on other. For RCA, Victor, Philco, etc. Bone fibre handle.

No.	List
5085	$1.50

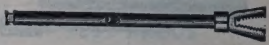
G-C DUPLEX WRENCH ALIGNMENT TOOL



Long life 1/4" hex wrench on one end and 5/16" hex wrench on other. Brass nickel-plated. Tapered bone fibre handle.

No.	List
5017	$1.25

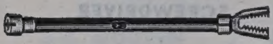
G-C DUPLEX ALLIGATOR WRENCH



RCA, Philco type. Metal alligator wrench on one end, alignment screwdriver with metal tip on other. 7/32" shaft. Insulated bone fibre.

No.	List
5011	$0.50

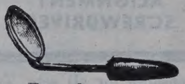
G-C DOUBLE ALLIGATOR ALIGNING WRENCH



7/32" bone fibre handle with alligator wrench on one end and 1/4" brass hex wrench on other. Popular.

No.	List
5012	$0.50

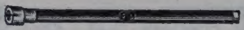
G-C INSPECTION MIRROR



New! For close inspection of parts in hard-to-get-at quarters, under chassis, etc. Long handle.

No.	List
5090	$0.50

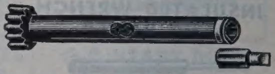
G-C WRENCH AND SCREWDRIVER ALIGNING TOOL



Popular 1/4" hex wrench on one end, 7/32" metal nib screwdriver on other. Bone fibre insulated handle.

No.	List
5013	$0.85

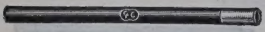
G-C BAKELITE 5/16" WRENCH



Molded 5/16" hex wrench with reinforced brass collar. Metal screwdriver tip included.

No.	List
5083	$0.50

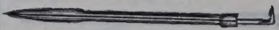
G-C "STRATO" TUNING WAND



Chrome brass cylinder, iron core on ends of low-loss genflex rod. Inserting core in coil increases inductance, brass end decreases inductance. Checks tuning fast.

No.	List
5002	$1.00

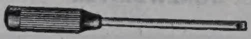
G-C TEST PROBE



Checks loose connections and parts. Metal hook on one end and insulated fibre tip on other.

No.	List
5082	$0.60

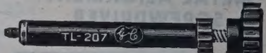
G-C SCREWDRIVER



Insulated. One size for knobs, other for small parts. Best tempered steel.

No.		List
5056	1/8" x 3"	$0.25
5057	3/16" x 3"	.75

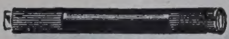
G-C BAKELITE ALIGNMENT TOOL



U. S. Army type TL-207. Combination 5/16" Hex Wrench with telescoping screwdriver. Moulded bakelite, reinforced with metal.

No.	List
5027	$2.25

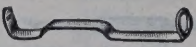
G-C ARMY-NAVY TYPE NEUTRALIZING TOOL



Approved. Double end bakelite tool 9/32" diam. x 6" long.

No.	List
5099	$1.25

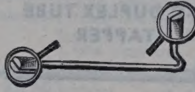
G-C ZENITH PUSH-BUTTON WRENCH



5/16" hex on one end, slotted on other. Tempered steel, nickel-plated. Necessity for Zenith sets.

No.	List
5094	$0.17

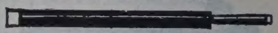
G-C CONTACT ADJUSTER



Handy for contacts on switches, jacks, condenser plates, relays, pinball-coin machines, radios. Tempered steel, nickel-plated.

No.	List
5095	$0.17

G-C TELEVISION AND F-M WRENCH AND SCREWDRIVER

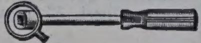


Adjusts smallest trimmer condensers. Small 7/32" screwdriver on one end, reinforced 5/16" hex wrench on other. 6" long. Bone fibre.

No.	List
5067	$1.00

G-C TELEVISION AND F-M TOOLS

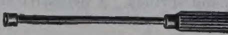
G-C TELEVISION ALIGNING WRENCH



New Television Tool! 1/8" socket wrench. 1/8" steel shaft with insulated handle. Approx. 6" overall length.

No.	List
5080	$0.75

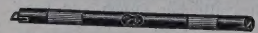
G-C T-V AND F-M ALIGNING TOOL



Socket-type screwdriver of tempered steel. Bone fibre handle.

No.	List
5018	$0.75

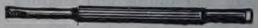
G-C BENDIX-RCA TELEVISION SCREWDRIVER



For push buttons, television and F-M. Small diameter. Metal tip on one end and recessed tip on other. Insulated bone fibre.

No.	List
5087	$0.75

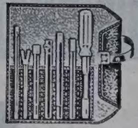
G-C K-TRAN ALIGNING TOOL



Special bone fibre screwdriver one end, reinforced 5/16" hex wrench driver on other. Especially for F-M and television sets.

No.	List
5097	$0.75

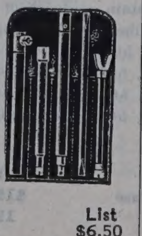
G-C DELUXE ALIGNMENT KIT



Fourteen most popular tools including Flexible Shaft Screwdriver and Tuning Wand, designed into seven basic tools, some of which telescope together. Contains one each Nos. 5002, 5004, 5011, 5014, 5016, 5017, 5019. In leatherette roll-type case.

No.		List
5026	Kit	$7.50

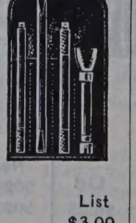
G-C NX ALIGNING KIT



Popular approved Army - Navy Kit for all sets. Fourteen tool applications, some telescoping together, to form five basic tools. Contains Nos. 5004, 5011, 5017, 5015, 5016, and leatherette case.

No.		List
5020	Kit	$6.50

G-C VEST POCKET ALIGNING KIT



Easy - to - carry all-purpose kit of popular tools. Four tools with telescoping parts making them equivalent to six. Contains Nos. 5012, 5000, 5003, 5004 and leatherette case.

No.		List
5022	Kit	$3.00

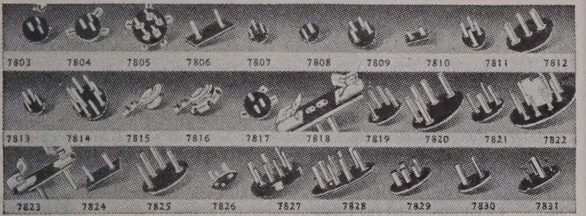
G-C TE-45A NEUTRALIZING KIT

Approved by U. S. Signal Corps. All popular balancing tools to make an all purpose kit. Contains two each Nos. 5051, 5052, and one each Nos. 5019, 5003, 5000; and 5" screwdriver in roll-type leatherette case.

No.		List
5021	Kit	$6.75

GENERAL CEMENT BATTERY PLUGS—KITS—STAPLES

G-C RADIO BATTERY PLUGS



Part No.	Voltage	For Burgess No.	For Eveready No.	For R.C.A. No.	For Philco No.	For Ray-O-Vac No.	List Price
7803	45 "B" Large	A30, B30, M30, Z30	482, 738, 762	VS012, VS013, VS014, VS015	P210, P305	430P, P7830, P5303	$0.11
7804	Same as No. 7826, except has Fahnestock Clips.						.30
7805	Same as No. 7829, except has Fahnestock Clips.						.45
7806	4½ "A"	G-3	746	VS002	P100	P-83A	.11
7807	45 "B" Small	A30, B30, M30, Z30	482, 738, 762	VS012, VS013, VS014, VS015	P210, P305	430P, P7830, P5303	.11
7808	1½ "A"	4F, 4FL, 6F, 8F, 8FL, TE	741, 742, 743, 1052P	VS004, VS005, VS007, VS008	P94, P96, P8F1	P94A, P94L, PX, P96A, P98A, P98L	.11
7809	1½ "A"- 90 "B"	17GD60, 5DA60, 6TA60	758	VS022, VS043	P60D11L	AB82, 10793	.13
7810	6 "A"	2F4, 2F4L, F4PI, T5	A509, 718, 744, 747	VS009, VS010, VS011	P4F4R	P694A, P696L, P698A, P698L	.11
7811	6 "A"- 90 "B"	2F4B60, etc.					.15
7812	7½ "A"	G-5	687	VS003		P85A	.13
7813	1½ "A"- 63-90 "B"	6FA60, 4GA41, 4GA42		VS037	P60A-4L, P41A4G	AB419	.13
7814	7½ "A"- 90 "B"	G5A42, F5A60		VS038	P87, P841	AB794	.25
7815	67½ "B"	XX30, XX45	455, 467	VS016, VS056		P4367	.09
7816	67½ "B"	XX30, XX45	455, 467	VS016, VS056		P4367	.11
7817	Same as No. 7803, except has Fahnestock Clips.						.30
7818	Same as No. 7808, except has Fahnestock Clips.						.25
7819	6 "A"- 75 "B"	G4B50, etc.					.15
7820	6 "A"- 90 "B"	F4B60		VS048			.20
7821	6 "A"- 90 "B"	2F4A60		VS044	P60A8F4	AB694	.13
7822	9 "A"- 90 "B"	4FA60					.25
7823	Same as No. 7824, except has Fahnestock Clips.						.25
7824	3 "A"	20F2	X125	VS025	P8024	P9403	.11
7825	"AB" Batt. Packs	Usalite	AB5671		P60A110		.18
7826	4½ "C"	2370PI	X771	VS030	P3D	P231W	.15
7827	135 "B"- 9 "C"				37-08, 3738, etc.		.25
7828	135 "B"- 13½ "C"				34, 34A, 39, 39A		.30
7829	22½ "C"	5156PI	768	VS031	P15B5	P5151	.22
7830	2 prong large with one thin and one thick. Popular on Portables.						.15
7831	9 "A"- 90 "B"	F6A60, G6M60	753, 754	VS018, VS019	P841A	AB878, AB994	.25

BATTERY PLUGS

G-C RADIO BATTERY PLUGS

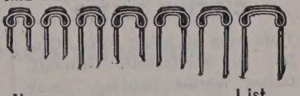
For all plug-in radio batteries. It pays to have an assortment to be ready for all repairs. Plugs as listed above. Complete with box and handy reference chart.

No.		List
7801	100 Asstd. Plugs, Metal Box	$12.00
7800	50 Asstd. Plugs, Cardboard Box	6.50

G-C INSULATED BELL STAPLES

Saddle-type insulated staples for holding wires in place and out of the way.

No.		List
	Fig. 1, 3/16" x ½"	
1751	Box 50, No. 1	$0.25
1752	Box 100, No. 1	.40
	Fig. 2, 3/16" x ⅝"	
1753	Box 50, No. 2	.25
1754	Box 100, No. 2	.40
	Fig. 3, 3/16" x ¾"	
1755	Box 50, No. 3	.25
1756	Box 100, No. 3	.40
	Fig. 5, ¼" x ⅝"	
1757	Box 50, No. 5	.25



No.		List
1758	Box 100, No. 5	$0.40
	Fig. 6, ¼" x ¾"	
1759	Box 100, No. 6	.40
	Fig. 7, ¼" x ⅞"	
1760	Box 100, No. 7	.40
	Extra Large Cable Size Fig. 10, ⅜" x ¾"	
1761	Box 100, No. 10	.70

SERVICEMENS' KIT

Radio Hardware

G-C DIAL AND KNOB REPAIR KIT

Handy assortment of knob springs, set screws, dial springs, idler pulleys and drive rubbers in box.

No.		List
1015	70-pc. Kit,	$2.25
1016	150-pc. Kit,	4.50

G-C PLASTIC JAR HARDWARE ASSORTMENT

Approximately 1000 assorted screws, nuts, washers, springs, clamps, eyelets, grommets, terminals, etc. No cast-offs — only regular hardware. Plastic jar with screw cap.

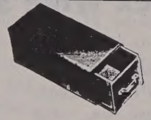
No.		List
6064	1000 Asstd.	$1.65
6056-E	Env. 100 Asstd.	.40

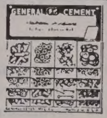
G-C HELL BOX

A grand assortment of useful hardware; screws, nuts, lugs, clips, washers, clamps, etc. Thousands of items needed every day. Metal hinged box.

No.	List
6500	$3.25

GENERAL CEMENT
RADIO HARDWARE LABORATORY





G-C STEEL HARDWARE RACK

Steel racks, hold No. 4002 2 oz. glass bottles or plastic jars. Attractively finished. Welded construction. Heavy steel. Two sizes.

No.	Size	List
4010	20 Jars	$2.00
4012	40 Jars	3.75

G-C STEEL STOCK BOXES

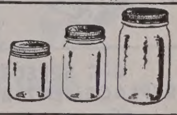
Slide-in drawer type cabinet box for parts. Made so can be stacked. Attractive finish, steel welded construction with handle. Size 13½" long, 6" wide, 4" high.

No.	List
4001	$3.25

G-C SERVICEMEN'S HARDWARE ASSORTMENT

Inexpensive complete hardware assortments. Similar to larger hardware lab Ass't No. 1 like No. 6601; and No. 2 like No. 6602 (Page U-139). Items individually packaged.

No.	Asst.	List
6303-D	#1	$8.00
6603-2-D	#2	8.00



G-C VENTILATING PLUGS

To ventilate chassis, amplifier, racks, transmitters, etc. Snaps into 1-inch hole. Plated.

No.		List
1709-E	Env. 2	$0.40

G-C PLASTIC HARDWARE JARS

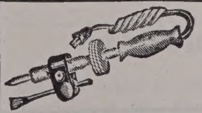
4 oz. size wide mouthed plastic jar with screw type cap. Ideal for hardware.

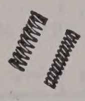
No.	List
4000	$0.35

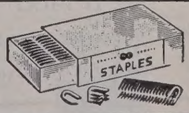
G-C GLASS HARDWARE JARS

Wide mouthed jars, for storing small radio parts, screws, nuts, etc. Includes cap.

No.		List
4002	2-oz.	$0.15
4004	4-oz.	.22
4008	8-oz.	.30
4009	16-oz.	.40







G-C SOLDERING COOLANT AND FLUX ATTACHMENT

Here's a handy attachment that you can put on any soldering iron and speed up production and repairs. No waiting for solder to cool. Dip the brush in a coolant of water or alcohol and cool the solder instantly Also can be used for soldering flux or paste.

No.	List
720	$0.25

G-C SOLDERING WIRE COUPLERS

(Patent Pending)

New patented connectors to be used when re-connecting cut wires and leads, when making tests, etc. Saves time! Simply slip between wires and solder. Assorted lengths.

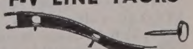
No.	List
7500-E	$0.40

G-C STAPLE DRIVER STAPLES

Hardened steel staples in cartridge form to fit staple drivers. Lacquer coated.

No.		List
430	Box 250	$0.60

F-V LINE TACKS



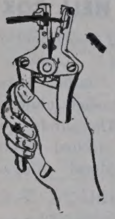
For holding 300-ohm lead wire to base boards, etc.

No.		List
8020-E	Env. 30	$0.40
8020-G	Box 144	1.25

GENERAL G-C CEMENT *WIRE STRIPPERS — TESTLITES*

G-C STANDARD SPEEDEX WIRE STRIPPER

Fast operating precision made hand tool for stripping insulation from all types of wire. Very easy to operate. Strips 750 to 1000 wires per hour. Used by girls or men. All blades are interchangeable and easily replaced

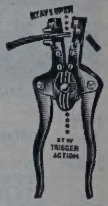


Standard Models

No.	Wire	List	No.	Wire	List
733	12 to 20	$6.00	733-G	For #18 P.O. S.J. or parallel wire	$6.00
733-A	14 to 30	6.00	733-H	For the new 300-ohm television and FM transmission line	6.00
733-B	10 to 18	6.00			
733-C	8 to 10	6.00			
733-D	16,18,20,22	6.00			
733-E	14, 16, 18	6.00			
733-F	10, 12, 14	6.00			

G-C AUTOMATIC SPEEDEX WIRE STRIPPER

Similar to standard models except has the "stay open feature" with the new Speedex "Trig-O-Matic Action." Automatically holds jaws open until wire is removed, and prevents bending or crushing of fine wires. Has on-off mechanism so tool can be used as standard model if desired.

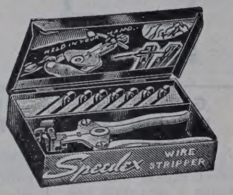


Automatic Models

No.	Wire	List	No.	Wire	List
744	12 to 20	$8.00	744-G	For #18 P.O. S.J. or parallel wire	$8.00
744-A	14 to 30	8.00	744-H	For the new 300-ohm television and FM transmission line	8.00
744-B	10 to 18	8.00			
744-C	8 to 10	8.00			
744-D	16,18,20,22	8.00			
744-E	14, 16, 18	8.00			
744-F	10, 12, 14	8.00			

G-C SPEEDEX WIRE STRIPPER KIT

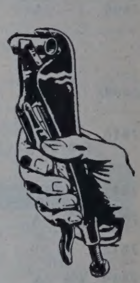
Wire stripper complete with seven different size blades put up in a specially designed permanent steel box. For wires No. 8 to No. 30. Helps keep all the parts together in one kit. Available with automatic or standard model strippers.



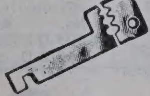
No.		List
733-K	Standard Stripper Kit, with blades	$15.00
744-K	DeLuxe Automatic Stripper Kit, with blades	17.00

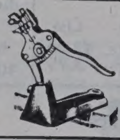
G-C SHUR-GRIP PLIER WRENCH

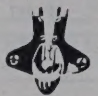
Here's a universal handy all-purpose plier wrench. This is something new and different from the average Grip Wrench. It works with a short pawl against the cam handle, giving it extra power. IT UNLOCKS WITHOUT SNAPPING THE FINGERS. Jaws are forged from alloy steel and specially heat treated for toughness and durability. It is a high quality tool.

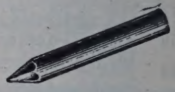


No.		List	Dealer's Net
767	7" Shur-Grip	$3.50	$1.80*
770	10" Shur-Grip	3.95	1.95*









G-C SPEEDEX REPLACEMENT BLADES

Fit standard and automatic models. Blades interchangeable.

No.		List
3W	12 to 20	$1.50
3W-A	14 to 30	1.50
3W-B	10 to 18	1.50
3W-C	8 to 10	1.50
3W-D	16, 18, 20, 22	1.50
3W-E	14, 16, 18	1.50
3W-F	10, 12, 14	1.50
3W-G	Blades for parallel No. 18 P.O.S.J. or similar	1.50
3W-H	Blades for the new 300-ohm television and FM twin transmission line	1.50

G-C SPEEDEX STRIPPER BENCH HOLDER

Bench type holder for any model Speedex Wire Stripper. Converts a hand operated tool to a bench type and increases production up to 2,500 wire strippings per hour. Steel.

No.		List
755	Bench Holder	$3.75

G-C SPEEDEX TRIG-O-MATIC PLATE

(Patent Pend.)

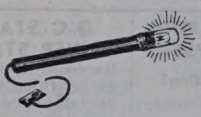
Converts any standard model Speedex Stripper to an Automatic Model. Easy to install.

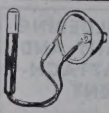
No.		List
756	Trig-O-Matic Plate, only	$2.00

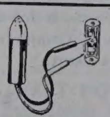
G-C SOLDER IRON TIPS

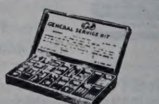
Best grade hard-drawn copper, bright plated to resist corrosion. Heats fast and holds heat.

No.		List
8124	¼" x 3" Tip	$0.45
8124-D	Display 12 No. 8124	5.40
8125	5/16" x 4½" Tip	.55
8125-D	Display 12 No. 8125	6.60
8126	⅜" x 4½" Tip	.60
8126-D	Display 12 No. 8126	7.20
8127	7/16" x 4" Tip	.75
8127-D	Display 12 No. 8127	9.00









G-C INSPECTION LITE

Portable type, lights up those "hard-to-see" spots. Operates on 110-120 volts AC or DC. Cord approx. 6 ft. long. Molded handle and non-inflammable clear plastic shield over bulb.

No.		List
705	Inspection Light	$1.95
704	Replacement Bulb for No. 705	.17
704-S	Clear Plastic Shield	.17

G-C LO-VOLT TESTER

For 0-15 volts AC or DC. For all low voltage testing on cars, generators, batteries, bell circuits, etc. Shielded bulb easily replaced. Molded plastic handle and insulators.

No.		List
5125	Lo-Volt Tester	$1.25
5126	Bulb for No. 5125	.25
5127	Shield for No. 5125	.15

G-C THERMO-VOLT CIRCUIT TESTER

Tests from 15 to 60 volts AC or DC on thermostats, aircraft, trains, marine lighting, 28-32 volt light plants, etc. Molded plastic case and insulated tips.

No.	List
5150	$1.75

GC CARBON BRUSH KIT

Complete assortment replacement brushes, for vacuum cleaners, washing machines, ironers, pumps, fans, etc. Contains 92 brushes and 18 springs.

No.	List
7000	$8.25

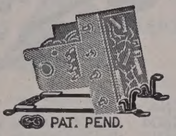
* Net

GENERAL G-C CEMENT SERVICE AIDS—TOOLS—SHIMS

G-C CHASS-EZ

(Pat. Pending)

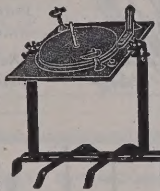
New wonder tool makes the Serviceman's job easier. Its simplicity is its chief merit. Chassis can be installed on "Chass-Ez" in five seconds. All one unit — no extra bolts or nuts to adjust. Heavy steel, riveted construction, nicely plated.



No.	List
5207	$3.65
Dealer's Net Only	1.95

G-C PHONO TURNTABLE STAND

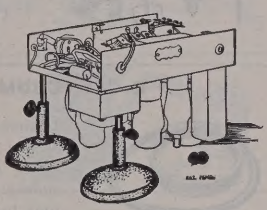
New improved model, adjustable and inexpensive. Adaptable to all turntables. Raises the turntable 15 inches above bench and can be pivoted on the swivel joints for easy examination or repairs. Sturdy steel construction. Plated.



No.	List
5205	$7.30
Dealer's Net Only	4.38

G-C RADIO JACKS

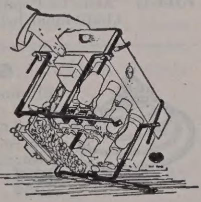
Permanent type adjustable jacks. All metal construction. Adjustable to fit any set or conditions. Easily and quickly adjusted. Two jacks supplied with three extension rods — one extra long. You need several sets in your shop.



No.	List
711	$2.15
Dealer's Net Only	1.29

G-C RADIO CHASSIS GUARDS

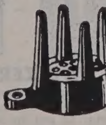
Inexpensive guards that protect the chassis and tubes when servicing. Set can be turned in any position. Easily applied and adjustable to all sets. Permanent plated metal construction.



No.	List
709	$2.50
Dealer's Net Only	1.50

G-C MINIATURE TUBE PIN STRAIGHTENER

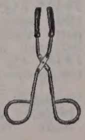
Saves tubes! Straightens without damage the pins on the fragile miniature tubes such as 1S5, 6AK5, 9002, etc. Just insert tube between guide pillars into precision base die and tube prongs are straightened and properly spaced. All metal.



No.		List
5191	For 7-pin tubes	$1.00
8105	For 9-pin tubes	1.00

G-C TUBE AND PARTS EXTRACTOR

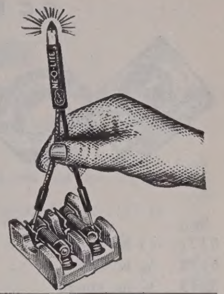
U. S. Signal Corps part No. TL 201. Handy prong tool for extracting tubes and picking up parts. Rubber cushions on prongs.



No.		List
5092	Tube Extractor	$1.50

G-C NE-O-LITE

Simple, safe, electrical circuit tester. Uses neon glow lamp which varies in brightness according to voltages. Tests cords, appliances, automotive ignition circuit, fuses, radios, electric fences, etc. For 60-volts AC to 550 volts AC or DC. Molded plastic, handy vest pocket size. Buy a display and sell your customers.



No.		List
5100	Ne-O-Lite	$0.50
5112-D	Display 12 No. 5100	6.00

G-C NE-O-LITE WIRE

Wire same as used on Ne-O-Lite Testers, # 18 stranded, rubber covered with a red or black braid, varnished. For ignition wiring, motor wiring, etc. Red or Black — Specify color.

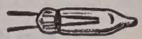
No.		List
5113	100 Ft.	$3.75

G-C RESISTOR FOR NEON LAMP

Required resistor when using No. 717 neon lamp on voltages of 60 to 550 volts AC or DC. Connect in series.

No.	List
718	$0.10

G-C NEON GLOW LAMPS



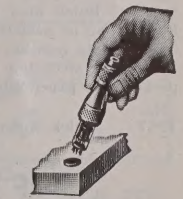
NE-T2 lamp as used in testers, appliances, as pilot light, etc.

No.	List
717	$0.20

G-C AMO MINIATURE TUBE PULLER

(Pat. Pending)

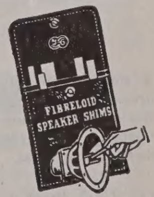
Prevents burned fingers and broken tubes. Makes it easy to remove and install tubes such as 6AG5, 50B5, etc. Works on suction and vacuum principle. Operates just by pressing on the tube and to release, just press the release button. Tube protected by rubber sleeve. Gets where your fingers can't reach. Permanent metal.



No.		List
5093	For 7-pin tubes	$1.65
8106	For 9-pin tubes	1.65

G-C FIBRELOID SPEAKER SHIMS

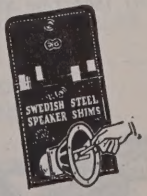
Shims made of tough and flexible fibreloid. Non-magnetic. 4 each of 5 sizes — twenty in all: Sizes, .005", .0075", .010", .0125", and .015". Color coded. Supplied in gold lettered leatherette snap case with instructions.



No.		List
702	Kit	$0.65

G-C SWEDISH STEEL SPEAKER SHIMS

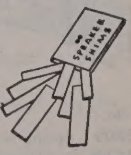
Makes it easier to center speaker voice coil. Permanent flexible Swedish steel. 4 shims each of 4 sizes coded for identification: .004", .006", .008" and .010" thick. Supplied in gold stamped leatherette partitioned snap case. Complete with instructions.



No.		List
701	Kit	$0.70

NEW! G-C SPEAKER SHIM KIT

For every type of speaker adjustment. A generous supply of Fibreloid and bronze shim stock in the various widths and thicknesses needed for speakers. Non-magnetic material. Stock can be cut to exact requirements. A long-lasting assortment. Complete instructions.



No.		List
7720	Kit	$2.00

GENERAL G-C CEMENT

RECORDING WIRE
STATIC CHASER — TOOL KITS

G-C RECORDING WIRE

For all wire recorders. Includes plastic leads. Permanent recordings which can be replayed indefinitely. Finest quality reproduction on stainless steel wire. Standard RMA spool fits Webster, Air King, Sears Roebuck, etc.

No.	Leaders with Spools	Dealer's Net
5171	1-hr. Spool	$3.25*
5172	½-hr. Spool	1.95*
5173	¼-hr. Spool	1.30*
5174	Leaders only, for Armour type recorders, per pair	.15*
5176	Empty Rewind Spool	.45*

G-C REPLACEMENT AUTO AERIALS

FORD ROOF AERIAL
Ford-Mercury Part No. 51A-18813-A1

Replacement aerial for all Ford and Mercury Roof Aerials of 1941-42-46-47-48 that operate from behind the dividing post of the windshield. Made of Admiralty brass tubing with stainless steel extension rod, triple chrome plated Free sliding with positive contacts insure noise-free reception. Easy to install, fits without changes, replaces original aerial. Comes complete with knob and set screw.

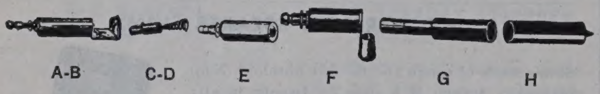
No.		List
7056	Ford Roof Aerial	$2.25

BUICK REPLACEMENT ANTENNA
Buick Part No. 980,688

Standard Buick Roof Aerial Mast. The replacement mast for Buick Roof Aerials on models 1940 through 1949. Easy to replace — merely tightens into position with a set screw. Admiralty brass tubes with a stainless steel top rod. Chrome-plated. Each mast individually packed in a paper tube. Standard packing — 10 tubes to a carton.

No.		List
7057	Buick Antenna Mast	$2.75

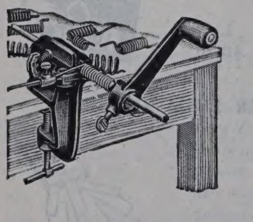
G-C IGNITION SUPPRESSORS



A rugged long-life assortment of bakelite auto radio ignition suppressors. Resistance, 10,000 ohms (V-8 types, 50,000 ohms). Resistors, moisture-proofed to eliminate variations due to weather changes. Impervious to heat, oil, moisture and mild acids. All metal parts brass. Good for more than 50,000 miles.

	No.		List
(a)	1501	Bracket Type	$0.30
(b)	1502	Ford V8	.30
(c)	1503	Ford V8 Brush Type, 33, 34, 35 Cars	.30
(d)	1504	Ford V8 Brush Type, 36 to 40 Cars	.30
(e)	1505	Screw Type, Universal	$0.30
(f)	1506	Snap-On Type	.30
(g)	1507	Distributor Type	.30
(h)	1508	Cable type for Splicing Cables	.30

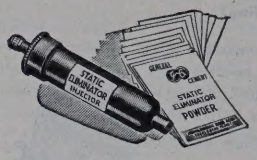
G-C SPRING MAKER
(Pat. Pending)



Makes all types of coil springs — compression or extension types — with any number of coils or degree of wire pitch. Designed for simple adjustment and operation with any size spring wire. Necessary wherever springs must be made fast or to special specifications. Liberal supply spring wire furnished with each winder. Fastens to any bench.

No.		List	Dealer's Net
5209	Spring Winder and Asst. Spring Wire	$16.58	$9.95*
5210	Replacement Asst. Spring Wire	2.50	1.50*

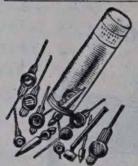
G-C STATIC POWDER AND INJECTOR GUN



It really works, cuts down auto radio static. Inject powder in tubes, and eliminate wheel tire static. Easy to apply. Powder also cuts down tire trouble by eliminating those pin-point tube leaks caused by tire static discharge. Powder blown into tube with G-C Injector Gun. Every car should be treated with G-C Static Chaser Powder.

No.		List
5604	Injector Gun, only	$1.50
5605	Packet Static Powder for 5 tires (1 car)	1.00
5606	Kit, one No. 5604 Injector, and one No. 5605 Powder	2.50

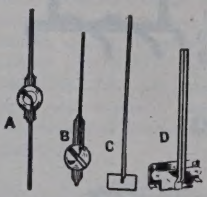
G-C DIAL POINTER KIT



A complete kit of 10 assorted dial pointers. Pointers come in a clear transparent plastic case which keeps the pointers in perfect condition.

No.	List
6810	$2.95

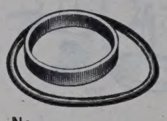
G-C DIAL POINTERS



Popular replacement pointers.

	No.		List
(a)	6801	3" Rotary Pointer for ¼" shaft, gold	$0.35
(b)	6802	5" 360° Rotary Pointer for ¼" shaft, gold and red	.35
(c)	6803	2" Slide Pointer, red translucent	.25
(d)	6804	2¼" Slide Pointer, white enamel	.25

G-C VACUUM CLEANER BELTS

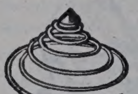


Dealers and servicemen earn extra money by selling belts. Display in your store for "over the counter sales." Best grade live rubber belts marked for identification. Popular belt assortments on displays.

No.		List
1010-D	Asst. 12 Belts, Most Popular	$2.80
7010-D	Asst. 12 Popular Flat Belts	2.70
7011-D	Asst. 12 Popular Round Belts	3.00

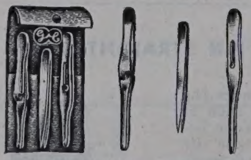
(Individual belts available — see your Distributor)

G-C HUB CAP STATIC SPRINGS



Eliminate wheel static noise developed by poor electrical contact between front axle and wheels. Springs have riveted metal points for firm, smooth contact. Plated.

No.		List
1058	Each	$0.12
1059	Box, 24 Springs	2.75

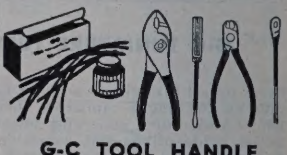


G-C TWEEZERS AND KIT

For the shop or laboratory to pick up and examine small parts, start screws and nuts, to get in hard-to-get spots, stringing dial cord, fastening springs, etc.

No.		List
7950	Tweezer Kit, beautiful leatherette case and one each tweezers described below	$3.25
7946*	6½" Self-closing tweezer. Opens when squeezed. Serrated, blunt points	0.80
7947*	6½" Heavy-duty type with slide lock feature. Holds wires or parts tight like an extra finger. Serrated, blunt points	1.20
7948*	4½" Precision Tweezer. Narrow pointed ends for delicate work.	0.55

*Standard Jobber's quantity: 12 tweezers on display card — Add suffix "-D"



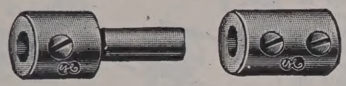
G-C TOOL HANDLE INSULATING TUBES

A new idea for insulating your handle tools. A supply of special insulating tubing in assorted sizes is included in kit to insulate all types of handles on pliers, cutters, screw driver blades, etc. You simply soak the tubing for a few minutes in **G-C Service Solvent** and the tubing will swell. Slip it over the handles and allow it to dry. It will shrink on drying and give it a professional appearance. (G-C Service Solvent is not included in kit.)

No.		List
8118-E	Env. Asstd. Tubing	$0.40
8118-D	Display of 20 Env.	8.00

* Net

GENERAL G-C CEMENT WRENCH KITS—TOOL SETS—BUSHINGS



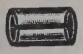
G-C SHAFT COUPLINGS, EXTENSIONS AND REDUCERS

BRASS FITTINGS

No.		List
6701	¼" to ¼" coupling....	$0.25
6702	¼" to ⅜" coupling....	.30
6703	¼" to 3/16" coupling..	.25
6704	⅜" to ⅜" coupling....	.30
6705	¼" hole to ¼" shaft extension	.30
6709	¼" hole to ⅜" shaft extension and increaser ..	.30
6710	⅜" hole to ¼" shaft extension and reducer ...	.30
6711	⅜" hole to ⅜" shaft extension	.30
6712	¼" x 6" brass shaft....	.20
6713	¼" x 12" brass shaft...	.35
6714	⅜" x 6" brass shaft.....	.35
6715	⅜" x 12" brass shaft...	.60
6716	¼" hole x ¼" round shaft x 4" long	.35

INSULATED FITTINGS

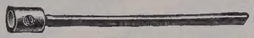
No.		List
6721	¼" to ¼" coupling....	$0.25
6722	¼" to ⅜" coupling....	.30
6723	¼" to 3/16" coupling..	.25
6724	⅜" to ⅜" coupling....	.30
6725	¼" hole to ¼" shaft extension	.30
6731	¼" hole to ⅜" shaft extension and increaser ..	.30
6732	⅜" hole to ¼" shaft extension and reducer	.30
6733	⅜" hole to ⅜" shaft extension	.30
6734	¼" x 6" fibre shaft....	.30
6735	¼" x 12" fibre shaft...	.55
6736	¼" x 6" bakelite shaft..	.60
6737	¼" x 12" bakelite shaft.	1.00
6738	⅜" x 6" fibre shaft....	.45
6739	⅜" x 12" fibre shaft...	.80



G-C REDUCING BUSHINGS

For knobs and shafts. A split bushing that really works. Brass. Easy to use.

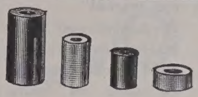
No.		List
6751-E	¼" to 3/16" reduction, 8 in Env.	$0.40
6751-G	144 No. 6751 (Gross)	6.50



G-C SHAFT EXTENSIONS

Popular ¼" shaft extension with flat shaft for spring type push-on knobs.

No.		List
6755	¼" x 4½" Long Flat Shaft Extension	$0.35
6716	¼" x 4½" Long Round Shaft Extension	.35



G-C BRASS AND INSULATED SPACERS AND BUSHINGS

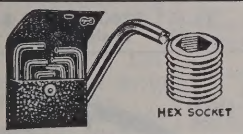
Spacers and Bushings needed for insulating and spacing of parts. Needed on chassis, sub-panels, etc.

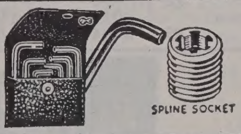
No.	Assortments	List
6617	Hardware Lab. Jar 12 Assorted Spacers and Bushings	$0.65
6760-E	Env. 12 Asst. Ins. Spacers	.40
6762	15 Asst. Threaded Brass Bushings 6-32 thread, ¼" to ¾" lg.	1.25
6763	15 Asst. Threaded Brass Bushings 8-32 thread, ¼" to ¾" lg.	1.25
6775-E	Env. 12 ¼" x ¼" Ins. Spacers	.40
6776-E	Env. 8 ¼" x ⅜" Ins. Spacers	.40
6779-E	Env. 6 ⅜" x ¼" Ins. Spacers	.40
6761-E	Env. 12 Asst. Metal Spacers	.40
6765-E	Env. 10 ¼" x ¼" Metal Spacers	.40
6766-E	Env. 8 ¼" x ⅜" Metal Spacers	.40
6769-E	Env. 6 ⅜" x ¼" Metal Spacers	.40

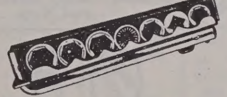
BRASS				INSULATED			
No.	O.D.	Length	List	No.	O.D.	Length	List
6765	¼"	¼"	$0.04	6775	¼"	¼"	$0.04
6766	¼"	⅜"	.05	6776	¼"	⅜"	.05
6767	¼"	½"	.05	6777	¼"	½"	.05
6768	¼"	¾"	.06	6778	¼"	¾"	.06
6769	⅜"	¼"	.05	6779	⅜"	¼"	.05
6770	⅜"	½"	.06	6780	⅜"	½"	.06
6771	⅜"	¾"	.07	6781	⅜"	¾"	.07

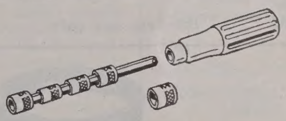
THREADED BRASS BUSHINGS

No.	O.D.	Thread Size	Length	List	No.	O.D.	Thread Size	Length	List
6785	¼"	6-32	¼"	$0.05	6790	¼"	8-32	¼"	$0.05
6786	¼"	6-32	⅜"	.07	6791	¼"	8-32	⅜"	.07
6787	¼"	6-32	½"	.08	6792	¼"	8-32	½"	.08
6789	¼"	6-32	¾"	.09	6793	¼"	8-32	¾"	.09









G-C ALLEN-HEX WRENCHES AND KITS

Essential key wrenches for every repair man. Made of special alloy steel properly hardened. Used on knobs, dials, phono needles, motors, pulleys, etc.

HEX KEY WRENCHES

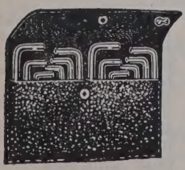
No.		List
5030-E	Env. 4 Asstd. Wrenches	$0.40
5029-E	Kit 6 Asstd. Wrenches in Leatherette Case	.75
5029-A-E	Env. 3 Hex Key Wrenches for No. ¼" to ⅞ Set Screws	.40
5031	No. 4	.12
5032	No. 5	.12
5033	No. 8	.12
5034	No. 10	.12
5035	¼"	.12
5036	5/16"	.13
5037	⅜"	.13
5038	7/16"	.16

G-C BRISTO-SPLINE WRENCHES AND KITS

Very popular "Bristo" or "Spline" type wrenches as used on phono needles, motors, pulleys, knobs, etc. Made of alloy steel, properly hardened.

No.		List
5069-E	Env. 4 Asstd. Wrenches	$0.40
5070-E	Kit 6 Asstd. Wrenches in Leatherette Case	.75
5071	No. 4	.12
5071-A	No. 5	.12
5072	No. 6	.12
5073	No. 8	.12
5074	No. 10	.12
5075	¼"	.12
5076	5/16"	.13
5077	⅜"	.13
5078	7/16"	.16

G-C ALLEN-BRISTO WRENCH KIT



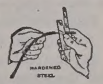
Complete wrench kit for hex and spline type screws used in electronic field. Double snap button case of durable leatherette. Fit No. 2 to ⅜" screws.

No.		List
5028		$1.65
	Dealer's Net	.99*

G-C 8-PIECE VEST POCKET SET

Handiest tool! Seven sockets, ¼", 5/16", 11/32", ⅜", 7/16" hex; ⅜" round knurled, ¼" square, complete with 4" L handle. Ball type socket assembly. Baked enamel box.

No.	List
712	$1.60



G-C WIRE STRIPPER

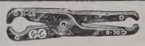
5-in-1 tool. Wire stripper, scraper, cutter, screwdriver, and wire winder all in one. Tempered steel, plated.

No.	List
757	$0.40

G-C 6-PIECE SLIP-ON WRENCH SET

Handle holds five sockets, sizes ¼", 5/16", 11/32", ⅜", and 7/16". Easily assembled. Tempered steel, plated.

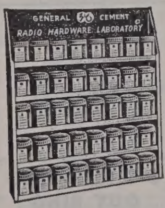
No.	List
715	$2.00



G-C FUSE PULLERS

For cartridge fuses. Heavy duty construction of high dielectric material.

No.		List
5525	Midget size, for fuses ¼" x ½"	$0.60
5526	Large size, for fuses ½" x 1½"	1.25



G-C ELECTRONIC HARDWARE LABORATORIES

Complete assortment of hardware. Rack contains several thousand essential electronic hardware items. Packed in clear jars with screw caps. Assortments as below: Free Steel Rack!

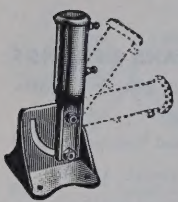
No.		List	Dealer's Net
6604	DeLuxe Hdwe. Laboratory, 40 jars, as in assortments No. 6601 and 6602, as below	$26.00	$15.60*
6601	No. 1, 20 jar asst. 1 each jars G-C No. 6605 through 6624 (see hardware pages U-140, U-141, U-142).	13.00	7.80*
6602	No. 2, 20 jar asst. 1 each jars G-C No. 6625 through 6644 (see hardware pages U-140, U-141, U-142).	13.00	7.80*

* Net

GENERAL G-C CEMENT TELEVISION ACCESSORIES

G-C UNIVERSAL MAST BRACKET

"The best on the market"

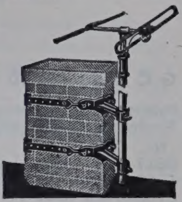


Permanent, easy to install and easy to adjust mast bracket that can be used on roofs, chimneys, walls, gables, and most anywhere. Masts 30 to 40 feet and up to 1⅜" diameter can be assembled down and swung up into position. It's made of best grade of aircraft aluminum.

No.		List
8000	Universal Bracket	$7.50

G-C CHIMNEY MOUNT

"Made of Cast Aircraft Aluminum"



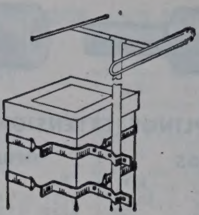
Here's a better quality bracket for better installations. One man can install this on any chimney. Only one piece to handle with this "Cast Bracket." It will hold masts up to 1⅜" diameter.

It is supplied complete with 24 ft. of galvanized strapping and all necessary hardware. It will not rust and mar the appearance of the home. Brackets can also be used for flat wall mounting, angle and gable mounting.

No.		List
8001	Pair of brackets, complete with strapping and all hardware.	$7.50
8002	Pair of brackets only with lag screws. No strapping.	5.00
8003	Straps and hardware only.	2.50

G-C CHIMNEY QUICK MOUNT

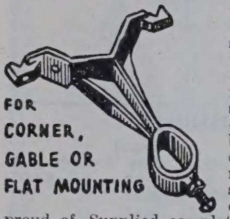
"Made of Steel—Heavily Plated—Won't Rust"



Here's a chimney bracket for the inexpensive installation that can be installed in a few minutes. Only one piece to handle with a minimum of loose parts. Heavy steel ⅛" thick heavily plated. Brackets will support masts up to 1⅜" diameter. All straps and hardware included.

No.		List
8005	Chimney Quick Mount with Straps and Hardware.	$4.25

G-C CORNER AND FLAT MAST BRACKETS

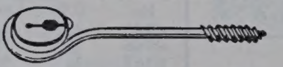

FOR CORNER, GABLE OR FLAT MOUNTING

Made of aircraft aluminum this bracket will support all sizes of masts ¾" to 1⅜" diameter. They are easy to install, only two screws or bolts necessary for each bracket. The brackets will make a neat, attractive installation that your customer will be proud of. Supplied complete with lag screws.

No.		List
8002	Brackets, per pair	$5.00

NEW G-C POLYETHYLENE STAND-OFF INSULATORS

G-C REGULAR STAND-OFF

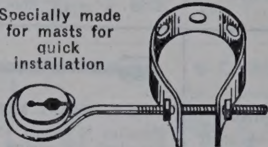


Universal type, can be used for flat 300-ohm twin lead and RG-59V cables. Heavy gauge stand-offs made with genuine polyethylene insulator and Bethanized steel screw hooks that are rust-proof and weather-proof.

No.	Length	Screw Type	List
8027	3½"	Wood Screw	$0.10
8028	5½"	Wood Screw	.13
8029	7½"	Wood Screw	.14
8030	12"	Wood Screw	.25
8031	3½"	Machine Screw and Nuts	.12
8032	5½"	Machine Screw and Nuts	.15

G-C MAST-STAND-OFF

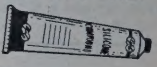
Specially made for masts for quick installation



This can be used for flat 300-ohm twin lead and RG-590 cables. It is made with genuine polyethylene insulators and with a quick adjustment strap to fit any size mast. One size will fit masts ¾" to 1½".

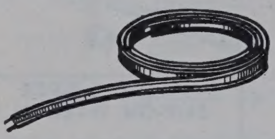
No.	Length	List
8033	3½"	$0.15
8034	7½"	.21

G-C SILICONE COMPOUND



A permanent waterproofing material for TV and FM lead connections. Eliminates electrical and signal leakage due to moisture film. Maintains stability of transmission lines, ignition systems, etc. Non-corrosive and chemically inert. Effective to 400° C. In tubes.

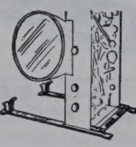
No.		List
8100	1-oz.	$1.65
	Dealer's Net,	.99



G-C CLEAR PICTURE 300-OHM POLYETHYLENE TWIN LINE

Very high grade approved genuine 300-ohm polyethylene twin line specially made or Television and FM work. It is made of brown polyethylene with 2 stranded wires. One tinned and one copper wire makes it easy to trace lines.

No.	Quantity	List
8040	50-ft. Coil	$2.50
8042	100-ft. Coil	4.50
8043	1000-ft. Spool	42.00

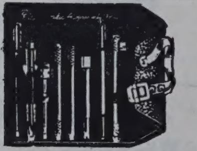


NEW G-C TELEVISION SAF-T-RACK

"Makes it easy to work with"

Here's a very simple and sturdy rack to use in repairing the heavy television chassis. Simply set it on the rack and tilt it on the side. The sturdy hooks will hold the chassis on its side so you can work on the set. It will prevent damage to the tube and make it easy to work on it. Every shop needs several of these G-C Saf-T-Racks.

No.		List
8045	Saf-T-Rack	$3.95



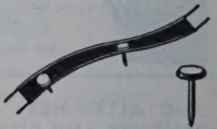
NEW G-C TELEVISION ALIGNMENT KIT

A new kit with new tools specially designed for adjusting and aligning Television Receivers.

Kit contains Special Television Tools:

	No.	
1 -	5067	Trimmer Tool
1 -	5018	Tuner Wrench
1 -	5066	Short TV Tool
1 -	5080	Television Wrench
1 -	5087	RF Tuner Tool
1 -	5091	Trimmer Tool
1 -	5097	K-Tran Tool
1 -	5002	Tuning Wand
1 -	8195	Channel Tuning Tool
1 -	8196	Special Short Tool
1 -		Leatherette Case

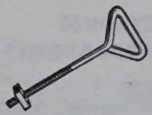
No.		List
8050	Television Alignment Kit	$8.75



G-C 300-OHM FIBRE HEAD WIRING NAILS

These nails are specially made for nailing down 300-ohm twin line on wood work, along base boards, rafters, etc. They make installation easy.

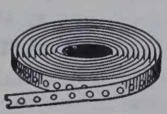
No.		List
8020-E	Env., 30	$0.40
8020-D	Display, 20 Env.	8.00
8020-G	144	1.25
8020-M	1000	8.50



G-C CHIMNEY & MAST HOOK

Cadmium-plated steel hook, same as used for chimney straps and masts. Hook is welded for extra strength. Supplied with nut.

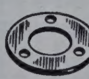
No.		List
8049-E	Env., 2	$0.40
8049-DX	Display, 20 Env.	8.00
8049-G	144	20.00



G-C CHIMNEY STRAP

Galvanized annealed strap with ¼" punched holes. This is the same as used on chimney brackets. This strap is extra strong and yet very flexible to handle.

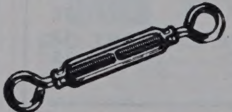
No.	Coil	List
8051	12-ft.	$0.75
8052	100-ft.	6.25



G-C FLOATING GUY RING

Galvanized guy washer for supporting masts. Will fit ¾" mast and 1" masts. Allows mast to be turned.

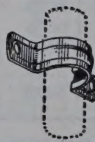
No.		List
8055-E	Env., 3	$0.40
8055-G	144	15.00
8058	4½" 1	.25



G-C TURNBUCKLES

Extra strong cadmium-plated turnbuckles for guy wires and cables make it easy to install tall masts and towers.

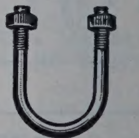
No.	Length Clsd.	Qun.	List
8056-E	3"	2	$0.40
8057-E	3½"	2	.40
8058	3½"	1	.25



G-C MAST STRAPS

Made of galvanized steel these straps are used for fastening masts, poles to walls, roofs, chimneys, etc.

No.		List
8130	Each	$0.06
8130-G	Box, 144	8.00

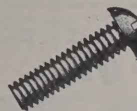
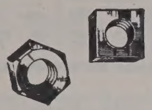
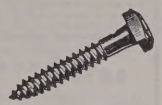
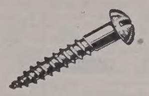
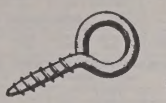
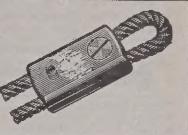


G-C U BOLT

For mounting and extending antenna poles and masts. Ideal for strapping 2 masts together or for fastening masts to buildings, plates, etc. Made of rust-proof Bethanized steel. Supplied with nuts.

No.	List
8123	$0.30

GENERAL CEMENT TELEVISION ACCESSORIES

G-C ¼-20 BOLTS

Round head, steel, cadmium-plated.

144 to Box

No.	Length	List
7144-G	½″	$2.65
8061-G	¾″	3.25
8062-G	1″	3.70
7145-G	1¼″	4.00
7146-G	2½″	6.90

1000 to Box

No.	Length	List
7144-M	½″	15.95
8061-M	¾″	19.50
8062-M	1″	22.20
7145-M	1¼″	24.20
7146-M	2½″	41.25

G-C ¼-20 NUTS

Steel — cadmium-plated.

No.	Square Nuts	List
8063-E	Env.,25	$0.40
8063-D	Display, 20 Envs.	8.00
8063-G	Box,144	2.15
	Hexagon Nuts	
7235-E	Env.,25	$0.40
7235-D	Display, 20 Envs.	8.00
7235-G	Box,144	2.35

G-C ¼" LAG SCREWS

Steel, cadmium-plated lag screws specially made for Television Antenna, installations and brackets.

No.	1¾″ Length	List
8064-E	Env.,4	$0.40
8064-D	Display, 20 Envs.	8.00
8064-G	Bx.,144	13.50
	2″ Length	
8065-E	Env.,4	.40
8065-D	Display, 20 Envs.	8.00
8065-G	Bx.,144	13.50

G-C WOOD SCREWS

Round head steel, cadmium - plated screws, for Television work.

No.	#8x1¼″ Lg.	List
8071-E	Env.,15	$0.40
8071-G	Bx.,144	3.05
	#10x1½″ Long	
8073-E	Env.,12	.40
8073-G	Bx.,144	4.05
	12x1½″ Long	
8075-E	Env.,10	.40
8075-G	Bx.,144	4.80
	14x1¾″ Long	
8076-E	Env.,8	.40
8076-G	Bx.,144	6.80

G-C SCREW EYES

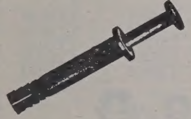
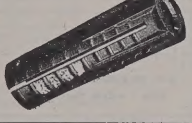
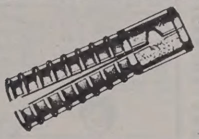
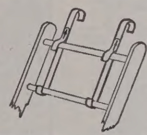
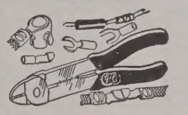
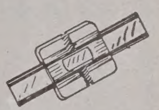
Steel, cadmium-plated screw eyes for Television Antenna installations; for fastening guy wires, etc.

No.		List
8078-E	Envlp.	$0.40
8078-D	Display, 20 Envs.	8.00
8078-G	Bx.,144	4.90

G-C GUY WIRE CLAMPS

The neatest, quickest way for fastening ends of guy wire cables on towers and masts. Easily adjusted with a screw driver. Galvanized steel.

No.	Wire Size	List
8081	⅛″	$0.55
8082	3/16″	.55

G-C DRIV-IN ANCHORS

These Driv-Ins are easy to use and are very handy for fastening masts and brackets to masonry and concrete. They carry the load. Will fit ¼″ hole.

No.		List
8083-E	Env.,2	$0.40
8083-D	Display, 20 Envs.	8.00
8083-G	Bx.,144	20.00

G-C LEAD ANCHORS

Very popular lead anchors for wood screws; will fit ¼″ and 5/16″ holes and will take #10, 12, and 14 wood screws.

No.	1″ Long	List
8084-E	Env.,3	$0.40
8084-D	Display, 20 Envs.	8.00
8084-G	Bx.,144	12.50
	1½″ Long	
8085-E	Env.,2	.40
8085-D	Display, 20 Envs.	8.00
8085-G	Bx.,144	17.50

G-C LAG SCREW — EXPANSION SHIELD

Will fit ¼″ lag screws. Made of special alloy, 100% rust-proof (supplied without lag screws). Used for Television Masts and Brackets, and other work. The shield is 1″ long x ½″ O.D. ½″ drill is required.

No.		List
8088	Env.,12	$3.00
8088-G	Bx.,144	32.00

G-C LADDER HOOKS

Every service man needs a hook ladder when installing Television antennas. Make your own hook ladder by fastening these hooks to your ladder. Sold in pairs, complete with bolts for easy installation.

No.		List
8215	Hooks, per pair	$5.00

G-C SOLDERLESS CONNECTOR KIT

For Television Antenna, Radio and Electrical Work

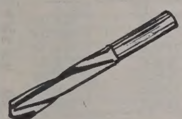
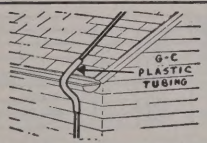
Complete kit of terminals and a handy tool to install solderless terminals on ends of wire. Handy for indoor and outdoor use, as it eliminates soldering.

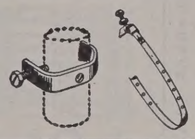
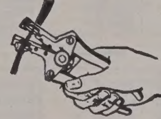
No.		List
8175	Complete Kit	$9.95
8176	Tool Only	6.60

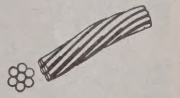
G-C 300-OHM CONNECTOR

A handy connector to splice 300-ohm twin line. Easy to use. Retains characteristics of wire and makes a secure connection.

No.		List
8095-E	Env.,2	$0.40
8095-D	Display, 20 Envs.	8.00



G-C CARBIDE-TIPPED MASONRY DRILL

Drill is carbide-tipped and has a spiral fluted body. It makes holes easily and accurately in the hardest masonry.

No.	Size	List
8096	¼″	$3.75
8097	5/16″	4.00
8098	⅜″	4.75
8099	½″	6.00

G-C 300-OHM LINE PROTECTIVE PLASTIC TUBING

Clear plastic tubing to fit over the 300-ohm twin line and protect the wire from grounding and rubbing on corners of buildings, eaves, etc. Used for lead in protection also.

No.		List
625	Box, 8 ft.	$0.95

G-C GROUND CLAMPS

Popular C type clamp will fit pipes up to 1⅜″ diameter. Makes a secure ground.

No.	List
8120	$0.25

Popular strap type ground will fit pipes ⅜″ to 2″.

No.	List
8121	$0.10

G-C SPEEDEX STRIPPER for the 300-ohm Twin Cable

Makes stripping of the 300-ohm cable very simple and easy. Just squeeze the handles and the job is done.

No.	Model	List
733-H	Regular	$6.00
744-H	Automat.	8.00

(For other size Speedex Strippers, see Page U-98)

G-C TELEVISION GUY WIRE

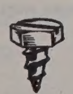
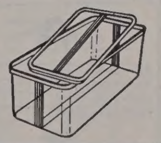
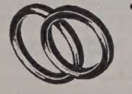
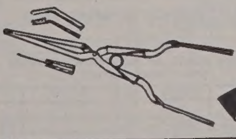
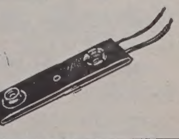
High grade galvanized steel twisted Television guy wire for tall masts and towers. Extra strength steel completely galvanized to prevent rust and corrosion. Available in 2 sizes that will take care of most requirements.

Four Strands No. 20 Wire (approx. 3/32″ diam.)

No.		List
8107-C	100-ft. Coil	$1.30
8107-M	1000-ft. Coil	12.25

Six Strands No. 20 Wire (approx. ⅛″ diam.)

No.		List
8109-C	100-ft. Coil	$1.75
8109-M	1000-ft. Coil	17.20

Radio Knobs






G-C POPULAR KNOB ASSORTMENTS

No.		List
	35 of all Types Popular Knobs	
1120	35 Asstd.	$1.67
	25 of all Asstd. Set Screw Knobs Only	
1149	25 Asstd.	1.67
	60 Auto Push-Button Knob Assortment	
8026	60 Asstd.	1.67

G-C AUTO RADIO SHEET METAL SCREWS

Special short sheet metal screws such as used on auto radio chassis covers, etc. No. 8 x ¼″ self-tapping hex head slotted. Steel, cadmium-plated.

		List
8102-E	Env.,30	$0.40
8102-D	Display, 20 Envs.	8.00
8102-G	Bx.,144	1.75

G-C PLASTIC STOCK BOXES AND TRAYS

Clear polystyrene boxes for stocking small parts, screws, nuts, bolts, condensers, resistors, etc. See what you have in clear plastic boxes. Boxes supplied with covers.

No.	Depth	List
8022	4x4x3″	$0.55
8023	4x8x3″	1.10

G-C PHONO DRIVES: *Admiral, Crescent*

Made of best grade of pure rubber, genuine replacement drives.

No.		List
24-E	Env.,1; Crescent, 3¾″ O.D.	$0.40
24-AE	Env., 1; Admiral, Crescent 3¼″ O.D.	.40
24-BE	Env.,1; Admiral Part No. 406A13, 3⅛″ O.D.	.40

G-C LONG NOSE PLIERS

Very handy pliers to reach into places and hold parts. Ideal for installing radio dial cords. Available in straight nose and curved nose styles.

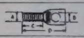
No.	Style	List
5192	Straight	$0.85
5193	Curved	.85

G-C MINI-MAX STRIP

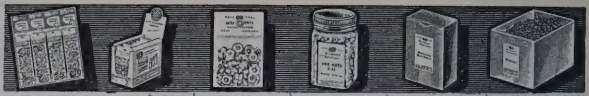
Used for connecting 67½-volt "B" batteries, such as Eveready 455, 466; Burgess XX30, XX45.

No.		List
8115	Connectors	$0.30

4-IN-1 CARD DISPLAY OR BOX 20 ENVELOPES TO A CARD BOX When Card is wanted Specify "D" after No. When Box is wanted Specify "X" after No.	PLASTIC ENVELOPES Transparent and Unbreakable List Price 40c		GLASS JARS For Hardware Racks List Price 65c		BOXES OF 144 (One Gross) Specify "G" after Part No		BOXES OF 1000 Specify "M" after Part No.	
DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
G-C ROUND HEAD MACHINE SCREWS STEEL - NICKEL PLATED								
Assorted Machine Screws	296-E	50						
Assorted Screws and Nuts	6038-E	50						
Assorted 2-56 Screws and Nuts	7129-E	50						
Assorted 4-36 and 6-32 Screws			6610	75				
Assorted 4-36 Screws	6001-E	45						
Assorted 6-32 Screws	6002-E	45						
Assorted 8-32 and 10-32 Screws			6611	60				
Assorted 8-32 Screws	6003-E	40						
Assorted 10-32 Screws	6004-E	30						
Machine Screws, 2-56 x ¼"					7130-G		7130-M	
Machine Screws, 2-56 x ½"					7131-G		7131-M	
Machine Screws, 2-56 x ¾"					7132-G		7132-M	
Machine Screws, 3-48 x ⅜"	7124-E	60			7124-G		7124-M	
Machine Screws, 4-36 x ¼"	6005-E	60	6005	100	6005-G		6005-M	
Machine Screws, 4-36 x ⅜"					7138-G		7138-M	
Machine Screws, 4-36 x ½"	6006-E	50	6006	100	6006-G		6006-M	
Machine Screws, 4-36 x ¾"	6007-E	40	6007	80	6007-G		6007-M	
Machine Screws, 4-40 x ¼"	6005-AE	60	6005-A	100	6005-AG		6005-AM	
Machine Screws, 4-40 x ½"	6005-BE	50	6005-B	100	6005-BG		6005-BM	
Machine Screws, 4-40 x ¾"	6005-CE	40	6005-C	80	6005-CG		6005-CM	
Machine Screws, 6-32 x ¼"	6008-E	50	6008	90	6008-G		6008-M	
Machine Screws, 6-32 x ½"	6009-E	50	6009	85	6009-G		6009-M	
Machine Screws, 6-32 x ¾"	6010-E	45	6010	75	6010-G		6010-M	
Machine Screws, 6-32 x 1"	6011-E	35	6011	50	6011-G		6011-M	
Machine Screws, 6-32 x 1¼"					7141-G		7141-M	
Machine Screws, 8-32 x ¼"	6013-E	45			6013-G		6013-M	
Machine Screws, 8-32 x ⅜"	6014-E	40	6014	70	6014-G		6014-M	
Machine Screws, 8-32 x ½"	6015-E	35	6015	65	6015-G		6015-M	
Machine Screws, 8-32 x ¾"	6016-E	30	6016	60	6016-G		6016-M	
Machine Screws, 8-32 x 1"	6017-E	25	6017	45	6017-G		6017-M	
Machine Screws, 8-32 x 1¼"					7142-G		7142-M	
Machine Screws, 10-32 x ½"	6020-E	30	6020	60	6020-G		6020-M	
Machine Screws, 10-32 x ¾"	6021-E	25	6021	50	6021-G		6021-M	
Machine Screws, 10-32 x 1"	6022-E	20	6022	35	6022-G		6022-M	
Machine Screws, 10-32 x 1½"					7143-G		7143-M	
Machine Screws, ¼-20 x ½"					7144-G		7144-M	
Machine Screws, ¼-20 x 1¼"					7145-G		7145-M	
Machine Screws, ¼-20 x 2½"					7146-G		7146-M	
G-C BINDING HEAD MACHINE SCREWS STEEL - NICKEL PLATED								
Assorted Binding Head Machine Screws	7150-E	50						
Machine Screws, 6-32 x 3/16"					7151-G		7151-M	
Machine Screws, 6-32 x ¼"	7152-E	50			7152-G		7152-M	
Machine Screws, 6-32 x ⅜"					7153-G		7153-M	
Machine Screws, 8-32 x 5/16"					7158-G		7158-M	
G-C OVAL HEAD RACK AND CABINET SCREWS STEEL - NICKEL PLATED								
Assorted Rack Screws and Washers	6039-E	30	6628	50				
Machine Screws, 6-32 x ½"					6540-G		6540-M	
Machine Screws, 6-32 x ¾"	6541-E	40	6541	50	6541-G		6541-M	
Machine Screws, 8-32 x ¾"	6542-E	30	6542	45	6542-G		6542-M	
Machine Screws, 10-32 x ¾"	6543-E	20	6543	45	6543-G		6543-M	
G-C THREADED STEEL RODS								
Package 6-32 and 8-32 Rods	6665-E							
G-C ORNAMENTAL HEAD SCREWS STEEL - STATUARY BRONZE PLATED								
Assorted Ornamental Head Screws	1094-E	15	6631	50				
Ornamental Head Screws, 6-32 x ¾"	1097-E	20			1097-G		1097-M	
Ornamental Head Screws, 6-32 x 1"	1098-E	20			1098-G		1098-M	
Ornamental Head Screws, 8-32 x 1¼"	1099-E	15			1099-G		1099-M	
G-C WOOD SCREWS ROUND HEAD - STEEL - NICKEL PLATED								
Assorted Wood Screws	6110-E	30	6633	45				
Wood Screws, No 4 x ½"	6114-E	30	6114	45	6114-G		6114-M	
Wood Screws, No 4 x ¾"	6115-E	30	6115	40	6115-G		6115-M	
Wood Screws, No 6 x ¾"	6116-E	30	6116	40	6116-G		6116-M	
Wood Screws No 6 x 1"	6117-E	25	6117	35	6117-G		6117-M	
Wood Screws, No 8 x ¾"	6118-E	25	6118	35	6118-G		6118-M	
G-C SHEET METAL SCREWS HEX HEAD - SLOTTED - SELF-TAPPING - NICKEL PLATED POINTED TYPE "A"								
Assorted Sheet Metal Screws	297-E	25						
Assorted No. 4 and No 6 Sheet Metal Screws			6608	50				
Assorted No. 8 and No 10 Sheet Metal Screws			6609	45				
Sheet Metal Screws, No 4 x ½"	6090-E	40	6090	50	6090-G		6090-M	
Sheet Metal Screws, No 6 x ¼"	6091-E	35	6091	50	6091-G		6091-M	
Sheet Metal Screws, No 6 x ⅜"	6092-E	30	6092	50	6092-G		6092-M	
Sheet Metal Screws, No 6 x ½"	6093-E	30	6093	50	6093-G		6093-M	
Sheet Metal Screws, No 6 x ¾"	6094-E	25	6094	50	6094-G		6094-M	
Sheet Metal Screws, No. 8 x ⅜"	6095-E	30	6095	50	6095-G		6095-M	
Sheet Metal Screws, No 8 x ½"	6096-E	25	6096	45	6096-G		6096-M	
Sheet Metal Screws, No 8 x 1"	6097-E	20	6097	40	6097-G		6097-M	
Sheet Metal Screws, No. 10 x ⅜"	6098-E	25	6098	40	6098-G		6098-M	
Sheet Metal Screws, No. 10 x ½"	6099-E	20	6099	40	6099-G		6099-M	
Sheet Metal Screws, No. 10 x ¾"	6100-E	20	6100	35	6100-G		6100-M	
G-C ESCUTCHEON PLATE SCREWS ROUND HEAD - SLOTTED - STATUARY BRONZE PLATED								
Assorted Escutcheon Screws	1090-E	30	6632	50				
Escutcheon Screws, No 2 x ¼"	1091-E	30			1091-G		1091-M	
Escutcheon Screws, No 2 x ⅜"	1093-E	30			1093-G		1093-M	
G-C SPADE BOLTS or MOUNTING SCREWS STEEL - NICKEL PLATED								
Assorted Spade Bolts	6080-E	30						
A B C D								
6-32 No 6 7/16" 725	6081-E	30			6081-G		6081-M	
6-32 No 6 9/16" 7/8"	6082-E	30			6082-G		6082-M	
6-32 100 9/32" 27/32"					6083-G		6083-M	
8-32 No. 8 7/16" 1-3/16"					6084-G		6084-M	
CUP POINT is standard. **G-C RADIO KNOB SET SCREWS** SLOTTED - HEADLESS - HARDENED STEEL								
No 1060 Kit 50 Asst Set Screws **List Price $1.00**								
No 1061 Kit 100 Asst Set Screws **List Price $1.80**								
Assorted Set Screws	1062-E	20	6605	30				
Assorted Set Screws, 6-32	6061-E	20						
Assorted Set Screws, 8-32	6062-E	20						
Assorted Set Screws, 10-32	6063-E	20						
Set Screws, 6-32 x 1/8"	6071-E	20	6071	30	6071-G		6071-M	
Set Screws, 6-32 x 3/16"	6072-E	20	6072	30	6072-G		6072-M	



PRICES ON GROSS BOXES --1000 BOXES AND LARGER QUANTITIES QUOTED ON REQUEST.



4-IN-1 CARD DISPLAY OR BOX 20 ENVELOPES TO A CARD BOX When Card is wanted Specify "D" after No. When Box is wanted Specify "X" after No.	PLASTIC ENVELOPES Transparent and Unbreakable List Price 40c		GLASS JARS For Hardware Racks List Price 65c		BOXES OF 144 (One Gross) Specify "G" after Part No.		BOXES OF 1000 Specify "M" after Part No.	
DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
G-C RADIO KNOB SET SCREWS — Continued								
Set Screws, 6-32 x 1/4"	6073-E	20	6073	30	6073-G		6073-M	
Set Screws, 8-32 x 1/8"	6074-E	20	6074	30	6074-G		6074-M	
Set Screws, 8-32 x 3/16"	6075-E	20	6075	30	6075-G		6075-M	
Set Screws, 8-32 x 1/4"	6076-E	20	6076	30	6076-G		6076-M	
Set Screws, 8-32 x 1/2"	6077-E	20	6077	30	6077-G		6077-M	
Set Screws, 10-32 x 3/16"	6078-E	20	6078	30	6078-G		6078-M	
Set Screws, 10-32 x 1/4"	6079-E	20	6079	30	6079-G		6079-M	
G-C BRISTO SET SCREWS HARDENED STEEL - SPLINE TYPE - HEADLESS One Wrench Included In Each Envelope Package SPLINE SOCKET								
Assorted Lengths, 4-36	7175-E	4						
Assorted Lengths, 6-32	7180-E	4						
Assorted Lengths, 8-32	7185-E	4						
Bristo Set Screws, 4-36 x 1/8"					7176-G		7176-M	
Bristo Set Screws, 6-32 x 1/8"					7181-G		7181-M	
Bristo Set Screws, 6-32 x 3/16"					7182-G		7182-M	
Bristo Set Screws, 8-32 x 1/8"					7186-G		7186-M	
Bristo Set Screws, 8-32 x 3/16"					7187-G		7187-M	
G-C ALLEN HEX SET SCREWS STEEL - HARDENED - HEADLESS One Wrench Included In Each Envelope Package HEX SOCKET								
Assorted Lengths, 4-36	7190-E	4						
Assorted Lengths, 6-32	7195-E	4						
Assorted Lengths, 8-32	7200-E	4						
Hex Set Screws, 4-36 x 1/8"					7191-G		7191-M	
Hex Set Screws, 6-32 x 1/8"					7196-G		7196-M	
Hex Set Screws, 6-32 x 3/16"					7197-G		7197-M	
Hex Set Screws, 8-32 x 1/8"					7201-G		7201-M	
Hex Set Screws, 8-32 x 3/16"					7202-G		7202-M	
G-C HEXAGON NUTS STEEL - NICKEL PLATED								
Assorted Hex Nuts	293-E	45						
Assorted 4-36 and 6-32 Nuts			6606	60				
Assorted 8-32 and 10-32 Nuts			6607	60				
Thread Width Thickness								
2-56 3/16" 1/16"	7225-E	40			7225-G		7225-M	
3-48 3/16" 1/16"	7226-E	40			7226-G		7226-M	
4-36 1/4" 3/32"	6041-E	50	6045	80	6041-G		6041-M	
4-40 1/4" 3/32"	6041-AE	50	6041-A	80	6041-AG		6041-AM	
5-40 5/16" 7/64"			6045-B	75	6045-BG		6045-BM	
6-32 1/4" 3/32"	6042-E	45	6046	75	6042-G		6042-M	
6-32 5/16" 7/64"					7230-G		7230-M	
8-32 1/4" 3/32"	6043-E	40	6047	60	6043-G		6043-M	
8-32 5/16" 1/8"					7233-G		7233-M	
10-32 3/8" 5/64"	6044-E	35	6048	50	6044-G		6044-M	
1/4-20 7/16" 3/16"					7235-G		7235-M	
5/16-32 7/16" 3/32"					7236-G		7236-M	
3/8-32 9/16" 3/32"	6050-AE	20			6050-AG		6050-AM	
7/16-27 9/16" 1/8"					7238-G		7238-M	
15/32-32 9/16" 5/64"	6050-BE	15			6050-BG		6050-BM	
G-C BRASS HEXAGON NUTS								
Thread Width Thickness								
2-56 3/16" 1/16"	7241-E	45			7241-G		7241-M	
3-48 3/16" 1/16"	7242-E	45			7242-G		7242-M	
4-36 1/4" 3/32"	7243-E	45			7243-G		7243-M	
4-40 1/4" 3/32"	7244-E	45			7244-G		7244-M	
6-32 1/4" 3/32"	7245-E	40			7245-G		7245-M	
8-32 5/16" 1/8"	7248-E	35			7248-G		7248-M	
10-32 3/8" 5/64"	7249-E	30			7249-G		7249-M	
G-C MOUNTING NUTS STEEL - NICKEL PLATED								
Assorted Mounting Nuts	6050-E	15	6615	25				
Thread Width Thickness								
5/16-32 7/16" 3/32" (Rotary Switch Size)					7236-G		7236-M	
3/8-32 9/16" 3/32" (Volume Control Size	6050-AE	20			6050-AG		6050-AM	
7/16-27 9/16" 1/8" (Pilot Light Size)					7238-G		7238-M	
15/32-32 9/16" 5/64" (Toggle Switch Size)	6050-BE	15			6050-BG		6050-BM	
15/32-32 Round Ring Nut 1/16" (Toggle Switch Size)	6050-CE	10			6050-CG		6050-CM	
G-C TIMMERMAN SPEED NUTS								
Assorted Speed Nuts	6055-E	40	6630	60				
Speed Nuts, No 4	6051-E	40			6051-G		6051-M	
Speed Nuts, No 6	6052-E	40			6052-G		6052-M	
Speed Nuts, No 8	6053-E	40			6053-G		6053-M	
Speed Nuts, No 10	6054-E	30			6054-G		6054-M	
G-C ACORN NUTS SOLID BRASS - NICKEL PLATED								
Assorted Acorn Nuts	6030-E	12	6627	18				
Acorn Nuts, 6-32	6031-E	15			6031-G		6031-M	
Acorn Nuts, 8-32	6032-E	15			6032-G		6032-M	
Acorn Nuts, 10-32	6033-E	10			6033-G		6033-M	
G-C KNURLED THUMB NUTS BRASS - NICKEL PLATED								
Assorted Knurled Thumb Nuts	6654-E	10						
Knurled Thumb Nuts, 6-32	6655-E	15			6655-G		6655-M	
Knurled Thumb Nuts, 8-32	6656-E	12			6656-G		6656-M	
Knurled Thumb Nuts, 10-32	6657-E	8			6657-G		6657-M	
G-C WING NUTS NICKEL PLATED								
Assorted Wing Nuts	6658 AE	10						
Wing Nuts, 6-32	6658 E	10			6658-G		6658-M	
Wing Nuts, 8-32	6659 E	10			6659-G		6659-M	
Wing Nuts, 10-32	6660 E	10			6660-G		6660-M	

PRICES ON GROSS BOXES --1000 BOXES AND LARGER QUANTITIES QUOTED ON REQUEST.

4-IN-1 CARD DISPLAY OR BOX
20 ENVELOPES TO A CARD BOX
When Card is wanted Specify "D" after No.
When Box is wanted Specify "X" after No.

PLASTIC ENVELOPES Transparent and Unbreakable List Price **40¢**

GLASS JARS For Hardware Racks List Price **65¢**

BOXES OF 144 (One Gross) Specify "G" after Part No.

BOXES OF 1000 Specify "M" after Part No.

G-C METAL WASHERS

DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Metal Washers	6150-E	100						
Assorted No. 4 and No. 6 Washers			6612	135				
Assorted No. 8 and No. 10 Washers			6613	100				
Screw Size Hole Size O.D. Thickness								
No. 4 1/8" 9/32" 1/32"	6154-E	100	6154	150	6154-G		6154-M	
No. 6 5/32" 3/8" 1/32"	6155-E	80	6155	125	6155-G		6155-M	
No. 8 3/16" 7/16" 1/32"	6156-E	80	6156	100	6156-G		6156-M	
No. 10 13/64" 3/8" 1/32"					7306-G		7306-M	
No. 10 13/64" 7/16" 1/32"					7307-G		7307-M	
No. 10 13/64" 1/2" .049	6157-E	75	6157	100	6157-G		6157-M	
No. 12 .228 7/16" .021					7308-G		7308-M	
No. 1/4" 9/32" 5/8" 1/16"	6158-E	75			6158-G		6158-M	
No. 1/4" 17/64" 1/2" 1/16"					7311-G		7311-M	
No. 5/16" 5/16" 11/16" 1/16"					7312-G		7312-M	
No. 3/8" 3/8" 11/16" 1/16"					7313-G		7313-M	

G-C LOCK WASHERS

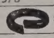
INTERNAL LOCK WASHERS

DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Lock Washers, All Types	1717-E	65	6614	90				
Assorted Internal Lock Washers	7320-E	60						
Screw Size O.D.								
Internal Lock Washers, No. 2	7322-E	45			7322-G		7322-M	
No. 3					7323-G		7323-M	
No. 4					7324-G		7324-M	
No. 6 9/32"	7326-E	60			7326-G		7326-M	
No. 8 21/64"	7328-E	60			7328-G		7328-M	
No. 10 3/8"	7330-E	60			7330-G		7330-M	
No. 1/4" 9/16"					7332-G		7332-M	
No. 5/16" 19/32"					7333-G		7333-M	
No. 3/8" 11/16"			6508	50	7334-G		7334-M	
No. 3/8" 9/16"					7335-G		7335-M	
No. 15/32" 19/32"					7338-G		7338-M	

EXTERNAL LOCK WASHERS

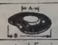
DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted External Lock Washers	7350-E	60						
External Lock Washers, No. 4					7354-G		7354-M	
External Lock Washers, No. 6	7356-E	60			7356-G		7356-M	
External Lock Washers, No. 8	7358-E	60			7358-G		7358-M	
External Lock Washers, No. 10					7360-G		7360-M	
External Lock Washers, No. 1/4"					7361-G		7361-M	
External Lock Washers, No. 3/8"					7363-G		7363-M	

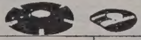
SPLIT TYPE LOCK WASHERS



DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Split Type Lock Washers	6502-E	60						
Screw Size O.D. Thickness								
No. 4 3/16" 1/32"	6503-E	65	6503	100	6503-G		6503-M	
No. 6 15/64" 1/32"	6504-E	65	6504	100	6504-G		6504-M	
No. 8 15/64" 025	6505-E	55	6505	90	6505-G		6505-M	
No. 10 5/16" .050	6506-E	50	6506	90	6506-G		6506-M	
No. 1/4" 7/16" 5/64"	6507-E	50	6507	80	6507-G		6507-M	

G-C SPRING FRICTION WASHERS

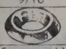
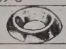




DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Spring Friction Washers	6190-E	25						
A B Thickness of Metal								
9/64" 5/16" .012					7385-G		7385-M	
3/16" 3/8" 008					7386-G		7386-M	
3/16" 7/16" .008					7387-G		7387-M	
1/4" 9/16" .012					7389-G		7389-M	

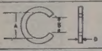
G-C CUP FINISHING WASHERS

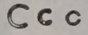
NICKEL PLATED

DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Screws and Washers	6039-E	30	6628	45				
Assorted Cup Washers	6159-E	40						
Cup Washers, No. 6	6161-E	40	6161	65	6161-G		6161-M	
Cup Washers, No. 8	6162-E	40	6162	65	6162-G		6162-M	
Cup Washers, No. 10	6163-E	40	6163	65	6163-G		6163-M	

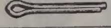
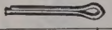
G-C C-WASHERS and RETAINING RINGS





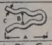
DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted C-Washers	6180-E	50	6636	85				
Shaft Diam. A B D								
3/16" .171 .125 .031	6182-E	40	6182	65	6182-G		6182-M	
1/4" .234 .156 .031	6183-E	40	6183	65	6183-G		6183-M	
1/4" .260 .187 .031	6184-E	40	6184	65	6184-G		6184-M	
1/4" 9/32" O.D. Wire Ring .029	6185-E	50			6185-G		6185-M	

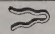
G-C COTTER PINS

DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Cotter Pins	6440-E	60	6642	90				
Diameter Length Under Eye								
Cotter Pins, 1/16" 1/2"					7301-G		7301-M	
Cotter Pins, 1/16" 1"					7303-G		7303-M	
Cotter Pins, 1/16" 1-1/4"					7304-G		7304-M	
Cotter Pins, 3/32" 1/2"					7305-G		7305-M	

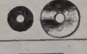
G-C HAIR PIN COTTERS





DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Hair Pin Cotters	6475-E	50	6637	75				
A B C								
9/32" 1/16" .026					7375-G		7375-M	
3/8" 1/16" .026					7376-G		7376-M	
13/32" 3/32" .026					7377-G		7377-M	
1/2" 5/32" .026					7378-G		7378-M	
21/32" 3/16" .032					7379-G		7379-M	

G-C FLAT FIBRE WASHERS



DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Flat Fibre Washers	1718-E	60	6634	85				
Screw Size I.D O.D.								
No. 6 .136 1/4"	6513-E	60	6513	100	6513-G		6513-M	
No. 8 11/64" 3/8"	6514-E	60	6514	100	6514-G		6514-M	
No. 10 .196 3/8"	6515-E	50	6515	80	6515-G		6515-M	
No. 1/4" 1/4" 1/2"	6516-E	40	6516	80	6516-G		6516-M	
No. 3/8" 3/8" 5/8"	6517-E	40	6517	70	6517-G		6517-M	
No. 15/32" 15/32" 3/4"					6518-G		6518-M	

PRICES ON GROSS BOXES --1000 BOXES AND LARGER QUANTITIES QUOTED ON REQUEST.

4-IN-1 CARD DISPLAY OR BOX
20 ENVELOPES TO A CARD BOX
When Card is wanted Specify "D" after No.
When Box is wanted Specify "X" after No.

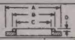
PLASTIC ENVELOPES Transparent and Unbreakable List Price **40¢**

GLASS JARS For Hardware Racks List Price **65¢**

BOXES OF 144 (One Gross) Specify "G" after Part No.

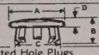
BOXES OF 1000 Specify "M" after Part No.

G-C EXTRUDED FIBRE WASHERS



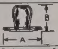
DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Extruded and Flat Fibre Washers	6512-E	30						
Assorted Extruded Fibre Washers	6520-E	40						
A B C D Screw Size								
5/16" .187 .140 .039 No. 6	6525-E	40	6525	65	6525-G		6525-M	
3/8" .250 .169 .031 No. 8	6526-E	30	6526	65	6526-G		6526-M	
7/16" .255 .196 .032 No. 10	6527-E	30	6527	65	6527-G		6527-M	
1/2" .375 .250 .032 1/4" Shaft	6528-E	24	6528	50	6528-G		6528-M	
5/8" .437 .380 .031 3/8" Shaft	6529-E	20	6529	50	6529-G		6529-M	

G-C SNAP BUTTON HOLE PLUGS



DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Hole Plugs	1716-E	10						
No. 1710 Asst. 50 Plugs in Box	**List Price $2.45**							
Ventilating Plugs, 1" Hole Size	1709-E	4			1709-G		1709-M	
For Hole Dia. A B C								
1/4" 13/32" 1/4" 17/64"	1711-AE	10			1711-AG		1711-AM	
5/16" 7/16" 1/4" 21/64"	1711-BE	10			1711-BG		1711-BM	
3/8" 17/32" 3/8" 25/64"	1711-E	10			1711-G		1711-M	
1/2" 21/32" 17/64" 17/32"	1712-E	8			1712-G		1712-M	
5/8" 51/64" 9/32" 41/64"	1713-E	6			1713-G		1713-M	
3/4" 15/16" 19/64" 49/64"	1714-E	6			1714-G		1714-M	
1" 1-5/32" 19/64" 1-1/32"	1715-AE	4			1715-AG		1715-AM	
1-1/8" 1-5/16" 11/32" 1-9/64"	1715-BE	4			1715-BG		1715-BM	
1-1/4" 1-7/16" 5/16" 1-17/64"	1715-E	4			1715-G		1715-M	

G-C SNAP-IN TRIMOUNTS

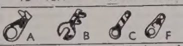


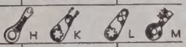
DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
No. 1720 Asst. 100 Trimounts	**List Price $1.20**							
Assorted Trimounts	1719-E	25	6620	45				
To Fit Hole A B								
1/8" 9/32" 3/16"	1721-E	25			1721-G		1721-M	
1/8" 9/32" 13/64"	1722-E	25			1722-G		1722-M	
.136 11/32" 17/64"	1723-E	25			1723-G		1723-M	
.136 23/64" 9/32"	1724-E	25			1724-G		1724-M	
5/32" 3/16" x 11/32" 25/64"	1726-E	18			1726-G		1726-M	
5/32" 3/16" x 11/32" 21/32"	1727-E	18			1727-G		1727-M	

G-C DIAL CORD CLIPS

DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Dial Cable Clips	6220-E	45	6621	75				
Used On Cord No. A B								
75 - 75A 1/8" 7/64"	6221-E	45			6221-G		6221-M	
74 - 74L 1/4" 5/32"	6222-E	45			6222-G		6222-M	
73 - 73X 3/16" 9/64"	6223-E	45			6223-G		6223-M	

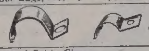
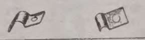
G-C SOLDERING LUGS





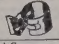
DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
No. 1020 100 Asst. Solder Lugs	**List Price $0.90**							
Assorted Soldering Lugs	1019-E	45	6618	75				
Hole Size Fig. No Length								
Solder Lugs, No. 6 M 11/16"	7441-E	30			7441-G		7441-M	
Solder Lugs, No. 8 M 11/16"	7442-E	30			7442-G		7442-M	
Solder Lugs, No. 10 A .11/16"	1021-AE	30			1021-AG		1021-AM	
Solder Lugs, No. 6 B 23/32"	1021-BE	30			1021-BG		1021-BM	
Solder Lugs, No. 8 B 23/32"	7445-E	30			7445-G		7445-M	
Solder Lugs, No. 6 11/16" C	1021-CE	30			1021-CG		1021-CM	
Solder Lugs, No. 6 9/16" F	1021-FE	30			1021-FG		1021-FM	
Solder Lugs, No. 8 9/16" F	7451-E	30			7451-G		7451-M	
Solder Lugs, No. 6 7/8" H	7454-E	30			7454-G		7454-M	
Solder Lugs, No. 8 7/8" H	7455-E	30			7455-G		7455-M	
Solder Lugs, No. 10 7/8" H	7456-E	30			7456-G		7456-M	
Solder Lugs, No. 4 13/16" K	7458-E	30			7458-G		7458-M	
Solder Lugs, No. 8 13/16" K	7460-E	30			7460-G		7460-M	
Solder Lugs, No. 10 13/16" K	7461-E	30			7461-G		7461-M	
Solder Lugs, No. 6 5/8" L	7462-E	30			7462-G		7462-M	
Solder Lugs, No. 8 5/8" L	7463-E	30			7463-G		7463-M	

G-C CABLE HOLDER CLAMPS

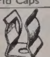
DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Cable Clamps	6250-E	25	6644	40				
To Fit Cable Mounting Hole								
1/8" to 3/16" No. 6	6251-E	25	6251	40	6251-G		6251-M	
3/16" to 1/4" No. 6	6252-E	35	6252	40	6252-G		6252-M	
1/4" to 5/16" No. 6	7503-E	20			7503-G		7503-M	
5/16" to 1/2" No. 6	6253-E	20			6253-G		6253-M	
3/4" No. 10					7505-G		7505-M	

G-C GRID CAPS



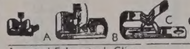
DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Grid Caps	6290-E	16	6635	25				
Glass Tube Grid Caps	6291-E	15			6291-G		6291-M	
Metal Tube Grid Caps	6292-E	15			6292-G		6292-M	

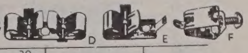
G-C FUSE CLIPS



DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
For 1/4" Glass Fuses, No. 6 Mtg Hole	6311-E	10			6311-G		6311-M	

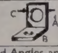
G-C FAHNESTOCK CLIPS





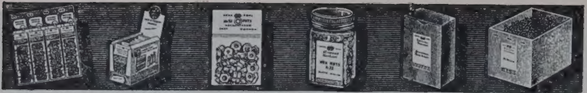
DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Fahnestock Clips	6300-E	18	6639	30				
Fig. Length Width Mtg. Hole								
A 1/2" 7/32" 6	6301-E	15			6301-G		6301-M	
B 3/4" 5/16" 6	6302-E	12			6302-G		6302-M	
C 1-1/16" 3/8" 8	6303-E	10			6303-G		6303-M	
D 1-3/4" 3/8" 8	6304-E	3			6304-G		6304-M	
E 3/4" 5/16" 6	6306-E	12			6306-G		6306-M	
F Ammeter Connectors	6307-E	3			6307-G		6307-M	

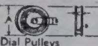
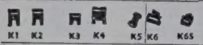
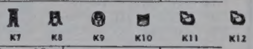
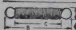
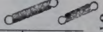
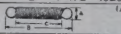
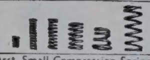
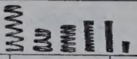
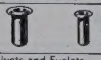
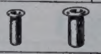
G-C ANGLES and BRACKETS



DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
Assorted Angles and Brackets	6260-E	15						
A B C Hole Size								
1/4" 3/16" 9/32" 6	6261-E	20			6261-G		6261-M	
3/8" 1/4" 9/32" 6	6262-E	15			6262-G		6262-M	
1/2" 7/16" 3/8" 6	6263-E	15			6263-G		6263-M	
3/16" 5/8" 3/8" 6 6-32 Thread	6264-E	15			6264-G		6264-M	

PRICES ON GROSS BOXES --1000 BOXES AND LARGER QUANTITIES QUOTED ON REQUEST.



4-IN-1 CARD DISPLAY OR BOX 20 ENVELOPES TO A CARD BOX When Card is wanted Specify "D" after No. When Box is wanted Specify "X" after No.	**PLASTIC ENVELOPES** Transparent and Unbreakable List Price **40c**		**GLASS JARS** For Hardware Racks List Price **65c**		**BOXES OF 144** (One Gross) Specify "G" after Part No.		**BOXES OF 1000** Specify "M" after Part No.	
DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
 **G-C DIAL PULLEYS**								
Assorted Dial Pulleys	6057-E	6	6638	12				
A B C D								
3/8" .120 1/8" 3/32"	6057-AE	8			6057-AG		6057-AM	
7/16" .067 13/64" 1/8"	6057-BE	7			6057-BG		6057-BM	
1/2" 1/8" 3/16" 3/32"	6057-GE	7			6057-GG		6057-CM	
.620 .128 .165 1/16"	6057-CE	5			6057-CG		6057-CM	
.860 .128 5/32" .050	6057-FE	3			6057-FG		6057-FM	
 **G-C RADIO KNOB SPRINGS** 								
Assorted Knob Springs	1049-E	20	6619	35				
No. 1050 Kit of 35 Springs **List Price $0.70**								
No. 1051 Kit of 100 Springs **List Price $1.35**								
Fig. No. Width Length For Knob Shaft Diam								
K1 Light 9/32" 7/16" 1/4"	6460-E	20			6460-G		6460-M	
K2 Heavy 9/32" 7/16" 1/4"	6461-E	20			6461-G		6461-M	
K3 9/32" 5/16" 1/4"	6462-E	20			6462-G		6462-M	
K4 3/8" 5/32" 1/4"	6463-E	15			6463-G		6463-M	
K5 7/32" 13/32" 1/4"	6464-E	10			6464-G		6464-M	
K6 9/32" 3/8" 1/4"	6465-E	10			6465-G		6465-M	
K6-S 9/32" 1/4" 1/4"	6466-E	10			6466-G		6466-M	
K7 9/32" 1/2" 1/4"	6467-E	20			6467-G		6467-M	
K8 9/32" 3/8" 1/4"	6468-E	10			6468-G		6468-M	
K9 11/32" 1/4" 1/4"	6469-E	10			6469-G		6469-M	
K10 3/8" 3/8" 1/4"	6470-E	20			6470-G		6470-M	
K11 3/8" 7/16" 1/4"	6471-F	20			6471-G		6471-M	
K12 3/8" 7/16" 3/16"	6472-E	20			6472-G		6472-M	
(Additional Listings on Knob Springs on Page 25)								
 **G-C DIAL DRIVE TENSION SPRINGS AND PHONO SPRINGS** 								
Asst. Regular Dial Drive Springs	1054-E	10	6616	15				
Asst. Small Dial Drive Springs	1054-SE	10						
No. 1055 Kit of 25 Asst. Springs **List Price $1.10**								
No. 1056 Kit of 100 Asst. Springs **List Price $4.00**								
Asst. Large Tension Springs	6421-E	8						
Asst. Small Tension Springs	6420-E	10						
A B C Wire Size List Price								
1/8" 1/2" 1/4" .019 $0.05	6450-E	10			6450-G		6450-M	
1/8" 1" 3/4" .019 .06	6451-E	8			6451-G		6451-M	
3/16" 1" 5/8" .020 .06	6452-E	8			6452-G		6452-M	
3/16" 1-3/8" 1" .020 .06	6453-E	8			6453-G		6453-M	
1/4" 1-1/2" 1" 026 .08	6454-E	6			6454-G		6454-M	
1/4" 2" 1-1/2" .026 .10	6455-E	5			6455-G		6455-M	
(Additional Listings on Dial Drive Springs on Page 18)								
 **G-C PHONOGRAPH SPRINGS**								
No. 6478 Kit of 50 Springs **List Price $2.25**								
No. 6479 Kit of 100 Springs **List Price $4.00**								
Asst. Small Phono Turntable Springs	6480-E	10						
Asst. Large Phono Turntable Springs	6481-E	8						
A B C Wire Size								
9/64" 7/16" 1/8" .008					7535-G		7535-M	
5/32" 3/4" 1/2" .016					7537-G		7537-M	
3/16" 19/32" 13/32" .014					7539-G		7539-M	
3/16" 1-1/8" 3/4" .014					7543-G		7543-M	
1/8" 19/32" 11/32" .006					7544-G		7544-M	
5/32" 1-1/16" 3/4" .010					7545-G		7545-M	
15/64" 1-3/4" 1-1/4" .022					7546-G		7546-M	
3/16" 9/16" 1/4" .033					7547-G		7547-M	
1/2" 1-5/16" 9/16" .026					7548-G		7548-M	
 **G-C COMPRESSION SPRINGS** 								
Asst. Small Compression Springs	6430-E	20	6643	30				
Asst. Large Compression Springs	6431-E	15						
O.D. Length Wire Size								
7/64" 5/32" .012					7476-G		7476-M	
.121 1/4" .015					7477-G		7477-M	
.145 19/32" .012					7478-G		7478-M	
.175 11/16" .016					7479-G		7479-M	
.195 7/16" .024					7481-G		7481-M	
9/32" 1-1/4" .023					7485-G		7485-M	
5/16" 1" .020					7486-G		7486-M	
320 13/32" .016					7488-G		7488-M	
11/32" 5/8" .029					7491-G		7491-M	
3/8" 11/16" .022					7493-G		7493-M	
25/64" 5/16" .048					7494-G		7494-M	
.491 1" .039					7495-G		7495-M	
19/32" x 5/16" 1-1/2" .040	Tapered				7496-G		7496-M	
1" x 11/16" 13/16" .079	Tapered				7497-G		7497-M	
 **G-C BRASS EYELETS** 								
Asst. Rivets and Eyelets	1027-E	55	6622	85				
Asst. Eyelets and Clamps	1028-E	60						
Eyelet Assortment	6900-E	55						
Shank Dia. Length Under Head								
.087 5/32"					7252-G		7252-M	
.087 7/32"					7253-G		7253-M	
.087 11/32"					7254-G		7254-M	
.123 7/32"					7259-G		7259-M	
.123 1/4"					7260-G		7260-M	
.123 9/32"					7261-G		7261-M	
.125 5/16"					7264-G		7264-M	
.127 15/32"					7265-G		7265-M	
133 11/64"					7266-G		7266-M	
150 1/8"					7267-G		7267-M	
.150 5/16"					7268-G		7268-M	
.182 3/16"					7269-G		7269-M	
.182 7/32"					7270-G		7270-M	
.182 11/32"					7271-G		7271-M	
.210 3/16"					7272-G		7272-M	
.213 3/16"					7273-G		7273-M	
.248 7/32"					7274-G		7274-M	
G-C CORD STRAIN RELIEFS								
Will Fit P.O.S.J. Cord	6675-E	4			6675-G		6675-M	
(Additional Listing Rubber and Felt Feet on Page 32)								
G-C RADIO KNOB FELTS								
¾" O.D. x ¼" Hole, Brown	1065-E	45	6641	75	1065-G		1065-M	
G-C TERMINAL STRIP ASSORTMENT								
Assorted Terminal Strips	6855-E	4						

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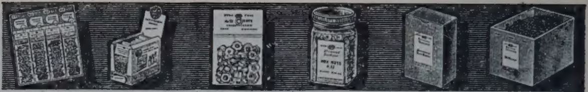
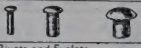
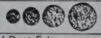
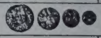
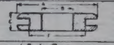
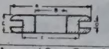
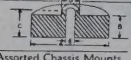
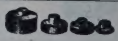
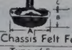


4-IN-1 CARD DISPLAY OR BOX 20-ENVELOPES TO A CARD BOX When Card is wanted Specify "D" after No. When Box is wanted Specify "X" after No.	**PLASTIC ENVELOPES** Transparent and Unbreakable List Price **40c**		**GLASS JARS** For Hardware Racks List Price **65c**		**BOXES OF 144** (One Gross) Specify "G" after Part No.		**BOXES OF 1000** Specify "M" after Part No.	
DESCRIPTION AND SPECIFICATIONS	Part No.	Quantity in Env.	Part No.	Quantity in Jar	Part No.	List Price	Part No.	List Price
 **G-C RIVETS**								
Asst. Rivets and Eyelets	1027-E	55	6622	85				
Rivet Assortment	6850-E	60						
Shank Diameter Length Under Head								
Rivets .059 5/32"					7276-G		7276-M	
Rivets .059 3/16"					7277-G		7277-M	
Rivets .059 1/4"					7278-G		7278-M	
Rivets .088 3/16"					7280-G		7280-M	
Rivets 098 3/16"					7283-G		7283-M	
Rivets .121 1/8"					7286-G		7286-M	
Rivets .121 5/32"					7287-G		7287-M	
Rivets .121 3/16"					7288-G		7288-M	
Rivets .121 7/32"					7289-G		7289-M	
Rivets 121 1/4"					7290-G		7290-M	
Rivets .121 5/16"					7291-G		7291-M	
Rivets .121 3/8"					7292-G		7292-M	
Rivets 121 1/2"					7293-G		7293-M	
Rivets 121 5/8"					7294-G		7294-M	
Rivets .146 5/16"					7296-G		7296-M	
Rivets 146 17/32"					7297-G		7297-M	
G-C ESCUTCHEON PINS								
Asst. Escutcheon Pins	6670-E	100						
Length Diam. Finish								
1/4" No. 18 Stat. Bronze					7526-G		7526-M	
1/4" No. 19 Stat. Bronze					7527-G		7527-M	
1/4" No. 20 Stat. Bronze					7528-G		7528-M	
1" No 15 Nickel Plated					7529-G		7529-M	
 **G-C VOICE COIL DUST FELTS** 								
Assorted Dust Felts	1079-E	25	6640	50				
Diameter								
Dust Felts 1/2"	1080-E	25			1080-G		1080-M	
Dust Felts 3/4"	1081-E	25			1081-G		1081-M	
Dust Felts 1"	1082-E	25			1082-G		1082-M	
Dust Felts 1-1/4"	1083-E	20			1083-G		1083-M	
Dust Felts 1-1/2"	1084-E	20			1084-G		1084-M	
Dust Felts 1-3/4"	1085-E	20			1085-G		1085-M	
Dust Felts 2-1/4"	1085-AE	20			1085-AG		1085-AM	
 **G-C RUBBER GROMMETS**								
Assorted Soft Grommets	1039-E	15	6626	20				
Assorted Grommets	1044-E	15	6625	25				
No. 1040 Kit of 50 Assorted Grommets **List Price $1.05**								
A B C E								
11/32" 1/8" 3/16" 1/4"	1041-2-E	15			1041-2-G		1041-2-M	
7/16" 3/16" 7/32" 5/16"	1041-E	15			1041-G		1041-M	
9/16" 1/4" 1/4" 3/8"	1042-E	15			1042-G		1042-M	
1/2" 1/4" 5/16" 3/8"					7566-G		7566-M	
5/8" 3/8" 1/4" 1/2"	1043-E	15			1043-G		1043-M	
13/16" 1/2" 9/32" 5/8"	1043-1-E	10			1043-1-G		1043-1-M	
1-1/16" 5/16" 11/32" 7/8"	(For Switch Box Knock-Out)				7569-G		7569-M	
 **G-C PURE GUM GROMMETS** Very soft live rubber grommets for shock and vibration dampening. For mounting tuning condensers, sockets, phono motors, chassis, etc.								
Assorted Pure Gum Grommets	7580-E	15						
No. 7581 Kit of 100 Asst. Grommets **List Price $2.25**								
A B C D E								
7/16" 3/16" 7/32" 1/16" 5/16"	7582-E	15			7582-G		7582-M	
9/16" 1/4" 1/4" 1/16" 3/8"	7584-E	15			7584-G		7584-M	
 **G-C RUBBER CHASSIS MOUNTS** 								
Assorted Chassis Mounts	1038-E	10						
No. 1030 Kit 25 Asst. Chassis Mounts **List Price $1.80**								
A B C D E								
3/4" 5/32" 7/32" 1/2" 1/4"					7571-G		7571-M	
3/4" 1/8" 3/8" 1/2" 1/4"	1031-E	8			1031-G		1031-M	
3/4" 1/2" 5/16"					7573-G		7573-M	
3/4" 7/16" 1/2" 7/16" 3/16"	1032-E	6			1032-G		1032-M	
3/4" 11/16" 3/4" 7/16" 3/16"	1033-E	4			1033-G		1033-M	
3/4" 9/32" 1/4"	1037-E	8			1037-G		1037-M	
1" 3/8" 1/2" 1/2" 1/4"	1034-E	4			1034-G		1034-M	
1-1/4" 11/16" 7/8" 1/2" 5/16"	1035-E	2			1035-G		1035-M	
1-1/4" 3/8" 1/4"	1036-E	2			1036-G		1036-M	
 **G-C CHASSIS FELT FEET** SCREW TYPE								
Asst. Screw Type Chassis Felt Feet	1086-E	4						
A B C Type of Screw								
1/2" 3/16" 1/2" No. 6 x ½" Sheet Metal Pointed	1086-BE	4			1086-BG		1086-BM	
1/2" 3/16" 1/2" 6-32 Machine	1087-E	4			1087-G		1087-M	
3/4" 1/4" 1/2" No. 6 x ½" Sheet Metal Pointed	1088-E	4			1088-G		1088-M	
3/4" 1/4" 1/2" 10-32 Machine	1089-E	4			1089-G		1089-M	
G-C RUBBER FEET SCREW TYPE								
Asst. Screw Type Rubber Feet	1075-AE	12						
O.D High								
3/8" 3/16"	1075-BE	12			1075-BG		1075-BM	
1/2" 1/4"	1075-CE	10			1075-CG		1075-CM	
5/8" 5/16"	1075-FE	8			1075-FG		1075-FM	
G-C RUBBER BUTTON BUMPERS JUST PUT IN HOLE								
A O.D B Height C Hole E Height								
3/8" 3/8" 3/16" 3/16"	7596-E	10			7596-G		7596-M	
1/2" 7/16" 1/4" 1/4"	7597-E	10			7597-G		7597-M	
5/8" 9/16" 3/8" 5/16"	7598-E	8			7598-G		7598-M	
G-C GENUINE TACK BUMPERS								
No. 1077 Box 100 ⅜" Bumpers **List Price $3.50**								
⅜" O.D. Rubber Tack Bumpers	1075-E	10	6624	18	1075-G		1075-M	
G-C FELT PADS								
No. 1071 100 Assorted Felt Pads **List Price $0.60**								
½" O.D. x ¼" Thick Felt Pads	1069-E	40	6623	60	1071-G		1071-M	

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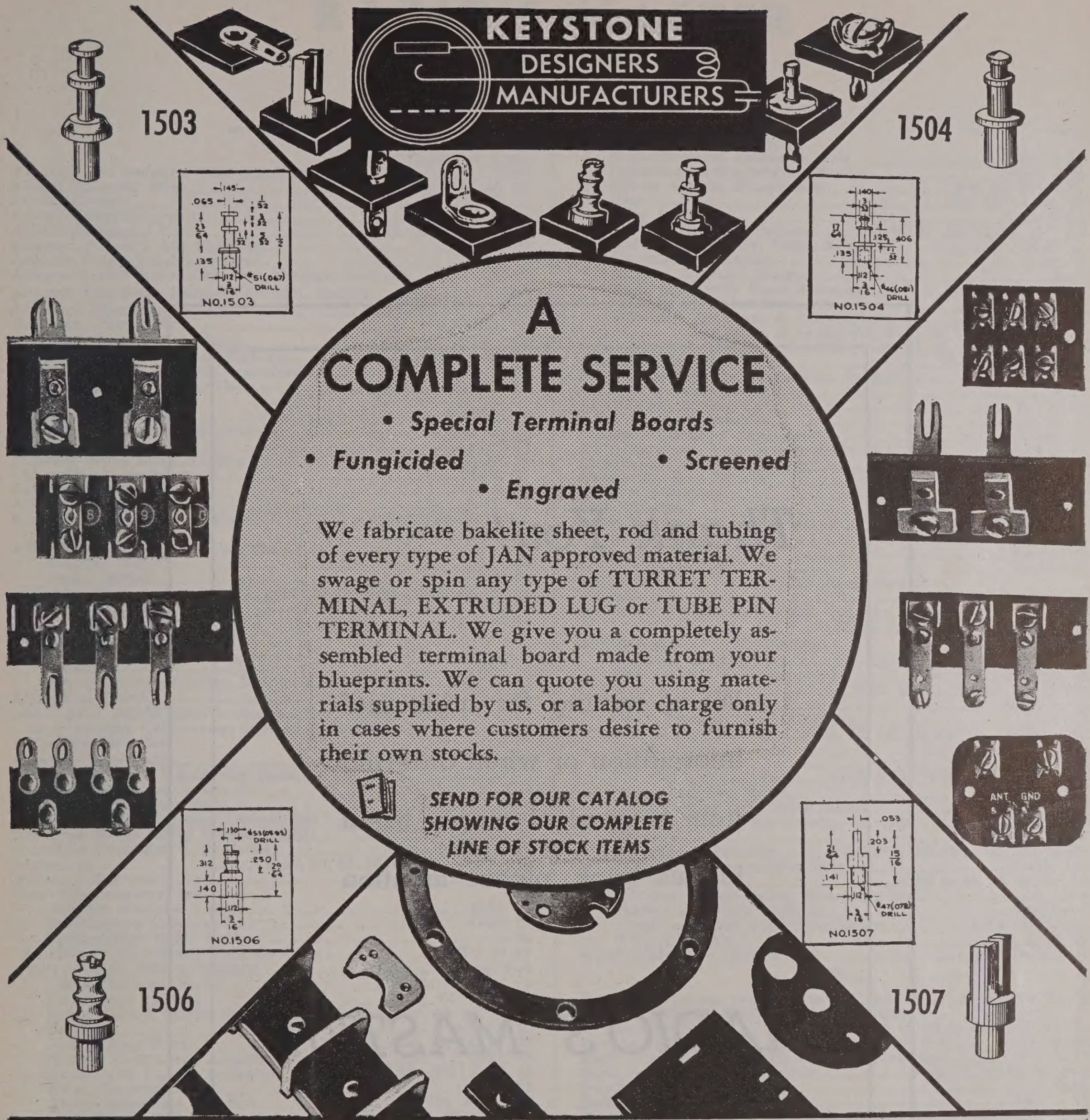
KEYSTONE
DESIGNERS
MANUFACTURERS



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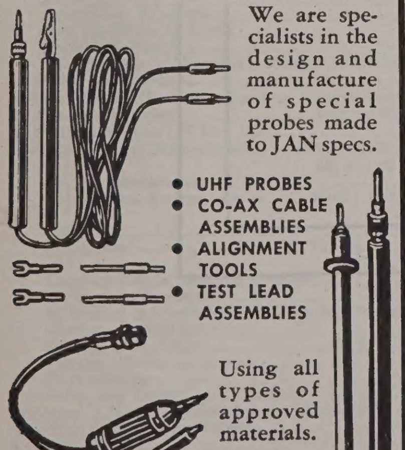

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- **ALIGNMENT TOOLS**
- **TEST LEAD ASSEMBLIES**

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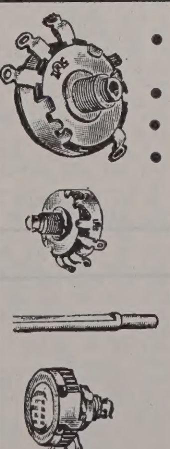

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- **SHAFTS LENGTHENED**
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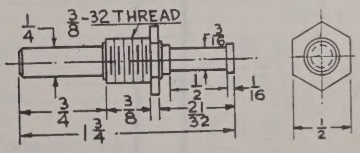

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RADIO'S MASTER

RADIO'S MASTER

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